



Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

## Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

### I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: FAI 94 (I-90/94, Dan Ryan Expressway) Office Phone Number, if available: \_\_\_\_\_

Physical Site Location (address, including number and street):

Dan Ryan Expressway from Canal Street to Martin Luther King Drive (see attached for specific addresses).

City: Chicago State: IL Zip Code: 60609

County: Cook Township: Not Applicable

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: See Attached Longitude: -See Attached  
(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

- GPS  Map Interpolation  Photo Interpolation  Survey  Other

IEPA Site Number(s), if assigned: \_\_\_\_\_ BOL: Attachment BOW: \_\_\_\_\_ BOA: \_\_\_\_\_

### II. Owner/Operator Information for Source Site

Site Owner

Site Operator

Name: Illinois Department of Transportation

Name: Illinois Department of Transportation

Street Address: 201 West Center Court

Street Address: 201 West Center Court

PO Box: \_\_\_\_\_

PO Box: \_\_\_\_\_

City: Schaumburg State: IL

City: Schaumburg State: IL

Zip Code: 60196-1096 Phone: 847-705-4159

Zip Code: 60196-1096 Phone: 847-705-4159

Contact: Sam Mead

Contact: Sam Mead

Email, if available: Sam.Mead@illinois.gov

Email, if available: Sam.Mead@illinois.gov

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: FAI 94 (I-90/94, Dan Ryan Expressway)

Latitude: See Attached Longitude: -See Attached

Uncontaminated Site Certification

**III. Basis for Certification and Attachments**

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

Refer to the PSI Report for FAI 94 (I-90/94), including Table 4-3, and Figures 4-1A through 4-8B. Attachment A presents a summary of the locations sampled by site, and laboratory analytical results.

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

Attachment A includes data summary tables and associated laboratory data packages for the sampled locations.

**IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist**

I, Neil J. Brown (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

*Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))*

Company Name: Ecology and Environment, Inc.  
 Street Address: 33 West Monroe Street  
 City: Chicago State: IL Zip Code: 60603  
 Phone: 312-578-9243

Neil J. Brown  
 Printed Name:

*Neil J. Brown*  
 Licensed Professional Engineer or  
 Licensed Professional Geologist Signature:

12-23-2015  
 Date:



*expires 11-30-2017*

**ATTACHMENT A**

**FAI 94 (I-90/94, DAN RYAN EXPRESSWAY)  
SITE-SPECIFIC SOURCE LOCATION INFORMATION  
AND  
BASIS FOR CERTIFICATION**

FAI 94 (1-90/94, Dan Ryan Expressway)

Site-Specific Information

SITE	Address	Latitude	Longitude	IEPA Site Numbers (BOL)	III. Basis for Certification and Attachments a.) Description of soil sample points	III. Basis for Certification and Attachments b.) Analytical soil testing results
ISGS #2993-2 (IDOT ROW)	3700-3800 blocks of the Dan Ryan Expressway	41.82531119°	-87.6307276°		Locations 2993-2-B01 & -B02 were sampled within the construction zone adjacent to ISGS #2993-2 (IDOT ROW). Refer to PSI Report for ISGS #2993-2 (IDOT ROW) including Table 4-3, and Figures 4-1A & 4-1B.	See attached data summary table and associated laboratory data package J104045-4.
ISGS #2993-4 (IDOT ROW)	3900-4000 blocks of the Dan Ryan Expressway	41.8218879°	-87.630131°		Location 2993-4-B03 was sampled within the construction zone adjacent to ISGS #2993-4 (IDOT ROW). Refer to PSI Report for ISGS #2993-4 (IDOT ROW) including Table 4-3, and Figures 4-1A & 4-1B.	See attached data summary table and associated laboratory data package J104045-9.
ISGS #2993-9 (IDOT ROW)	4400 block of the Dan Ryan Expressway	41.8131917°	-87.6305155°		Location 2993-9-B01 was sampled within the construction zone adjacent to ISGS #2993-9 (IDOT ROW). Refer to PSI Report for ISGS #2993-9 (IDOT ROW) including Table 4-3, and Figures 4-1A & 4-1B.	See attached data summary table and associated laboratory data package J103978-2.
ISGS #2993-13 (IDOT ROW)	4600 block of the Dan Ryan Expressway	41.8102972°	-87.6314721°		Location 2993-13-B01 was sampled within the construction zone adjacent to ISGS #2993-13 (IDOT ROW). Refer to PSI Report for ISGS #2993-13 (IDOT ROW) including Table 4-3, and Figures 4-1A & 4-1B.	See attached data summary table and associated laboratory data package J103978-3.
ISGS #2993-18 (IDOT ROW)	4700-5000 blocks of the Dan Ryan Expressway	41.8065029°	-87.6320023°	0316405027, 0316325364, 0316615359, 0316373001	Location 2993-18-B05 was sampled within the construction zone adjacent to ISGS #2993-18 (IDOT ROW). Refer to PSI Report for ISGS #2993-18 (IDOT ROW) including Table 4-3, and Figures 4-2A & 4-2B.	See attached data summary table and associated laboratory data package J103978-1.
ISGS #2993-22 (IDOT ROW)	5100-5200 blocks of the Dan Ryan Expressway	41.7997806°	-87.6310581°	0316616478	Location 2993-22-B02 was sampled within the construction zone adjacent to ISGS #2993-22 (IDOT ROW). Refer to PSI Report for ISGS #2993-22 (IDOT ROW) including Table 4-3, and Figures 4-3A & 4-3B.	See attached data summary table and associated laboratory data package J104079-7.
ISGS #2993-25 (IDOT ROW)	5700-5800 blocks of the Dan Ryan Expressway	41.7885853°	-87.6307544°		Locations 2993-25-B03 & -B04 were sampled within the construction zone adjacent to ISGS #2993-25 (IDOT ROW). Refer to PSI Report for ISGS #2993-25 (IDOT ROW) including Table 4-3, and Figures 4-3A & 4-3B.	See attached data summary table and associated laboratory data package J104045-1.
ISGS #2993-35 (IDOT ROW)	5900 block of the Dan Ryan Expressway	41.7862981°	-87.6315154°		Location 2993-35-01 was sampled within the construction zone adjacent to ISGS #2993-35 (IDOT ROW). Refer to PSI Report for ISGS #2993-35 (IDOT ROW) including Table 4-3, and Figures 4-4A & 4-4B.	See attached data summary table and associated laboratory data package J104045-2.
ISGS #2993-38 (IDOT ROW)	6000-6200 blocks of the Dan Ryan Expressway	41.7826249°	-87.6314403°		Locations 2993-38-02 & -B05 were sampled within the construction zone adjacent to ISGS #2993-38 (IDOT ROW). Refer to PSI Report for ISGS #2993-38 (IDOT ROW) including Table 4-3, and Figures 4-4A & 4-4B.	See attached data summary table and associated laboratory data package J104045-4.
ISGS #2993-45 (IDOT ROW)	6400-6500 blocks of the Dan Ryan Expressway	41.776115°	-87.6288728°		Location 2993-45-01 was sampled within the construction zone adjacent to ISGS #2993-45 (IDOT ROW). Refer to PSI Report for ISGS #2993-45 (IDOT ROW) including Table 4-3, and Figures 4-5A & 4-5B.	See attached data summary table and associated laboratory data package J104045-3.
ISGS #2993-50 (IDOT ROW)	6500-6600 blocks of the Dan Ryan Expressway	41.7744947°	-87.6257543°		Location 2993-50-07 was sampled within the construction zone adjacent to ISGS #2993-50 (IDOT ROW). Refer to PSI Report for ISGS #2993-50 (IDOT ROW) including Table 4-3, and Figures 4-5A & 4-5B.	See attached data summary table and associated laboratory data package J104045-6.
ISGS #2993-59 (IDOT ROW)	7400 block of the Dan Ryan Expressway	41.7594198°	-87.6251803°		Location 2993-59-B01 was sampled within the construction zone adjacent to ISGS #2993-59 (IDOT ROW). Refer to PSI Report for ISGS #2993-59 (IDOT ROW) including Table 4-3, and Figures 4-6A & 4-6B.	See attached data summary table and associated laboratory data package J104079-3.
ISGS #2993-62 (IDOT ROW)	8200 block of the Dan Ryan Expressway	41.7446912°	-87.6246805°		Locations 2993-62-B01 & -B02 were sampled within the construction zone adjacent to ISGS #2993-62 (IDOT ROW). Refer to PSI Report for ISGS #2993-62 (IDOT ROW) including Table 4-3, and Figures 4-6A & 4-6B.	See attached data summary table and associated laboratory data package J104079-2.
ISGS #2993-71 (IDOT ROW)	8600 block of the Dan Ryan Expressway	41.7374058°	-87.6244932°		Location 2993-71-01 was sampled within the construction zone adjacent to ISGS #2993-71 (IDOT ROW). Refer to PSI Report for ISGS #2993-71 (IDOT ROW) including Table 4-3, and Figures 4-7A & 4-7B.	See attached data summary table and associated laboratory data package J104079-1.
ISGS #2993-75 (IDOT ROW)	8900 block of the Dan Ryan Expressway	41.7314484°	-87.6242792°	0316455013	Location 2993-75-01 was sampled within the construction zone adjacent to ISGS #2993-75 (IDOT ROW). Refer to PSI Report for ISGS #2993-75 (IDOT ROW) including Table 4-3, and Figures 4-7A & 4-7B.	See attached data summary table and associated laboratory data package J104045-13.

FAI 94 (I-90/94, Dan Ryan Expressway)  
Site-Specific Information

SITE	Address	Latitude	Longitude	IEPA Site Numbers (BOL)	III. Basis for Certification and Attachments a.) Description of soil sample points	III. Basis for Certification and Attachments b.) Analytical soil testing results
ISGS #2993-79 (IDOT ROW)	9200 block of the Dan Ryan Expressway	41.7269784°	-87.6247512°		Locations 2993-79-B01, -B02, & -B03 were sampled within the construction zone adjacent to ISGS #2993-79 (IDOT ROW). Refer to PSI Report for ISGS #2993-79 (IDOT ROW) including Table 4-3, and Figures 4-7A & 4-7B.	See attached data summary table and associated laboratory data package J104045-8.
ISGS #2993-82 (IDOT ROW)	9500-9600 blocks of the Dan Ryan Expressway	41.7196124°	-87.6248707°		Locations 2993-82-B01, -B02, -B03, -B04, & -B05 were sampled within the construction zone adjacent to ISGS #2993-82 (IDOT ROW). Refer to PSI Report for ISGS #2993-82 (IDOT ROW) including Table 4-3, and Figures 4-7A/B & 4-8A/B.	See attached data summary table and associated laboratory data package J104045-10.
ISGS #2993-89 (IDOT ROW)	9700-9800 blocks of the Dan Ryan Expressway	41.7155312°	-87.6221869°		Locations 2993-89-B01, -B02, & -B03 were sampled within the construction zone adjacent to ISGS #2993-89 (IDOT ROW). Refer to PSI Report for ISGS #2993-89 (IDOT ROW) including Table 4-3, and Figures 4-8A & 4-8B.	See attached data summary table and associated laboratory data package J104079-8.
ISGS #2993-92 (IDOT ROW)	200-300 blocks of I-57	41.7148912°	-87.6306667°		Location 2993-92-B01 was sampled within the construction zone adjacent to ISGS #2993-92 (IDOT ROW). Refer to PSI Report for ISGS #2993-92 (IDOT ROW) including Table 4-3, and Figures 4-8A & 4-8B.	See attached data summary table and associated laboratory data package J104045-11.

## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-2 (IDOT ROW)		Comparison Criteria						
	2993-02-B01	2993-02-B02	MACs			TACO			
SAMPLE	2993-02-B01 (0-3.5)	2993-02-B02 (0-3.5)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER	
MATRIX	Soil	Soil							
DEPTH (feet)	0-3.5	0-3.5							
pH	8.47	8.64							
<b>VOCs (None Detected)</b>									
<b>SVOCs (mg/kg)</b>									
2-Methylnaphthalene	0.014 J	0.015 J	--	--	--	--	--	--	
Acenaphthene	0.031 J	0.0095 J	570	--	--	4,700	120,000	--	
Acenaphthylene	0.022 J	0.072	--	--	--	--	--	--	
Anthracene	0.12	0.039	12,000	--	--	23,000	610,000	--	
Benzo[a]anthracene	0.35	0.2	0.9	1.8	1.1	1.8	170	--	
Benzo[a]pyrene	0.33 †	0.34 †	0.09	2.1	1.3	2.1	17	--	
Benzo[b]fluoranthene	0.45	0.41	0.9	2.1	1.5	2.1	170	--	
Benzo[g,h,i]perylene	0.25	0.36	--	--	--	--	--	--	
Benzo[k]fluoranthene	0.17	0.093	9	--	--	9	1,700	--	
Chrysene	0.37	0.31	88	--	--	88	17,000	--	
Fluoranthene	0.46	0.15	3,100	--	--	3100	82000	--	
Fluorene	0.023 J	0.016 J	560	--	--	3,100	82,000	--	
Indeno[1,2,3-cd]pyrene	0.14	0.26	0.9	1.6	0.9	1.6	170	--	
Naphthalene	0.014 J	0.015 J	1.8	--	--	170	1.8	--	
Phenanthrene	0.49	0.14	--	--	--	--	--	--	
Pyrene	1.4	0.68	2,300	--	--	2,300	61,000	--	
<b>Inorganics (mg/kg)</b>									
Antimony	0.47 J	0.53 J	5	--	--	31	82	--	
Arsenic	4.5	7.7	11.3	13	--	13	61	--	
Barium	21	40	1,500	--	--	5,500	14,000	--	
Beryllium	0.25	0.49	22	--	--	160	410	--	
Boron	7.2	10	40	--	--	16,000	41,000	--	
Cadmium	0.41	0.64	5.2	--	--	78	200	--	
Calcium	110,000	62,000	--	--	--	--	--	--	
Chromium	7.6	22 †	21	--	--	230	690	--	
Cobalt	4.4	9.7	20	--	--	4,700	12,000	--	
Copper	15	36	2,900	--	--	2,900	8,200	--	
Iron	8,900	16,000 †m	15,000	15900	--	--	--	--	
Lead	25	65	107	--	--	400	700	--	
Magnesium	42,000	22,000	325,000	--	--	--	730,000	--	
Manganese	370	370	630	636	--	1,600	4,100	--	
Nickel	11	26	100	--	--	1,600	4,100	--	
Potassium	720	1,500	--	--	--	--	--	--	
Selenium	0.44 J	0.57	1.3	--	--	390	1,000	--	
Silver	0.088 J	0.5	4.4	--	--	390	1,000	--	
Sodium	530	1,300	--	--	--	--	--	--	
Vanadium	12	21	550	--	--	550	1,400	--	
Zinc	52	88	5,100	--	--	23,000	61,000	--	
<b>TCLP Metals (mg/L)</b>									
Barium	0.32 J	0.33 J	--	--	--	--	--	2	
Boron	0.25 J	0.33 J	--	--	--	--	--	2	
Cadmium	0.0036 J	0.0056 L	--	--	--	--	--	0.005	
Chromium	ND U	ND U	--	--	--	--	--	0.1	
Iron	ND U	ND U	--	--	--	--	--	5	
Manganese	1.3 L	2.8 L	--	--	--	--	--	0.15	
Zinc	0.2	0.068 J	--	--	--	--	--	5	
<b>SPLP Metals (mg/L)</b>									
Cadmium	NA	ND U	--	--	--	--	--	0.005	
Manganese	0.093	0.21 L	--	--	--	--	--	0.15	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-103978-4

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:36:59 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	7
Client Sample Results . . . . .	8
Definitions . . . . .	20
Certification Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	23

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Job ID: 500-103978-4**

**Laboratory: TestAmerica Chicago**

## Narrative

**Job Narrative  
500-103978-4**

### Comments

No additional comments.

### Receipt

The samples were received on 11/12/2015 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

### GC/MS VOA

Method(s) 8260B: The following analyte recovered outside control limits for the LCS/LCSD associated with 500-312949: Bromomethane. This is not indicative of a systematic control problem because this was a random marginal exceedance. Qualified results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base/neutral surrogate outside acceptance limits: 2993-02-B03 (0-3.5) (500-103978-9), 2993-02-B02 (0-3.5) (500-103978-10), 2993-02-B01 (0-3.5) (500-103978-11), (500-103978-E-1-A), (500-103978-E-1-B MS) and (500-103978-E-1-C MSD). The laboratory's SOP allows one acid and/or one base/neutral surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

**Client Sample ID: 2993-02-B02 (0-3.5)**

**Lab Sample ID: 500-103978-10**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Naphthalene	0.015	J	0.036	0.0055	mg/Kg	1	*		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B02 (0-3.5) (Continued)**

**Lab Sample ID: 500-103978-10**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.015	J	0.036	0.0066	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.072		0.036	0.0048	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.0095	J	0.036	0.0065	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.016	J	0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.14		0.036	0.0050	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.039		0.036	0.0060	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.15		0.036	0.0067	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.68		0.036	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.20		0.036	0.0049	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.31		0.036	0.0098	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.41		0.036	0.0078	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.093		0.036	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.34		0.036	0.0070	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.26		0.036	0.0093	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.36		0.036	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.53	J	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.7		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	40		0.55	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.49		0.22	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	10		2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.64	B	0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	62000		110	35	mg/Kg	10	☼	6010B	Total/NA
Chromium	22	B	0.55	0.094	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.7		0.27	0.062	mg/Kg	1	☼	6010B	Total/NA
Copper	36		0.55	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	16000		11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	65		0.27	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	22000		5.5	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	370		0.55	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		0.55	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1500		27	4.5	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.57		0.55	0.27	mg/Kg	1	☼	6010B	Total/NA
Silver	0.50		0.27	0.064	mg/Kg	1	☼	6010B	Total/NA
Sodium	1300		55	7.2	mg/Kg	1	☼	6010B	Total/NA
Vanadium	21		0.27	0.080	mg/Kg	1	☼	6010B	Total/NA
Zinc	88		1.1	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	0.33	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.33	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0056		0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	2.8		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.068	J	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.21		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.23	B	0.018	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.64		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-02-B01 (0-3.5)**

**Lab Sample ID: 500-103978-11**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.014	J	0.037	0.0058	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.014	J	0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B01 (0-3.5) (Continued)**

**Lab Sample ID: 500-103978-11**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthylene	0.022	J	0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.031	J	0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.023	J	0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.49		0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.12		0.037	0.0063	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.46		0.037	0.0070	mg/Kg	1	☼	8270D	Total/NA
Pyrene	1.4		0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.35		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.37		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.45		0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.17		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.33		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.14		0.037	0.0098	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.25		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.47	J	1.1	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	4.5		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	21		0.57	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.25		0.23	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	7.2		2.8	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.41	B	0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	110000		110	37	mg/Kg	10	☼	6010B	Total/NA
Chromium	7.6	B	0.57	0.098	mg/Kg	1	☼	6010B	Total/NA
Cobalt	4.4		0.28	0.064	mg/Kg	1	☼	6010B	Total/NA
Copper	15		0.57	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	8900		11	4.4	mg/Kg	1	☼	6010B	Total/NA
Lead	25		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	42000		5.7	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	370		0.57	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	11		0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	720		28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.44	J	0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Silver	0.088	J	0.28	0.066	mg/Kg	1	☼	6010B	Total/NA
Sodium	530		57	7.5	mg/Kg	1	☼	6010B	Total/NA
Vanadium	12		0.28	0.083	mg/Kg	1	☼	6010B	Total/NA
Zinc	52		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.32	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.25	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0036	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	1.3		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.20		0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.093		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.064	B	0.019	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	8.47		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103978-10	2993-02-B02 (0-3.5)	Solid	11/12/15 14:25	11/12/15 17:30
500-103978-11	2993-02-B01 (0-3.5)	Solid	11/12/15 14:35	11/12/15 17:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B02 (0-3.5)**

**Lab Sample ID: 500-103978-10**

**Date Collected: 11/12/15 14:25**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 88.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.017		0.017	0.0032	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Benzene	<0.0042		0.0042	0.00092	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Bromodichloromethane	<0.0042		0.0042	0.00070	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Bromoform	<0.0042		0.0042	0.00085	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Bromomethane	<0.0042	*	0.0042	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
2-Butanone (MEK)	<0.0042		0.0042	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Carbon disulfide	<0.0042		0.0042	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Carbon tetrachloride	<0.0042		0.0042	0.00089	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Chlorobenzene	<0.0042		0.0042	0.00098	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Chloroethane	<0.0042		0.0042	0.0017	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Chloroform	<0.0042		0.0042	0.00081	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Chloromethane	<0.0042		0.0042	0.0010	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
cis-1,2-Dichloroethene	<0.0042		0.0042	0.00085	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
cis-1,3-Dichloropropene	<0.0042		0.0042	0.00095	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Dibromochloromethane	<0.0042		0.0042	0.00048	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,1-Dichloroethane	<0.0042		0.0042	0.00086	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,2-Dichloroethane	<0.0042		0.0042	0.00062	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,1-Dichloroethene	<0.0042		0.0042	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,2-Dichloropropane	<0.0042		0.0042	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,3-Dichloropropane, Total	<0.0042		0.0042	0.0012	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Ethylbenzene	<0.0042		0.0042	0.0010	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
2-Hexanone	<0.0042		0.0042	0.0013	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Methylene Chloride	<0.0042		0.0042	0.0031	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
4-Methyl-2-pentanone (MIBK)	<0.0042		0.0042	0.00086	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Methyl tert-butyl ether	<0.0042		0.0042	0.00098	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Styrene	<0.0042		0.0042	0.00097	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,1,2,2-Tetrachloroethane	<0.0042		0.0042	0.00066	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Tetrachloroethene	<0.0042		0.0042	0.00087	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Toluene	<0.0042		0.0042	0.0014	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
trans-1,2-Dichloroethene	<0.0042		0.0042	0.0010	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
trans-1,3-Dichloropropene	<0.0042		0.0042	0.0012	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,1,1-Trichloroethane	<0.0042		0.0042	0.00097	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
1,1,2-Trichloroethane	<0.0042		0.0042	0.00081	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Trichloroethene	<0.0042		0.0042	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Vinyl acetate	<0.0042		0.0042	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Vinyl chloride	<0.0042		0.0042	0.00099	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1
Xylenes, Total	<0.0083		0.0083	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 13:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 122	11/13/15 18:10	11/17/15 13:42	1
Dibromofluoromethane	99		75 - 120	11/13/15 18:10	11/17/15 13:42	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 134	11/13/15 18:10	11/17/15 13:42	1
Toluene-d8 (Surr)	116		75 - 122	11/13/15 18:10	11/17/15 13:42	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.080	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.054	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
1,3-Dichlorobenzene	<0.18		0.18	0.041	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
1,4-Dichlorobenzene	<0.18		0.18	0.046	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B02 (0-3.5)**

**Lab Sample ID: 500-103978-10**

**Date Collected: 11/12/15 14:25**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 88.2**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.043	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2-Methylphenol	<0.18		0.18	0.058	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.042	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
N-Nitrosodi-n-propylamine	<0.18		0.18	0.044	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Hexachloroethane	<0.18		0.18	0.055	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2-Chlorophenol	<0.18		0.18	0.062	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Nitrobenzene	<0.036		0.036	0.0090	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.037	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.039	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Isophorone	<0.18		0.18	0.040	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,4-Dimethylphenol	<0.36		0.36	0.14	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Hexachlorobutadiene	<0.18		0.18	0.057	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Naphthalene</b>	<b>0.015</b>	<b>J</b>	0.036	0.0055	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,4-Dichlorophenol	<0.36		0.36	0.086	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4-Chloroaniline	<0.73		0.73	0.17	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,4,6-Trichlorophenol	<0.36		0.36	0.12	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,4,5-Trichlorophenol	<0.36		0.36	0.082	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Hexachlorocyclopentadiene	<0.73		0.73	0.21	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>2-Methylnaphthalene</b>	<b>0.015</b>	<b>J</b>	0.036	0.0066	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2-Nitroaniline	<0.18		0.18	0.049	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2-Chloronaphthalene	<0.18		0.18	0.040	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4-Chloro-3-methylphenol	<0.36		0.36	0.12	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,6-Dinitrotoluene	<0.18		0.18	0.071	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2-Nitrophenol	<0.36		0.36	0.085	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
3-Nitroaniline	<0.36		0.36	0.11	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Dimethyl phthalate	<0.18		0.18	0.047	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,4-Dinitrophenol	<0.73		0.73	0.63	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Acenaphthylene</b>	<b>0.072</b>		0.036	0.0048	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
2,4-Dinitrotoluene	<0.18		0.18	0.057	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Acenaphthene</b>	<b>0.0095</b>	<b>J</b>	0.036	0.0065	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Dibenzofuran	<0.18		0.18	0.042	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4-Nitrophenol	<0.73		0.73	0.34	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Fluorene</b>	<b>0.016</b>	<b>J</b>	0.036	0.0051	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4-Nitroaniline	<0.36		0.36	0.15	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.048	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Hexachlorobenzene	<0.073		0.073	0.0084	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Diethyl phthalate	<0.18		0.18	0.061	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.042	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Pentachlorophenol	<0.73		0.73	0.58	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
N-Nitrosodiphenylamine	<0.18		0.18	0.043	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
4,6-Dinitro-2-methylphenol	<0.73		0.73	0.29	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Phenanthrene</b>	<b>0.14</b>		0.036	0.0050	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Anthracene</b>	<b>0.039</b>		0.036	0.0060	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Carbazole	<0.18		0.18	0.090	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Di-n-butyl phthalate	<0.18		0.18	0.055	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Fluoranthene</b>	<b>0.15</b>		0.036	0.0067	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Pyrene</b>	<b>0.68</b>		0.036	0.0072	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Butyl benzyl phthalate	<0.18		0.18	0.069	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Benzo[a]anthracene</b>	<b>0.20</b>		0.036	0.0049	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B02 (0-3.5)**

**Lab Sample ID: 500-103978-10**

Date Collected: 11/12/15 14:25

Matrix: Solid

Date Received: 11/12/15 17:30

Percent Solids: 88.2

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.31</b>		0.036	0.0098	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.050	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Bis(2-ethylhexyl) phthalate	<0.18		0.18	0.066	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Di-n-octyl phthalate	<0.18		0.18	0.059	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Benzo[b]fluoranthene</b>	<b>0.41</b>		0.036	0.0078	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Benzo[k]fluoranthene</b>	<b>0.093</b>		0.036	0.011	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Benzo[a]pyrene</b>	<b>0.34</b>		0.036	0.0070	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.26</b>		0.036	0.0093	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
Dibenz(a,h)anthracene	<0.036		0.036	0.0070	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
<b>Benzo[g,h,i]perylene</b>	<b>0.36</b>		0.036	0.012	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1
3 & 4 Methylphenol	<0.18		0.18	0.060	mg/Kg	☼	11/17/15 07:35	11/21/15 02:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	88		25 - 110	11/17/15 07:35	11/21/15 02:18	1
Phenol-d5	97		31 - 110	11/17/15 07:35	11/21/15 02:18	1
Nitrobenzene-d5	87		25 - 115	11/17/15 07:35	11/21/15 02:18	1
2-Fluorobiphenyl	88		25 - 119	11/17/15 07:35	11/21/15 02:18	1
2,4,6-Tribromophenol	72		35 - 137	11/17/15 07:35	11/21/15 02:18	1
Terphenyl-d14	216	X	36 - 134	11/17/15 07:35	11/21/15 02:18	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.53</b>	<b>J</b>	1.1	0.23	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Arsenic</b>	<b>7.7</b>		0.55	0.25	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Barium</b>	<b>40</b>		0.55	0.10	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Beryllium</b>	<b>0.49</b>		0.22	0.047	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Boron</b>	<b>10</b>		2.7	0.38	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Cadmium</b>	<b>0.64</b>	<b>B</b>	0.11	0.032	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Calcium</b>	<b>62000</b>		110	35	mg/Kg	☼	11/19/15 18:27	11/22/15 01:03	10
<b>Chromium</b>	<b>22</b>	<b>B</b>	0.55	0.094	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Cobalt</b>	<b>9.7</b>		0.27	0.062	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Copper</b>	<b>36</b>		0.55	0.12	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Iron</b>	<b>16000</b>		11	4.2	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Lead</b>	<b>65</b>		0.27	0.14	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Magnesium</b>	<b>22000</b>		5.5	2.2	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Manganese</b>	<b>370</b>		0.55	0.11	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Nickel</b>	<b>26</b>		0.55	0.15	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Potassium</b>	<b>1500</b>		27	4.5	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Selenium</b>	<b>0.57</b>		0.55	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Silver</b>	<b>0.50</b>		0.27	0.064	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Sodium</b>	<b>1300</b>		55	7.2	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
Thallium	<0.55		0.55	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Vanadium</b>	<b>21</b>		0.27	0.080	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1
<b>Zinc</b>	<b>88</b>		1.1	0.35	mg/Kg	☼	11/19/15 18:27	11/21/15 04:09	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.33</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 19:33	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/24/15 10:00	11/24/15 19:33	1
<b>Boron</b>	<b>0.33</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 19:33	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B02 (0-3.5)**

**Lab Sample ID: 500-103978-10**

**Date Collected: 11/12/15 14:25**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 88.2**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0056</b>		0.0050	0.0020	mg/L		11/24/15 10:00	11/24/15 19:33	1
Chromium	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:33	1
Cobalt	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:33	1
Iron	<0.20		0.20	0.20	mg/L		11/24/15 10:00	11/24/15 19:33	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/24/15 10:00	11/24/15 19:33	1
<b>Manganese</b>	<b>2.8</b>		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:33	1
Nickel	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:33	1
Selenium	<0.050		0.050	0.020	mg/L		11/24/15 10:00	11/24/15 19:33	1
Silver	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:33	1
<b>Zinc</b>	<b>0.068</b>	<b>J</b>	0.10	0.020	mg/L		11/24/15 10:00	11/24/15 19:33	1

**Method: 6010B - SPLP Metals - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 21:37	1
<b>Manganese</b>	<b>0.21</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 21:37	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/24/15 10:00	11/25/15 14:26	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/24/15 10:00	11/25/15 14:26	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/24/15 17:15	11/25/15 09:36	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.23</b>	<b>B</b>	0.018	0.0064	mg/Kg	☼	11/17/15 14:00	11/19/15 10:11	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.64</b>		0.200	0.200	SU			12/02/15 12:28	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B01 (0-3.5)**

**Lab Sample ID: 500-103978-11**

**Date Collected: 11/12/15 14:35**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.016		0.016	0.0031	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Benzene	<0.0040		0.0040	0.00090	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Bromodichloromethane	<0.0040		0.0040	0.00068	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Bromoform	<0.0040		0.0040	0.00083	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Bromomethane	<0.0040	*	0.0040	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
2-Butanone (MEK)	<0.0040		0.0040	0.0014	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Carbon disulfide	<0.0040		0.0040	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Carbon tetrachloride	<0.0040		0.0040	0.00087	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Chlorobenzene	<0.0040		0.0040	0.00096	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Chloroethane	<0.0040		0.0040	0.0017	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Chloroform	<0.0040		0.0040	0.00079	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Chloromethane	<0.0040		0.0040	0.00097	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
cis-1,2-Dichloroethene	<0.0040		0.0040	0.00083	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
cis-1,3-Dichloropropene	<0.0040		0.0040	0.00092	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Dibromochloromethane	<0.0040		0.0040	0.00047	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,1-Dichloroethane	<0.0040		0.0040	0.00083	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,2-Dichloroethane	<0.0040		0.0040	0.00060	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,1-Dichloroethene	<0.0040		0.0040	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,2-Dichloropropane	<0.0040		0.0040	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,3-Dichloropropane, Total	<0.0040		0.0040	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Ethylbenzene	<0.0040		0.0040	0.0010	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
2-Hexanone	<0.0040		0.0040	0.0013	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Methylene Chloride	<0.0040		0.0040	0.0031	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
4-Methyl-2-pentanone (MIBK)	<0.0040		0.0040	0.00083	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Methyl tert-butyl ether	<0.0040		0.0040	0.00096	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Styrene	<0.0040		0.0040	0.00095	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,1,2,2-Tetrachloroethane	<0.0040		0.0040	0.00064	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Tetrachloroethene	<0.0040		0.0040	0.00084	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Toluene	<0.0040		0.0040	0.0014	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
trans-1,2-Dichloroethene	<0.0040		0.0040	0.0010	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
trans-1,3-Dichloropropene	<0.0040		0.0040	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,1,1-Trichloroethane	<0.0040		0.0040	0.00094	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
1,1,2-Trichloroethane	<0.0040		0.0040	0.00078	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Trichloroethene	<0.0040		0.0040	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Vinyl acetate	<0.0040		0.0040	0.0011	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Vinyl chloride	<0.0040		0.0040	0.00096	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1
Xylenes, Total	<0.0081		0.0081	0.0015	mg/Kg	☼	11/13/15 18:10	11/17/15 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 122	11/13/15 18:10	11/17/15 14:08	1
Dibromofluoromethane	99		75 - 120	11/13/15 18:10	11/17/15 14:08	1
1,2-Dichloroethane-d4 (Surr)	118		70 - 134	11/13/15 18:10	11/17/15 14:08	1
Toluene-d8 (Surr)	118		75 - 122	11/13/15 18:10	11/17/15 14:08	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.084	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B01 (0-3.5)**

**Lab Sample ID: 500-103978-11**

**Date Collected: 11/12/15 14:35**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
N-Nitrosodi-n-propylamine	<0.19		0.19	0.046	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Nitrobenzene	<0.037		0.037	0.0094	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Naphthalene</b>	<b>0.014</b>	<b>J</b>	0.037	0.0058	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,4-Dichlorophenol	<0.37		0.37	0.090	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,4,5-Trichlorophenol	<0.37		0.37	0.086	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>2-Methylnaphthalene</b>	<b>0.014</b>	<b>J</b>	0.037	0.0069	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2-Nitrophenol	<0.37		0.37	0.089	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,4-Dinitrophenol	<0.76		0.76	0.66	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Acenaphthylene</b>	<b>0.022</b>	<b>J</b>	0.037	0.0050	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Acenaphthene</b>	<b>0.031</b>	<b>J</b>	0.037	0.0068	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Fluorene</b>	<b>0.023</b>	<b>J</b>	0.037	0.0053	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Pentachlorophenol	<0.76		0.76	0.61	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Phenanthrene</b>	<b>0.49</b>		0.037	0.0053	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Anthracene</b>	<b>0.12</b>		0.037	0.0063	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Carbazole	<0.19		0.19	0.094	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Fluoranthene</b>	<b>0.46</b>		0.037	0.0070	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Pyrene</b>	<b>1.4</b>		0.037	0.0075	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Benzo[a]anthracene</b>	<b>0.35</b>		0.037	0.0051	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B01 (0-3.5)**

**Lab Sample ID: 500-103978-11**

Date Collected: 11/12/15 14:35

Matrix: Solid

Date Received: 11/12/15 17:30

Percent Solids: 83.8

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.37</b>		0.037	0.010	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.069	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Benzo[b]fluoranthene</b>	<b>0.45</b>		0.037	0.0081	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Benzo[k]fluoranthene</b>	<b>0.17</b>		0.037	0.011	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Benzo[a]pyrene</b>	<b>0.33</b>		0.037	0.0073	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.14</b>		0.037	0.0098	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0073	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
<b>Benzo[g,h,i]perylene</b>	<b>0.25</b>		0.037	0.012	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	11/17/15 07:35	11/21/15 02:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	81		25 - 110	11/17/15 07:35	11/21/15 02:47	1
Phenol-d5	89		31 - 110	11/17/15 07:35	11/21/15 02:47	1
Nitrobenzene-d5	79		25 - 115	11/17/15 07:35	11/21/15 02:47	1
2-Fluorobiphenyl	80		25 - 119	11/17/15 07:35	11/21/15 02:47	1
2,4,6-Tribromophenol	59		35 - 137	11/17/15 07:35	11/21/15 02:47	1
Terphenyl-d14	205	X	36 - 134	11/17/15 07:35	11/21/15 02:47	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.47</b>	<b>J</b>	1.1	0.24	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Arsenic</b>	<b>4.5</b>		0.57	0.26	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Barium</b>	<b>21</b>		0.57	0.10	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Beryllium</b>	<b>0.25</b>		0.23	0.049	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Boron</b>	<b>7.2</b>		2.8	0.40	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Cadmium</b>	<b>0.41</b>	<b>B</b>	0.11	0.033	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Calcium</b>	<b>110000</b>		110	37	mg/Kg	☼	11/19/15 18:27	11/22/15 01:07	10
<b>Chromium</b>	<b>7.6</b>	<b>B</b>	0.57	0.098	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Cobalt</b>	<b>4.4</b>		0.28	0.064	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Copper</b>	<b>15</b>		0.57	0.12	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Iron</b>	<b>8900</b>		11	4.4	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Lead</b>	<b>25</b>		0.28	0.14	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Magnesium</b>	<b>42000</b>		5.7	2.3	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Manganese</b>	<b>370</b>		0.57	0.11	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Nickel</b>	<b>11</b>		0.57	0.15	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Potassium</b>	<b>720</b>		28	4.6	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Selenium</b>	<b>0.44</b>	<b>J</b>	0.57	0.28	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Silver</b>	<b>0.088</b>	<b>J</b>	0.28	0.066	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Sodium</b>	<b>530</b>		57	7.5	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
Thallium	<0.57		0.57	0.28	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Vanadium</b>	<b>12</b>		0.28	0.083	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1
<b>Zinc</b>	<b>52</b>		1.1	0.36	mg/Kg	☼	11/19/15 18:27	11/21/15 04:14	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.32</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 19:38	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/24/15 10:00	11/24/15 19:38	1
<b>Boron</b>	<b>0.25</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 19:38	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

**Client Sample ID: 2993-02-B01 (0-3.5)**

**Lab Sample ID: 500-103978-11**

**Date Collected: 11/12/15 14:35**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0036</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Iron	<0.20		0.20	0.20	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
<b>Manganese</b>	<b>1.3</b>		0.025	0.010	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
Silver	<0.025		0.025	0.010	mg/L	-	11/24/15 10:00	11/24/15 19:38	1
<b>Zinc</b>	<b>0.20</b>		0.10	0.020	mg/L	-	11/24/15 10:00	11/24/15 19:38	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.093</b>		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 21:41	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/24/15 10:00	11/25/15 14:30	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/24/15 10:00	11/25/15 14:30	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/24/15 17:15	11/25/15 09:38	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.064</b>	<b>B</b>	0.019	0.0065	mg/Kg	☼	11/17/15 14:00	11/19/15 10:13	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.47</b>		0.200	0.200	SU	-		12/02/15 12:31	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-4

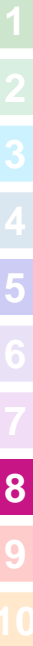
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: \_\_\_\_\_ (optional)  
 Contact: DT  
 Company: JS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job # 500-103978  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative							Preservative Key			
Project Name		Lab Project #		Parameter							Comments			
Project Location/State		Lab P/M												
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix								
			Date	Time										
9		2993-02-B03(0.35)	11-12-15	1415	2 S	X	X	X	X	X				
10		2993-02-B02(0.35)	11-12-15	1425	2 S	X	X	X	X	X				
11		2993-02-B01(0.35)	11-12-15	1435	2 S	X	X	X	X	X				
<del>11-12-15</del>														

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date \_\_\_\_\_

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11/12/15</u> Time: <u>16:30</u>	Received By: <u>David Beckman</u> Company: <u>TA</u> Date: <u>11-12-15</u> Time: <u>16:30</u>
Relinquished By: <u>David Beckman</u> Company: <u>TA</u> Date: <u>11/12/15</u> Time: <u>17:30</u>	Received By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11-12-15</u> Time: <u>17:30</u>

Lab Courier: \_\_\_\_\_  
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-103978-4

**Login Number: 103978**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: James, Jeff A**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6, 2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-4 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-04-B03	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-04-B03 (0-3.5)						
MATRIX	Soil						
DEPTH (feet)	0-3.5						
pH	7.71						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.22	--	--	--	--	--	--
Acenaphthene	0.029 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.043	--	--	--	--	--	--
Anthracene	0.19	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	1.1 †	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	1 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	1.5 †	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.66	--	--	--	--	--	--
Benzo[k]fluoranthene	0.61	9	--	--	9	1,700	--
Chrysene	1.2	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.17 †	0.09	0.42	0.2	0.42	17	--
Dibenzofuran	0.14 J	--	--	--	--	--	--
Fluoranthene	1.3	3,100	--	--	3100	82000	--
Fluorene	0.024 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.63	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.12	1.8	--	--	170	1.8	--
Phenanthrene	0.94	--	--	--	--	--	--
Pyrene	2.2	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Arsenic	8.6	11.3	13	--	13	61	--
Barium	260	1,500	--	--	5,500	14,000	--
Beryllium	0.66 J	22	--	--	160	410	--
Boron	18	40	--	--	16,000	41,000	--
Cadmium	0.76	5.2	--	--	78	200	--
Calcium	81,000	--	--	--	--	--	--
Chromium	16	21	--	--	230	690	--
Cobalt	6.9	20	--	--	4,700	12,000	--
Copper	53	2,900	--	--	2,900	8,200	--
Iron	17,000 †m	15,000	15900	--	--	--	--
Lead	220 †	107	--	--	400	700	--
Magnesium	45,000	325,000	--	--	--	730,000	--
Manganese	420	630	636	--	1,600	4,100	--
Mercury	0.082	0.89	--	--	10	0.1	--
Nickel	18	100	--	--	1,600	4,100	--
Potassium	1,100	--	--	--	--	--	--
Sodium	3,800	--	--	--	--	--	--
Vanadium	16	550	--	--	550	1,400	--
Zinc	220	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.12 J	--	--	--	--	--	2
Boron	0.39 J	--	--	--	--	--	2
Iron	ND U	--	--	--	--	--	5
Lead	0.011 L	--	--	--	--	--	0.0075
Manganese	0.67 L	--	--	--	--	--	0.15
<b>SPLP Metals (mg/L)</b>							
Lead	ND U	--	--	--	--	--	0.0075
Manganese	ND U	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-9

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:31:00 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	8
Client Sample Results . . . . .	9
Definitions . . . . .	21
Certification Summary . . . . .	22
Chain of Custody . . . . .	23
Receipt Checklists . . . . .	24

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Job ID: 500-104045-9**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-9

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-04-B02 (0-3.5) (500-104045-16) and 2993-04-B03 (0-3.5) (500-104045-17). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-04-B01 (0-3.5) (500-104045-15), 2993-04-B02 (0-3.5) (500-104045-16) and 2993-04-B03 (0-3.5) (500-104045-17) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 6010B: The following sample was diluted due to the nature of the sample matrix: 2993-04-B03 (0-3.5) (500-104045-17). Elevated reporting limits (RLs) are provided.

Method(s) 6010B: The following samples were diluted due to the abundance of non-target analytes: 2993-04-B01 (0-3.5) (500-104045-15) and 2993-04-B02 (0-3.5) (500-104045-16). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Client Sample ID: 2993-04-B03 (0-3.5)**

**Lab Sample ID: 500-104045-17**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Naphthalene	0.12		0.037	0.0058	mg/Kg	1	☼	☼	8270D	Total/NA
2-Methylnaphthalene	0.22		0.037	0.0069	mg/Kg	1	☼	☼	8270D	Total/NA
Acenaphthylene	0.043		0.037	0.0049	mg/Kg	1	☼	☼	8270D	Total/NA
Acenaphthene	0.029	J	0.037	0.0067	mg/Kg	1	☼	☼	8270D	Total/NA
Dibenzofuran	0.14	J	0.19	0.044	mg/Kg	1	☼	☼	8270D	Total/NA
Fluorene	0.024	J	0.037	0.0053	mg/Kg	1	☼	☼	8270D	Total/NA
Phenanthrene	0.94		0.037	0.0052	mg/Kg	1	☼	☼	8270D	Total/NA
Anthracene	0.19		0.037	0.0063	mg/Kg	1	☼	☼	8270D	Total/NA
Fluoranthene	1.3		0.037	0.0069	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[a]anthracene	1.1		0.037	0.0050	mg/Kg	1	☼	☼	8270D	Total/NA
Chrysene	1.2		0.037	0.010	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[b]fluoranthene	1.5		0.037	0.0081	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.61		0.037	0.011	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[a]pyrene	1.0		0.037	0.0072	mg/Kg	1	☼	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.63		0.037	0.0097	mg/Kg	1	☼	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.17		0.037	0.0072	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.66		0.037	0.012	mg/Kg	1	☼	☼	8270D	Total/NA
Pyrene - DL	2.2		0.19	0.037	mg/Kg	5	☼	☼	8270D	Total/NA
Arsenic	8.6		2.6	1.2	mg/Kg	5	☼	☼	6010B	Total/NA
Barium	260		2.6	0.48	mg/Kg	5	☼	☼	6010B	Total/NA
Beryllium	0.66	J	1.0	0.23	mg/Kg	5	☼	☼	6010B	Total/NA
Boron	18		13	1.8	mg/Kg	5	☼	☼	6010B	Total/NA
Cadmium	0.76		0.52	0.15	mg/Kg	5	☼	☼	6010B	Total/NA
Calcium	81000	B	100	34	mg/Kg	10	☼	☼	6010B	Total/NA
Chromium	16	B	2.6	0.45	mg/Kg	5	☼	☼	6010B	Total/NA
Cobalt	6.9		1.3	0.30	mg/Kg	5	☼	☼	6010B	Total/NA
Copper	53		2.6	0.57	mg/Kg	5	☼	☼	6010B	Total/NA
Iron	17000		52	20	mg/Kg	5	☼	☼	6010B	Total/NA
Lead	220		1.3	0.65	mg/Kg	5	☼	☼	6010B	Total/NA
Magnesium	45000	B	26	11	mg/Kg	5	☼	☼	6010B	Total/NA
Manganese	420		2.6	0.52	mg/Kg	5	☼	☼	6010B	Total/NA
Nickel	18		2.6	0.71	mg/Kg	5	☼	☼	6010B	Total/NA
Potassium	1100	B	130	21	mg/Kg	5	☼	☼	6010B	Total/NA
Sodium	3800	B	260	35	mg/Kg	5	☼	☼	6010B	Total/NA
Vanadium	16		1.3	0.38	mg/Kg	5	☼	☼	6010B	Total/NA
Zinc	220		5.2	1.7	mg/Kg	5	☼	☼	6010B	Total/NA
Barium	0.12	J	0.50	0.050	mg/L	1			6010B	TCLP
Boron	0.39	J	0.50	0.050	mg/L	1			6010B	TCLP
Lead	0.011		0.0075	0.0075	mg/L	1			6010B	TCLP
Manganese	0.67		0.025	0.010	mg/L	1			6010B	TCLP

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago





# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Client Sample ID: 2993-04-B03 (0-3.5) (Continued)**

**Lab Sample ID: 500-104045-17**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	0.13	B	0.10	0.020	mg/L	1		6010B	TCLP
Mercury	0.082		0.017	0.0058	mg/Kg	1	*	7471B	Total/NA
pH	7.71		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-17	2993-04-B03 (0-3.5)	Solid	11/13/15 12:15	11/14/15 08:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Client Sample ID: 2993-04-B03 (0-3.5)**

**Lab Sample ID: 500-104045-17**

**Date Collected: 11/13/15 12:15**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.016		0.016	0.0031	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Benzene	<0.0040		0.0040	0.00089	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Bromodichloromethane	<0.0040		0.0040	0.00068	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Bromoform	<0.0040		0.0040	0.00082	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Bromomethane	<0.0040		0.0040	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
2-Butanone (MEK)	<0.0040		0.0040	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Carbon disulfide	<0.0040		0.0040	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Carbon tetrachloride	<0.0040		0.0040	0.00086	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Chlorobenzene	<0.0040		0.0040	0.00095	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Chloroethane	<0.0040	*	0.0040	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Chloroform	<0.0040		0.0040	0.00078	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Chloromethane	<0.0040		0.0040	0.00096	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
cis-1,2-Dichloroethene	<0.0040		0.0040	0.00082	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
cis-1,3-Dichloropropene	<0.0040		0.0040	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Dibromochloromethane	<0.0040		0.0040	0.00046	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,1-Dichloroethane	<0.0040		0.0040	0.00083	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,2-Dichloroethane	<0.0040		0.0040	0.00060	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,1-Dichloroethene	<0.0040		0.0040	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,2-Dichloropropane	<0.0040		0.0040	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,3-Dichloropropane, Total	<0.0040		0.0040	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Ethylbenzene	<0.0040		0.0040	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
2-Hexanone	<0.0040		0.0040	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Methylene Chloride	<0.0040		0.0040	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
4-Methyl-2-pentanone (MIBK)	<0.0040		0.0040	0.00083	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Methyl tert-butyl ether	<0.0040		0.0040	0.00095	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Styrene	<0.0040		0.0040	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,1,2,2-Tetrachloroethane	<0.0040		0.0040	0.00064	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Tetrachloroethene	<0.0040		0.0040	0.00084	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Toluene	<0.0040		0.0040	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
trans-1,2-Dichloroethene	<0.0040		0.0040	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
trans-1,3-Dichloropropene	<0.0040		0.0040	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,1,1-Trichloroethane	<0.0040		0.0040	0.00093	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
1,1,2-Trichloroethane	<0.0040		0.0040	0.00078	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Trichloroethene	<0.0040		0.0040	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Vinyl acetate	<0.0040		0.0040	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Vinyl chloride	<0.0040		0.0040	0.00096	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1
Xylenes, Total	<0.0080		0.0080	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 122	11/14/15 14:10	11/16/15 18:08	1
Dibromofluoromethane	105		75 - 120	11/14/15 14:10	11/16/15 18:08	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 134	11/14/15 14:10	11/16/15 18:08	1
Toluene-d8 (Surr)	92		75 - 122	11/14/15 14:10	11/16/15 18:08	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.083	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Client Sample ID: 2993-04-B03 (0-3.5)**

**Lab Sample ID: 500-104045-17**

**Date Collected: 11/13/15 12:15**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.2**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Nitrobenzene	<0.037		0.037	0.0093	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Naphthalene</b>	<b>0.12</b>		0.037	0.0058	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,4,5-Trichlorophenol	<0.37		0.37	0.085	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>2-Methylnaphthalene</b>	<b>0.22</b>		0.037	0.0069	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2-Nitrophenol	<0.37		0.37	0.088	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,4-Dinitrophenol	<0.76		0.76	0.66	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Acenaphthylene</b>	<b>0.043</b>		0.037	0.0049	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Acenaphthene</b>	<b>0.029 J</b>		0.037	0.0067	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Dibenzofuran</b>	<b>0.14 J</b>		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Fluorene</b>	<b>0.024 J</b>		0.037	0.0053	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Pentachlorophenol	<0.76		0.76	0.60	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Phenanthrene</b>	<b>0.94</b>		0.037	0.0052	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Anthracene</b>	<b>0.19</b>		0.037	0.0063	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Carbazole	<0.19		0.19	0.094	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Fluoranthene</b>	<b>1.3</b>		0.037	0.0069	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Butyl benzyl phthalate	<0.19		0.19	0.071	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Benzo[a]anthracene</b>	<b>1.1</b>		0.037	0.0050	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Chrysene</b>	<b>1.2</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Client Sample ID: 2993-04-B03 (0-3.5)**

**Lab Sample ID: 500-104045-17**

Date Collected: 11/13/15 12:15

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 88.2

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.068	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Benzo[b]fluoranthene</b>	<b>1.5</b>		0.037	0.0081	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Benzo[k]fluoranthene</b>	<b>0.61</b>		0.037	0.011	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Benzo[a]pyrene</b>	<b>1.0</b>		0.037	0.0072	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.63</b>		0.037	0.0097	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Dibenz(a,h)anthracene</b>	<b>0.17</b>		0.037	0.0072	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
<b>Benzo[g,h,i]perylene</b>	<b>0.66</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:08	11/24/15 21:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorophenol	87		25 - 110				11/19/15 07:08	11/24/15 21:07	1
Phenol-d5	94		31 - 110				11/19/15 07:08	11/24/15 21:07	1
Nitrobenzene-d5	92		25 - 115				11/19/15 07:08	11/24/15 21:07	1
2-Fluorobiphenyl	100		25 - 119				11/19/15 07:08	11/24/15 21:07	1
2,4,6-Tribromophenol	131		35 - 137				11/19/15 07:08	11/24/15 21:07	1
Terphenyl-d14	213	X	36 - 134				11/19/15 07:08	11/24/15 21:07	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Pyrene</b>	<b>2.2</b>		0.19	0.037	mg/Kg	☼	11/19/15 07:08	11/25/15 23:36	5

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<5.2		5.2	1.1	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Arsenic</b>	<b>8.6</b>		2.6	1.2	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Barium</b>	<b>260</b>		2.6	0.48	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Beryllium</b>	<b>0.66</b>	J	1.0	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Boron</b>	<b>18</b>		13	1.8	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Cadmium</b>	<b>0.76</b>		0.52	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Calcium</b>	<b>81000</b>	B	100	34	mg/Kg	☼	11/24/15 11:26	11/25/15 05:39	10
<b>Chromium</b>	<b>16</b>	B	2.6	0.45	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Cobalt</b>	<b>6.9</b>		1.3	0.30	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Copper</b>	<b>53</b>		2.6	0.57	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Iron</b>	<b>17000</b>		52	20	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Lead</b>	<b>220</b>		1.3	0.65	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Magnesium</b>	<b>45000</b>	B	26	11	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Manganese</b>	<b>420</b>		2.6	0.52	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Nickel</b>	<b>18</b>		2.6	0.71	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Potassium</b>	<b>1100</b>	B	130	21	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
Selenium	<2.6		2.6	1.3	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
Silver	<1.3		1.3	0.31	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Sodium</b>	<b>3800</b>	B	260	35	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
Thallium	<2.6		2.6	1.3	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Vanadium</b>	<b>16</b>		1.3	0.38	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5
<b>Zinc</b>	<b>220</b>		5.2	1.7	mg/Kg	☼	11/24/15 11:26	11/25/15 16:27	5

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

**Client Sample ID: 2993-04-B03 (0-3.5)**

**Lab Sample ID: 500-104045-17**

Date Collected: 11/13/15 12:15

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 88.2

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.12</b>	<b>J</b>	0.50	0.050	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Beryllium	<0.0040		0.0040	0.0040	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
<b>Boron</b>	<b>0.39</b>	<b>J</b>	0.50	0.050	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Cadmium	<0.0050		0.0050	0.0020	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
<b>Lead</b>	<b>0.011</b>		0.0075	0.0075	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
<b>Manganese</b>	<b>0.67</b>		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:43	1
<b>Zinc</b>	<b>0.13</b>	<b>B</b>	0.10	0.020	mg/L	-	11/25/15 14:05	11/26/15 14:43	1

**Method: 6010B - SPLP Metals - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L	-	12/01/15 09:45	12/01/15 17:27	1
Manganese	<0.025		0.025	0.010	mg/L	-	12/01/15 09:45	12/01/15 17:27	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:05	11/30/15 16:03	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:05	11/30/15 16:03	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 09:37	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<b>0.082</b>		0.017	0.0058	mg/Kg	☼	11/25/15 06:45	11/25/15 12:42	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	<b>7.71</b>		0.200	0.200	SU	-		11/21/15 13:14	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-9

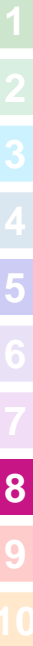
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: \_\_\_\_\_ (optional)  
 Contact: PT  
 Company: JS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative							Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other			
Project Name		Lab Project #		Parameter										
Project Location/State		Lab PM												
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix							Comments	
EE		1009841-003-01					VOC	SUOC	Tot. TAP	inhibic	TUW/SPEC	inhibic	PH/9.5.1.2	
ASR		50011633												
Coak	Coak, IA	D. Wray												
S. Loop														
15		2993-04-B01 (0-3.5)	11/3/15	1155	2	3	X	X	X	X	X			
16		2993-04-B02 (0-3.5)	11/3/15	1205	2	5	X	X	X	X	X			
17		2993-04-B03 (0-3.5)	11/3/15	1215	2	5	X	X	X	X	X			
<del>11/3/15</del>														

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u>	Company: <u>EE</u>	Date: <u>11/3/15</u>	Time: <u>1525</u>	Received By: <u>[Signature]</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1525</u>
Relinquished By: <u>[Signature]</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1720</u>	Received By: <u>[Signature]</u>	Company: <u>TAL</u>	Date: <u>11/14/15</u>	Time: <u>0800</u>

Lab Courier: \_\_\_\_\_  
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

Matrix Key

WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-9

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-9 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-09-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-09-B01 (0-2)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	8.9						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.024 J	--	--	--	--	--	--
Acenaphthene	0.021 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.01 J	--	--	--	--	--	--
Anthracene	0.068	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.47	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.48 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.88	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.25	--	--	--	--	--	--
Benzo[k]fluoranthene	0.3	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.32	46	--	--	46	4,100	--
Chrysene	0.53	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.063	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.65	3,100	--	--	3100	82000	--
Fluorene	0.019 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.21	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.018 J	1.8	--	--	170	1.8	--
Phenanthrene	0.33	--	--	--	--	--	--
Pyrene	1.2	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Antimony	0.32 J	5	--	--	31	82	--
Arsenic	6.9	11.3	13	--	13	61	--
Barium	61	1,500	--	--	5,500	14,000	--
Beryllium	0.5	22	--	--	160	410	--
Boron	8.1	40	--	--	16,000	41,000	--
Cadmium	0.41	5.2	--	--	78	200	--
Calcium	62,000	--	--	--	--	--	--
Chromium	17	21	--	--	230	690	--
Cobalt	8.9	20	--	--	4,700	12,000	--
Copper	32	2,900	--	--	2,900	8,200	--
Iron	15,000	15,000	15900	--	--	--	--
Lead	91	107	--	--	400	700	--
Magnesium	25,000	325,000	--	--	--	730,000	--
Manganese	440	630	636	--	1,600	4,100	--
Nickel	22	100	--	--	1,600	4,100	--
Potassium	1,300	--	--	--	--	--	--
Selenium	0.28 J	1.3	--	--	390	1,000	--
Sodium	1,100	--	--	--	--	--	--
Vanadium	19	550	--	--	550	1,400	--
Zinc	110	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.49 J	--	--	--	--	--	2
Boron	0.25 J	--	--	--	--	--	2
Manganese	0.19 L	--	--	--	--	--	0.15
Zinc	0.071 J	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>							
Manganese	0.78 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-103978-2

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:  
Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:40:15 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	6
Client Sample Results . . . . .	7
Definitions . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

**Job ID: 500-103978-2**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-103978-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/12/2015 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

#### GC/MS VOA

Method(s) 8260B: The following analyte recovered outside control limits for the LCS/LCSD associated with 500-312771: Bromomethane. This is not indicative of a systematic control problem because this was a random marginal exceedance. Qualified results have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 500-312771 recovered outside control limits for the following analyte: Acetone.

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312771 recovered outside control limits for the following analyte: Vinyl Acetate. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base/neutral surrogate outside acceptance limits: 2993-09-B01 (0-2) (500-103978-4), 2993-09-B02 (0-2) (500-103978-5), (500-103978-E-1-A), (500-103978-E-1-B MS) and (500-103978-E-1-C MSD). The laboratory's SOP allows one acid and/or one base/neutral surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

**Client Sample ID: 2993-09-B01 (0-2)**

**Lab Sample ID: 500-103978-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.018	J	0.036	0.0056	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.024	J	0.036	0.0067	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.010	J	0.036	0.0048	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.021	J	0.036	0.0066	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.019	J	0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.33		0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.068		0.036	0.0061	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.65		0.036	0.0068	mg/Kg	1	☼	8270D	Total/NA
Pyrene	1.2		0.036	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.47		0.036	0.0049	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.53		0.036	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.32		0.18	0.067	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.88		0.036	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.30		0.036	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.48		0.036	0.0071	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.21		0.036	0.0095	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.063		0.036	0.0071	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.25		0.036	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.32	J	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.9		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	61		0.54	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.50		0.22	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	8.1		2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.41	B	0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	62000		110	35	mg/Kg	10	☼	6010B	Total/NA
Chromium	17	B	0.54	0.094	mg/Kg	1	☼	6010B	Total/NA
Cobalt	8.9		0.27	0.062	mg/Kg	1	☼	6010B	Total/NA
Copper	32		0.54	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	15000		11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	91		0.27	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	25000		5.4	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	440		0.54	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	22		0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1300		27	4.4	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.28	J	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	1100		54	7.2	mg/Kg	1	☼	6010B	Total/NA
Vanadium	19		0.27	0.080	mg/Kg	1	☼	6010B	Total/NA
Zinc	110		1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.49	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.25	J	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	0.19		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.071	J	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.78		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.072	B	0.018	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.90		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103978-4	2993-09-B01 (0-2)	Solid	11/12/15 14:15	11/12/15 17:30

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

**Client Sample ID: 2993-09-B01 (0-2)**

**Lab Sample ID: 500-103978-4**

**Date Collected: 11/12/15 14:15**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 86.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.037	*	0.037	0.0072	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Benzene	<0.0093		0.0093	0.0021	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Bromodichloromethane	<0.0093		0.0093	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Bromoform	<0.0093		0.0093	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Bromomethane	<0.0093	*	0.0093	0.0034	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
2-Butanone (MEK)	<0.0093		0.0093	0.0033	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Carbon disulfide	<0.0093		0.0093	0.0034	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Carbon tetrachloride	<0.0093		0.0093	0.0020	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Chlorobenzene	<0.0093		0.0093	0.0022	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Chloroethane	<0.0093		0.0093	0.0039	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Chloroform	<0.0093		0.0093	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Chloromethane	<0.0093		0.0093	0.0022	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
cis-1,2-Dichloroethene	<0.0093		0.0093	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
cis-1,3-Dichloropropene	<0.0093		0.0093	0.0021	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Dibromochloromethane	<0.0093		0.0093	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,1-Dichloroethane	<0.0093		0.0093	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,2-Dichloroethane	<0.0093		0.0093	0.0014	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,1-Dichloroethene	<0.0093		0.0093	0.0034	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,2-Dichloropropane	<0.0093		0.0093	0.0024	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,3-Dichloropropane, Total	<0.0093		0.0093	0.0026	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Ethylbenzene	<0.0093		0.0093	0.0023	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
2-Hexanone	<0.0093		0.0093	0.0029	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Methylene Chloride	<0.0093		0.0093	0.0070	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
4-Methyl-2-pentanone (MIBK)	<0.0093		0.0093	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Methyl tert-butyl ether	<0.0093		0.0093	0.0022	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Styrene	<0.0093		0.0093	0.0022	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,1,2,2-Tetrachloroethane	<0.0093		0.0093	0.0015	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Tetrachloroethene	<0.0093		0.0093	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Toluene	<0.0093		0.0093	0.0032	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
trans-1,2-Dichloroethene	<0.0093		0.0093	0.0023	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
trans-1,3-Dichloropropene	<0.0093		0.0093	0.0026	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,1,1-Trichloroethane	<0.0093		0.0093	0.0022	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
1,1,2-Trichloroethane	<0.0093		0.0093	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Trichloroethene	<0.0093		0.0093	0.0025	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Vinyl acetate	<0.0093	*	0.0093	0.0025	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Vinyl chloride	<0.0093		0.0093	0.0022	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1
Xylenes, Total	<0.019		0.019	0.0034	mg/Kg	☼	11/13/15 18:10	11/16/15 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 122	11/13/15 18:10	11/16/15 19:25	1
Dibromofluoromethane	102		75 - 120	11/13/15 18:10	11/16/15 19:25	1
1,2-Dichloroethane-d4 (Surr)	117		70 - 134	11/13/15 18:10	11/16/15 19:25	1
Toluene-d8 (Surr)	114		75 - 122	11/13/15 18:10	11/16/15 19:25	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.081	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.055	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
1,3-Dichlorobenzene	<0.18		0.18	0.041	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
1,4-Dichlorobenzene	<0.18		0.18	0.047	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

**Client Sample ID: 2993-09-B01 (0-2)**

**Lab Sample ID: 500-103978-4**

**Date Collected: 11/12/15 14:15**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 86.0**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2-Methylphenol	<0.18		0.18	0.059	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.042	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
N-Nitrosodi-n-propylamine	<0.18		0.18	0.045	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Hexachloroethane	<0.18		0.18	0.056	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2-Chlorophenol	<0.18		0.18	0.062	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Nitrobenzene	<0.036		0.036	0.0091	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.037	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.039	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Isophorone	<0.18		0.18	0.041	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,4-Dimethylphenol	<0.36		0.36	0.14	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Hexachlorobutadiene	<0.18		0.18	0.057	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Naphthalene</b>	<b>0.018</b>	<b>J</b>	0.036	0.0056	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,4-Dichlorophenol	<0.36		0.36	0.087	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,4,6-Trichlorophenol	<0.36		0.36	0.13	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,4,5-Trichlorophenol	<0.36		0.36	0.083	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>2-Methylnaphthalene</b>	<b>0.024</b>	<b>J</b>	0.036	0.0067	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2-Nitroaniline	<0.18		0.18	0.049	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2-Chloronaphthalene	<0.18		0.18	0.040	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4-Chloro-3-methylphenol	<0.36		0.36	0.12	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,6-Dinitrotoluene	<0.18		0.18	0.072	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2-Nitrophenol	<0.36		0.36	0.086	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
3-Nitroaniline	<0.36		0.36	0.11	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Dimethyl phthalate	<0.18		0.18	0.048	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,4-Dinitrophenol	<0.74		0.74	0.64	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Acenaphthylene</b>	<b>0.010</b>	<b>J</b>	0.036	0.0048	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
2,4-Dinitrotoluene	<0.18		0.18	0.058	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Acenaphthene</b>	<b>0.021</b>	<b>J</b>	0.036	0.0066	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Dibenzofuran	<0.18		0.18	0.043	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Fluorene</b>	<b>0.019</b>	<b>J</b>	0.036	0.0051	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4-Nitroaniline	<0.36		0.36	0.15	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.048	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Hexachlorobenzene	<0.074		0.074	0.0085	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Diethyl phthalate	<0.18		0.18	0.062	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.043	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Pentachlorophenol	<0.74		0.74	0.59	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
N-Nitrosodiphenylamine	<0.18		0.18	0.043	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.29	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Phenanthrene</b>	<b>0.33</b>		0.036	0.0051	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Anthracene</b>	<b>0.068</b>		0.036	0.0061	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Carbazole	<0.18		0.18	0.091	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Di-n-butyl phthalate	<0.18		0.18	0.056	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Fluoranthene</b>	<b>0.65</b>		0.036	0.0068	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Pyrene</b>	<b>1.2</b>		0.036	0.0073	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Butyl benzyl phthalate	<0.18		0.18	0.070	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Benzo[a]anthracene</b>	<b>0.47</b>		0.036	0.0049	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

**Client Sample ID: 2993-09-B01 (0-2)**

**Lab Sample ID: 500-103978-4**

Date Collected: 11/12/15 14:15

Matrix: Solid

Date Received: 11/12/15 17:30

Percent Solids: 86.0

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.53</b>		0.036	0.010	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.051	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.32</b>		0.18	0.067	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
Di-n-octyl phthalate	<0.18		0.18	0.060	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Benzo[b]fluoranthene</b>	<b>0.88</b>		0.036	0.0079	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Benzo[k]fluoranthene</b>	<b>0.30</b>		0.036	0.011	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Benzo[a]pyrene</b>	<b>0.48</b>		0.036	0.0071	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.21</b>		0.036	0.0095	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Dibenz(a,h)anthracene</b>	<b>0.063</b>		0.036	0.0071	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
<b>Benzo[g,h,i]perylene</b>	<b>0.25</b>		0.036	0.012	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1
3 & 4 Methylphenol	<0.18		0.18	0.061	mg/Kg	☼	11/17/15 07:35	11/20/15 23:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	87		25 - 110	11/17/15 07:35	11/20/15 23:56	1
Phenol-d5	93		31 - 110	11/17/15 07:35	11/20/15 23:56	1
Nitrobenzene-d5	84		25 - 115	11/17/15 07:35	11/20/15 23:56	1
2-Fluorobiphenyl	80		25 - 119	11/17/15 07:35	11/20/15 23:56	1
2,4,6-Tribromophenol	87		35 - 137	11/17/15 07:35	11/20/15 23:56	1
Terphenyl-d14	181	X	36 - 134	11/17/15 07:35	11/20/15 23:56	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.32</b>	<b>J</b>	1.1	0.23	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Arsenic</b>	<b>6.9</b>		0.54	0.25	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Barium</b>	<b>61</b>		0.54	0.10	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Beryllium</b>	<b>0.50</b>		0.22	0.047	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Boron</b>	<b>8.1</b>		2.7	0.38	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Cadmium</b>	<b>0.41</b>	<b>B</b>	0.11	0.032	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Calcium</b>	<b>62000</b>		110	35	mg/Kg	☼	11/19/15 18:27	11/22/15 00:30	10
<b>Chromium</b>	<b>17</b>	<b>B</b>	0.54	0.094	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Cobalt</b>	<b>8.9</b>		0.27	0.062	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Copper</b>	<b>32</b>		0.54	0.12	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Iron</b>	<b>15000</b>		11	4.2	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Lead</b>	<b>91</b>		0.27	0.14	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Magnesium</b>	<b>25000</b>		5.4	2.2	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Manganese</b>	<b>440</b>		0.54	0.11	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Nickel</b>	<b>22</b>		0.54	0.15	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Potassium</b>	<b>1300</b>		27	4.4	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Selenium</b>	<b>0.28</b>	<b>J</b>	0.54	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
Silver	<0.27		0.27	0.064	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Sodium</b>	<b>1100</b>		54	7.2	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
Thallium	<0.54		0.54	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Vanadium</b>	<b>19</b>		0.27	0.080	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1
<b>Zinc</b>	<b>110</b>		1.1	0.34	mg/Kg	☼	11/19/15 18:27	11/21/15 03:38	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.49</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 18:54	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/24/15 10:00	11/24/15 18:54	1
<b>Boron</b>	<b>0.25</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 18:54	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

**Client Sample ID: 2993-09-B01 (0-2)**

**Lab Sample ID: 500-103978-4**

**Date Collected: 11/12/15 14:15**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 86.0**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/24/15 10:00	11/24/15 18:54	1
Chromium	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:54	1
Cobalt	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:54	1
Iron	<0.20		0.20	0.20	mg/L		11/24/15 10:00	11/24/15 18:54	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/24/15 10:00	11/24/15 18:54	1
<b>Manganese</b>	<b>0.19</b>		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:54	1
Nickel	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:54	1
Selenium	<0.050		0.050	0.020	mg/L		11/24/15 10:00	11/24/15 18:54	1
Silver	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:54	1
<b>Zinc</b>	<b>0.071</b>	<b>J</b>	0.10	0.020	mg/L		11/24/15 10:00	11/24/15 18:54	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.78</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 21:07	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/24/15 10:00	11/25/15 13:55	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/24/15 10:00	11/25/15 13:55	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/24/15 17:15	11/25/15 09:24	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.072</b>	<b>B</b>	0.018	0.0064	mg/Kg	☼	11/17/15 14:00	11/19/15 09:55	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.90</b>		0.200	0.200	SU			12/02/15 12:11	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-2

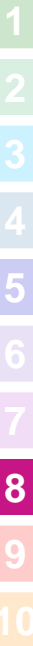
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To _____ (optional)	Bill To _____ (optional)
Contact: _____	Contact: _____
Company: _____	Company: _____
Address: _____	Address: _____
Address: _____	Address: _____
Phone: _____	Phone: _____
Fax: _____	Fax: _____
E-Mail: _____	PO#/Reference# _____

## Chain of Custody Record

Lab Job #: 500-103978

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative												Preservative Key	
E+E		1009341.0003.01														1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Project Name		Lab Project #		Parameter													
EE9-WO003																	
Project Location/State		Lab PM															
Chicago, IL		Dick Wright															
Lab ID	MS/MSD	Sample ID		Sampling		# of Containers	Matrix									Comments	
		Date	Time														
4		2993-09-B01(0-2)	11/12/15	1415	2	5	VOC	X	X	X	X	X	X				
5		2993-09-B02(0-2)	11/12/15	1425	2	5	SVOC	X	X	X	X	X	X				

Turnaround Time Required (Business Days)

1 Day
  2 Days
  5 Days
  7 Days
  10 Days
  15 Days
  Other

Sample Disposal

Return to Client
  Disposal by Lab
  Archive for \_\_\_\_\_ Months
 (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>J. Hughes</u> Company: <u>E+E</u> Date: <u>11/12/15</u> Time: <u>16:30</u>	Received By: <u>Daniel Bedem</u> Company: <u>TA</u> Date: <u>11-12-15</u> Time: <u>16:30</u>
Relinquished By: <u>Daniel Bedem</u> Company: <u>TA</u> Date: <u>11/12/15</u> Time: <u>17:30</u>	Received By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11-12-15</u> Time: <u>17:30</u>

Lab Courier: \_\_\_\_\_

Shipped: \_\_\_\_\_

Hand Delivered: \_\_\_\_\_

Matrix Key

- WW - Wastewater
- W - Water
- S - Soil
- SL - Sludge
- MS - Miscellaneous
- OL - Oil
- A - Air
- SE - Sediment
- SO - Soil
- L - Leachate
- WI - Wipe
- DW - Drinking Water
- O - Other

Client Comments:

\_\_\_\_\_

Lab Comments:

\_\_\_\_\_



## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-103978-2

**Login Number: 103978**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: James, Jeff A**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6, 2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-13 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-13-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-13-B01 (0-3.5)						
MATRIX	Soil						
DEPTH (feet)	0-3.5						
pH	7.76						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.0073 J	--	--	--	--	--	--
Benzo[a]anthracene	0.05	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.058	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.11	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.021 J	--	--	--	--	--	--
Benzo[k]fluoranthene	0.045	9	--	--	9	1,700	--
Chrysene	0.073	88	--	--	88	17,000	--
Fluoranthene	0.088	3,100	--	--	3100	82000	--
Indeno[1,2,3-cd]pyrene	0.021 J	0.9	1.6	0.9	1.6	170	--
Phenanthrene	0.063	--	--	--	--	--	--
Pyrene	0.085	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Antimony	0.43 J	5	--	--	31	82	--
Arsenic	5.1	11.3	13	--	13	61	--
Barium	39	1,500	--	--	5,500	14,000	--
Beryllium	0.51	22	--	--	160	410	--
Boron	13	40	--	--	16,000	41,000	--
Calcium	75,000	--	--	--	--	--	--
Chromium	14	21	--	--	230	690	--
Cobalt	11	20	--	--	4,700	12,000	--
Copper	23	2,900	--	--	2,900	8,200	--
Iron	15,000	15,000	15900	--	--	--	--
Lead	30	107	--	--	400	700	--
Magnesium	25,000	325,000	--	--	--	730,000	--
Manganese	330	630	636	--	1,600	4,100	--
Nickel	29	100	--	--	1,600	4,100	--
Potassium	1,900	--	--	--	--	--	--
Selenium	0.34 J	1.3	--	--	390	1,000	--
Sodium	990	--	--	--	--	--	--
Vanadium	17	550	--	--	550	1,400	--
Zinc	67	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.15 J	--	--	--	--	--	2
Boron	0.3 J	--	--	--	--	--	2
Manganese	0.56 L	--	--	--	--	--	0.15
Zinc	0.037 J	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>							
Manganese	0.021 J	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-103978-3

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:  
Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:41:06 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	7
Client Sample Results . . . . .	8
Definitions . . . . .	20
Certification Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	23

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

**Job ID: 500-103978-3**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-103978-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/12/2015 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

#### GC/MS VOA

Method(s) 8260B: The following analyte recovered outside control limits for the LCS/LCSD associated with 500-312771: Bromomethane. This is not indicative of a systematic control problem because this was a random marginal exceedance. Qualified results have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 500-312771 recovered outside control limits for the following analyte: Acetone.

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312771 recovered outside control limits for the following analyte: Vinyl Acetate. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base/neutral surrogate outside acceptance limits: 2993-13-B03 (0-3.5) (500-103978-6), 2993-13-B02 (0-3.5) (500-103978-7), (500-103978-E-1-A), (500-103978-E-1-B MS) and (500-103978-E-1-C MSD). The laboratory's SOP allows one acid and/or one base/neutral surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

**Client Sample ID: 2993-13-B01 (0-3.5)**

**Lab Sample ID: 500-103978-8**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2-Methylnaphthalene	0.0073	J	0.039	0.0072	mg/Kg	1	☒		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

**Client Sample ID: 2993-13-B01 (0-3.5) (Continued)**

**Lab Sample ID: 500-103978-8**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	0.063		0.039	0.0054	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.088		0.039	0.0072	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.085		0.039	0.0078	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.050		0.039	0.0053	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.073		0.039	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.11		0.039	0.0084	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.045		0.039	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.058		0.039	0.0076	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.021	J	0.039	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.021	J	0.039	0.013	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.43	J	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	5.1		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	39		0.55	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.51		0.22	0.048	mg/Kg	1	☼	6010B	Total/NA
Boron	13		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.24	B	0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	75000		110	35	mg/Kg	10	☼	6010B	Total/NA
Chromium	14	B	0.55	0.095	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.28	0.062	mg/Kg	1	☼	6010B	Total/NA
Copper	23		0.55	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	15000		11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	30		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	25000		5.5	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	330		0.55	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	29		0.55	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1900		28	4.5	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.34	J	0.55	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	990		55	7.3	mg/Kg	1	☼	6010B	Total/NA
Vanadium	17		0.28	0.080	mg/Kg	1	☼	6010B	Total/NA
Zinc	67		1.1	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	0.15	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.30	J	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	0.56		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.037	J	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.021	J	0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.043	B	0.019	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.76		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103978-8	2993-13-B01 (0-3.5)	Solid	11/12/15 15:15	11/12/15 17:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

**Client Sample ID: 2993-13-B01 (0-3.5)**

**Lab Sample ID: 500-103978-8**

**Date Collected: 11/12/15 15:15**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 82.8**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.018	*	0.018	0.0034	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Benzene	<0.0045		0.0045	0.00099	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Bromodichloromethane	<0.0045		0.0045	0.00075	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Bromoform	<0.0045		0.0045	0.00091	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Bromomethane	<0.0045	*	0.0045	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
2-Butanone (MEK)	<0.0045		0.0045	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Carbon disulfide	<0.0045		0.0045	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Carbon tetrachloride	<0.0045		0.0045	0.00095	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Chlorobenzene	<0.0045		0.0045	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Chloroethane	<0.0045		0.0045	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Chloroform	<0.0045		0.0045	0.00087	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Chloromethane	<0.0045		0.0045	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
cis-1,2-Dichloroethene	<0.0045		0.0045	0.00091	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
cis-1,3-Dichloropropene	<0.0045		0.0045	0.0010	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Dibromochloromethane	<0.0045		0.0045	0.00051	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,1-Dichloroethane	<0.0045		0.0045	0.00092	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,2-Dichloroethane	<0.0045		0.0045	0.00066	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,1-Dichloroethene	<0.0045		0.0045	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,2-Dichloropropane	<0.0045		0.0045	0.0012	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,3-Dichloropropane, Total	<0.0045		0.0045	0.0013	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Ethylbenzene	<0.0045		0.0045	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
2-Hexanone	<0.0045		0.0045	0.0014	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Methylene Chloride	<0.0045		0.0045	0.0034	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
4-Methyl-2-pentanone (MIBK)	<0.0045		0.0045	0.00092	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Methyl tert-butyl ether	<0.0045		0.0045	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Styrene	<0.0045		0.0045	0.0010	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,1,1,2-Tetrachloroethane	<0.0045		0.0045	0.00071	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Tetrachloroethene	<0.0045		0.0045	0.00093	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Toluene	<0.0045		0.0045	0.0015	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
trans-1,2-Dichloroethene	<0.0045		0.0045	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
trans-1,3-Dichloropropene	<0.0045		0.0045	0.0013	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,1,1-Trichloroethane	<0.0045		0.0045	0.0010	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
1,1,2-Trichloroethane	<0.0045		0.0045	0.00086	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Trichloroethene	<0.0045		0.0045	0.0012	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Vinyl acetate	<0.0045	*	0.0045	0.0012	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Vinyl chloride	<0.0045		0.0045	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1
Xylenes, Total	<0.0089		0.0089	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 122	11/13/15 18:10	11/16/15 21:05	1
Dibromofluoromethane	100		75 - 120	11/13/15 18:10	11/16/15 21:05	1
1,2-Dichloroethane-d4 (Surr)	121		70 - 134	11/13/15 18:10	11/16/15 21:05	1
Toluene-d8 (Surr)	114		75 - 122	11/13/15 18:10	11/16/15 21:05	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.087	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
1,3-Dichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
1,4-Dichlorobenzene	<0.20		0.20	0.050	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

**Client Sample ID: 2993-13-B01 (0-3.5)**

**Lab Sample ID: 500-103978-8**

**Date Collected: 11/12/15 15:15**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 82.8**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.047	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2-Methylphenol	<0.20		0.20	0.063	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.045	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
N-Nitrosodi-n-propylamine	<0.20		0.20	0.048	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Hexachloroethane	<0.20		0.20	0.059	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2-Chlorophenol	<0.20		0.20	0.067	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Nitrobenzene	<0.039		0.039	0.0097	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.040	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.042	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,4-Dimethylphenol	<0.39		0.39	0.15	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Hexachlorobutadiene	<0.20		0.20	0.061	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Naphthalene	<0.039		0.039	0.0060	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,4-Dichlorophenol	<0.39		0.39	0.093	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4-Chloroaniline	<0.79		0.79	0.18	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,4,6-Trichlorophenol	<0.39		0.39	0.13	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,4,5-Trichlorophenol	<0.39		0.39	0.089	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Hexachlorocyclopentadiene	<0.79		0.79	0.22	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>2-Methylnaphthalene</b>	<b>0.0073</b>	<b>J</b>	0.039	0.0072	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2-Nitroaniline	<0.20		0.20	0.053	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2-Chloronaphthalene	<0.20		0.20	0.043	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4-Chloro-3-methylphenol	<0.39		0.39	0.13	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,6-Dinitrotoluene	<0.20		0.20	0.077	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2-Nitrophenol	<0.39		0.39	0.092	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
3-Nitroaniline	<0.39		0.39	0.12	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Dimethyl phthalate	<0.20		0.20	0.051	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,4-Dinitrophenol	<0.79		0.79	0.69	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Acenaphthylene	<0.039		0.039	0.0051	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
2,4-Dinitrotoluene	<0.20		0.20	0.062	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Acenaphthene	<0.039		0.039	0.0070	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Dibenzofuran	<0.20		0.20	0.046	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4-Nitrophenol	<0.79		0.79	0.37	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Fluorene	<0.039		0.039	0.0055	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4-Nitroaniline	<0.39		0.39	0.16	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.051	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Hexachlorobenzene	<0.079		0.079	0.0090	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Pentachlorophenol	<0.79		0.79	0.63	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
N-Nitrosodiphenylamine	<0.20		0.20	0.046	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
4,6-Dinitro-2-methylphenol	<0.79		0.79	0.31	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Phenanthrene</b>	<b>0.063</b>		0.039	0.0054	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Anthracene	<0.039		0.039	0.0065	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Carbazole	<0.20		0.20	0.098	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Di-n-butyl phthalate	<0.20		0.20	0.059	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Fluoranthene</b>	<b>0.088</b>		0.039	0.0072	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Pyrene</b>	<b>0.085</b>		0.039	0.0078	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Butyl benzyl phthalate	<0.20		0.20	0.074	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Benzo[a]anthracene</b>	<b>0.050</b>		0.039	0.0053	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

**Client Sample ID: 2993-13-B01 (0-3.5)**

**Lab Sample ID: 500-103978-8**

Date Collected: 11/12/15 15:15

Matrix: Solid

Date Received: 11/12/15 17:30

Percent Solids: 82.8

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.073</b>		0.039	0.011	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.055	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.071	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Di-n-octyl phthalate	<0.20		0.20	0.064	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Benzo[b]fluoranthene</b>	<b>0.11</b>		0.039	0.0084	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Benzo[k]fluoranthene</b>	<b>0.045</b>		0.039	0.012	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Benzo[a]pyrene</b>	<b>0.058</b>		0.039	0.0076	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.021</b>	<b>J</b>	0.039	0.010	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
Dibenz(a,h)anthracene	<0.039		0.039	0.0075	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
<b>Benzo[g,h,i]perylene</b>	<b>0.021</b>	<b>J</b>	0.039	0.013	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1
3 & 4 Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	11/17/15 07:35	11/20/15 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	90		25 - 110	11/17/15 07:35	11/20/15 22:02	1
Phenol-d5	101		31 - 110	11/17/15 07:35	11/20/15 22:02	1
Nitrobenzene-d5	84		25 - 115	11/17/15 07:35	11/20/15 22:02	1
2-Fluorobiphenyl	84		25 - 119	11/17/15 07:35	11/20/15 22:02	1
2,4,6-Tribromophenol	74		35 - 137	11/17/15 07:35	11/20/15 22:02	1
Terphenyl-d14	93		36 - 134	11/17/15 07:35	11/20/15 22:02	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.43</b>	<b>J</b>	1.1	0.23	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Arsenic</b>	<b>5.1</b>		0.55	0.25	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Barium</b>	<b>39</b>		0.55	0.10	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Beryllium</b>	<b>0.51</b>		0.22	0.048	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Boron</b>	<b>13</b>		2.8	0.39	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Cadmium</b>	<b>0.24</b>	<b>B</b>	0.11	0.032	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Calcium</b>	<b>75000</b>		110	35	mg/Kg	☼	11/19/15 18:27	11/22/15 00:46	10
<b>Chromium</b>	<b>14</b>	<b>B</b>	0.55	0.095	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Cobalt</b>	<b>11</b>		0.28	0.062	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Copper</b>	<b>23</b>		0.55	0.12	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Iron</b>	<b>15000</b>		11	4.2	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Lead</b>	<b>30</b>		0.28	0.14	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Magnesium</b>	<b>25000</b>		5.5	2.2	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Manganese</b>	<b>330</b>		0.55	0.11	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Nickel</b>	<b>29</b>		0.55	0.15	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Potassium</b>	<b>1900</b>		28	4.5	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Selenium</b>	<b>0.34</b>	<b>J</b>	0.55	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
Silver	<0.28		0.28	0.064	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Sodium</b>	<b>990</b>		55	7.3	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
Thallium	<0.55		0.55	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Vanadium</b>	<b>17</b>		0.28	0.080	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1
<b>Zinc</b>	<b>67</b>		1.1	0.35	mg/Kg	☼	11/19/15 18:27	11/21/15 03:58	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.15</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 19:22	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/24/15 10:00	11/24/15 19:22	1
<b>Boron</b>	<b>0.30</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 19:22	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

**Client Sample ID: 2993-13-B01 (0-3.5)**

**Lab Sample ID: 500-103978-8**

**Date Collected: 11/12/15 15:15**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 82.8**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/24/15 10:00	11/24/15 19:22	1
Chromium	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:22	1
Cobalt	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:22	1
Iron	<0.20		0.20	0.20	mg/L		11/24/15 10:00	11/24/15 19:22	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/24/15 10:00	11/24/15 19:22	1
<b>Manganese</b>	<b>0.56</b>		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:22	1
Nickel	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:22	1
Selenium	<0.050		0.050	0.020	mg/L		11/24/15 10:00	11/24/15 19:22	1
Silver	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 19:22	1
<b>Zinc</b>	<b>0.037</b>	<b>J</b>	0.10	0.020	mg/L		11/24/15 10:00	11/24/15 19:22	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.021</b>	<b>J</b>	0.025	0.010	mg/L		11/27/15 11:15	11/27/15 21:25	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/24/15 10:00	11/25/15 14:19	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/24/15 10:00	11/25/15 14:19	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/24/15 17:15	11/25/15 09:32	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.043</b>	<b>B</b>	0.019	0.0066	mg/Kg	☼	11/17/15 14:00	11/19/15 10:07	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.76</b>		0.200	0.200	SU			12/02/15 12:22	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-3

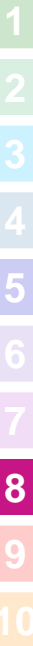
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60464  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To \_\_\_\_\_ (optional)  
 Contact: PT  
 Company: JS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-103978  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter					Comments	
Project Name		Lab Project #		Matrix		Parameter						
Project Location/State		Lab Project #		Matrix		Parameter					Comments	
Sampler		Lab PM		Matrix		Parameter						Comments
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix	VOC	S VOC	TOTAL TA Metals	TOXICITY TA METALS	PH/% Sol. d.	
6		2993-13-B03 (0.3.5)	11-12-15	1455	2	S	X	X	X	X	X	
7		2993-13-B02 (0.3.5)	11-12-15	1505	2	S	X	X	X	X	X	
8		2993-13-B01 (0.3.5)	11-12-15	1575	2	S	X	X	X	X	X	
<del>_____ 11-12-15</del>												

- Preservative Key
1. HCL, Cool to 4°
  2. H2SO4, Cool to 4°
  3. HNO3, Cool to 4°
  4. NaOH, Cool to 4°
  5. NaOH/Zn, Cool to 4°
  6. NaHSO4
  7. Cool to 4°
  8. None
  9. Other

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>EC</u> Company: <u>EC</u> Date: <u>11/12/15</u> Time: <u>16:30</u>	Received By: <u>Daniel Becken</u> Company: <u>TA</u> Date: <u>11/12/15</u> Time: <u>16:30</u>
Relinquished By: <u>Daniel Becken</u> Company: <u>TA</u> Date: <u>11/12/15</u> Time: <u>17:30</u>	Received By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11/12/15</u> Time: <u>17:30</u>

Lab Courier: \_\_\_\_\_  
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WL - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_

Lab Comments: \_\_\_\_\_



## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-103978-3

**Login Number: 103978**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: James, Jeff A**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6, 2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-18 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-18-B05	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-18-B05 (0-2)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	8.94						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.014 J	--	--	--	--	--	--
Acenaphthene	0.024 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.013 J	--	--	--	--	--	--
Anthracene	0.065	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.39	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.5 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.98 †	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.27	--	--	--	--	--	--
Benzo[k]fluoranthene	0.41	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.25 J	46	--	--	46	4,100	--
Chrysene	0.53	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.063	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.77 J	3,100	--	--	3100	82000	--
Fluorene	0.024 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.26	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.015 J	1.8	--	--	170	1.8	--
Phenanthrene	0.36	--	--	--	--	--	--
Pyrene	1 J	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Arsenic	8	11.3	13	--	13	61	--
Barium	88	1,500	--	--	5,500	14,000	--
Beryllium	0.67	22	--	--	160	410	--
Boron	8.1	40	--	--	16,000	41,000	--
Cadmium	0.77	5.2	--	--	78	200	--
Calcium	12,000	--	--	--	--	--	--
Chromium	230 †	21	--	--	230	690	--
Cobalt	12	20	--	--	4,700	12,000	--
Copper	110	2,900	--	--	2,900	8,200	--
Iron	20,000 †m	15,000	15900	--	--	--	--
Lead	74	107	--	--	400	700	--
Magnesium	6,600	325,000	--	--	--	730,000	--
Manganese	570	630	636	--	1,600	4,100	--
Nickel	150 †	100	--	--	1,600	4,100	--
Potassium	1,400	--	--	--	--	--	--
Selenium	0.96	1.3	--	--	390	1,000	--
Silver	0.19 J	4.4	--	--	390	1,000	--
Sodium	2,300	--	--	--	--	--	--
Vanadium	22	550	--	--	550	1,400	--
Zinc	310	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.24 J	--	--	--	--	--	2
Boron	0.16 J	--	--	--	--	--	2
Chromium	ND U	--	--	--	--	--	0.1
Iron	0.48	--	--	--	--	--	5
Manganese	0.58 L	--	--	--	--	--	0.15
Nickel	ND U	--	--	--	--	--	0.1
Zinc	0.32	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>							
Manganese	0.83 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-103978-1

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:39:00 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	8
Client Sample Results . . . . .	9
Definitions . . . . .	21
Certification Summary . . . . .	22
Chain of Custody . . . . .	23
Receipt Checklists . . . . .	24

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

**Job ID: 500-103978-1**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-103978-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/12/2015 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

#### GC/MS VOA

Method(s) 8260B: The following analyte recovered outside control limits for the LCS/LCSD associated with 500-312771: Bromomethane. This is not indicative of a systematic control problem because this was a random marginal exceedance. Qualified results have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 500-312771 recovered outside control limits for the following analyte: Acetone.

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312771 recovered outside control limits for the following analyte: Vinyl Acetate. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following analyte recovered outside control limits for the LCS/LCSD associated with 500-312949: Bromomethane. This is not indicative of a systematic control problem because this was a random marginal exceedance. Qualified results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following sample contained one acid surrogate and one base/neutral surrogate outside acceptance limits: 2993-18-B03 (0.2) (500-103978-3). The laboratory's SOP allows one acid and one base/neutral surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

Method(s) 8270D: The following samples contained one base/neutral surrogate outside acceptance limits: 2993-18-B05 (0.2) (500-103978-1), 2993-18-B02 (0.2) (500-103978-2), 2993-18-B03 (0.2) (500-103978-3), (500-103978-E-1-B MS) and (500-103978-E-1-C MSD). The laboratory's SOP allows one acid and/or one base/neutral surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The following samples were diluted due to the abundance of non-target analytes: 2993-18-B02 (0.2) (500-103978-2) and 2993-18-B03 (0.2) (500-103978-3). Elevated reporting limits (RLs) are provided.

Method(s) 6020A:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

**Client Sample ID: 2993-18-B05 (0.2)**

**Lab Sample ID: 500-103978-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.015	J	0.037	0.0058	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.014	J	0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.013	J	0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.024	J	0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.024	J	0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.36		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.065		0.037	0.0063	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.77	F1	0.037	0.0070	mg/Kg	1	☼	8270D	Total/NA
Pyrene	1.0	F1	0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.39		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.53		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.25	F1	0.19	0.069	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.98		0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.41		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.50		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.26		0.037	0.0097	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.063		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.27		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.0		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	88		0.55	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.67		0.22	0.048	mg/Kg	1	☼	6010B	Total/NA
Boron	8.1		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.77	B	0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	12000		11	3.6	mg/Kg	1	☼	6010B	Total/NA
Chromium	230	B	0.55	0.095	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.28	0.062	mg/Kg	1	☼	6010B	Total/NA
Copper	110		0.55	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	20000		11	4.3	mg/Kg	1	☼	6010B	Total/NA
Lead	74		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	6600		5.5	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	570		0.55	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	150		0.55	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1400		28	4.5	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.96		0.55	0.27	mg/Kg	1	☼	6010B	Total/NA
Silver	0.19	J	0.28	0.065	mg/Kg	1	☼	6010B	Total/NA
Sodium	2300		55	7.3	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.28	0.080	mg/Kg	1	☼	6010B	Total/NA
Zinc	310		1.1	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	0.24	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.16	J	0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.48		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	0.58		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.32		0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.83		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.095	B	0.019	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	8.94		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103978-1	2993-18-B05 (0.2)	Solid	11/12/15 15:05	11/12/15 17:30

---

1

2

3

4

5

6

7

8

9

10



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

**Client Sample ID: 2993-18-B05 (0.2)**

**Lab Sample ID: 500-103978-1**

**Date Collected: 11/12/15 15:05**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.030	*	0.030	0.0059	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Benzene	<0.0076		0.0076	0.0017	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Bromodichloromethane	<0.0076		0.0076	0.0013	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Bromoform	<0.0076		0.0076	0.0015	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Bromomethane	<0.0076	*	0.0076	0.0028	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
2-Butanone (MEK)	<0.0076		0.0076	0.0027	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Carbon disulfide	<0.0076		0.0076	0.0028	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Carbon tetrachloride	<0.0076		0.0076	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Chlorobenzene	<0.0076		0.0076	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Chloroethane	<0.0076		0.0076	0.0032	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Chloroform	<0.0076		0.0076	0.0015	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Chloromethane	<0.0076		0.0076	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
cis-1,2-Dichloroethene	<0.0076		0.0076	0.0015	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
cis-1,3-Dichloropropene	<0.0076		0.0076	0.0017	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Dibromochloromethane	<0.0076		0.0076	0.00087	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,1-Dichloroethane	<0.0076		0.0076	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,2-Dichloroethane	<0.0076		0.0076	0.0011	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,1-Dichloroethene	<0.0076		0.0076	0.0028	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,2-Dichloropropane	<0.0076		0.0076	0.0020	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,3-Dichloropropane, Total	<0.0076		0.0076	0.0021	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Ethylbenzene	<0.0076		0.0076	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
2-Hexanone	<0.0076		0.0076	0.0023	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Methylene Chloride	<0.0076		0.0076	0.0057	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
4-Methyl-2-pentanone (MIBK)	<0.0076		0.0076	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Methyl tert-butyl ether	<0.0076		0.0076	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Styrene	<0.0076		0.0076	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,1,2,2-Tetrachloroethane	<0.0076		0.0076	0.0012	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Tetrachloroethene	<0.0076		0.0076	0.0016	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Toluene	<0.0076		0.0076	0.0026	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
trans-1,2-Dichloroethene	<0.0076		0.0076	0.0019	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
trans-1,3-Dichloropropene	<0.0076		0.0076	0.0021	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,1,1-Trichloroethane	<0.0076		0.0076	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
1,1,2-Trichloroethane	<0.0076		0.0076	0.0015	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Trichloroethene	<0.0076		0.0076	0.0020	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Vinyl acetate	<0.0076	*	0.0076	0.0020	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Vinyl chloride	<0.0076		0.0076	0.0018	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1
Xylenes, Total	<0.015		0.015	0.0028	mg/Kg	☼	11/13/15 18:10	11/16/15 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 122	11/13/15 18:10	11/16/15 18:09	1
Dibromofluoromethane	103		75 - 120	11/13/15 18:10	11/16/15 18:09	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 134	11/13/15 18:10	11/16/15 18:09	1
Toluene-d8 (Surr)	115		75 - 122	11/13/15 18:10	11/16/15 18:09	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.084	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

**Client Sample ID: 2993-18-B05 (0.2)**

**Lab Sample ID: 500-103978-1**

**Date Collected: 11/12/15 15:05**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
N-Nitrosodi-n-propylamine	<0.19		0.19	0.046	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Hexachloroethane	<0.19	F1	0.19	0.057	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Nitrobenzene	<0.037		0.037	0.0094	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Naphthalene</b>	<b>0.015</b>	<b>J</b>	0.037	0.0058	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,4,5-Trichlorophenol	<0.37		0.37	0.086	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Hexachlorocyclopentadiene	<0.76	F1	0.76	0.22	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>2-Methylnaphthalene</b>	<b>0.014</b>	<b>J</b>	0.037	0.0069	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2-Nitrophenol	<0.37		0.37	0.089	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,4-Dinitrophenol	<0.76	F1	0.76	0.66	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Acenaphthylene</b>	<b>0.013</b>	<b>J</b>	0.037	0.0050	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Acenaphthene</b>	<b>0.024</b>	<b>J</b>	0.037	0.0068	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Fluorene</b>	<b>0.024</b>	<b>J</b>	0.037	0.0053	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4-Bromophenyl phenyl ether	<0.19	F1	0.19	0.050	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Pentachlorophenol	<0.76	F1	0.76	0.60	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
N-Nitrosodiphenylamine	<0.19	F1	0.19	0.044	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
4,6-Dinitro-2-methylphenol	<0.76	F1	0.76	0.30	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Phenanthrene</b>	<b>0.36</b>		0.037	0.0052	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Anthracene</b>	<b>0.065</b>		0.037	0.0063	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Carbazole	<0.19		0.19	0.094	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Fluoranthene</b>	<b>0.77</b>	<b>F1</b>	0.037	0.0070	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Pyrene</b>	<b>1.0</b>	<b>F1</b>	0.037	0.0075	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Butyl benzyl phthalate	<0.19	F1	0.19	0.072	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Benzo[a]anthracene</b>	<b>0.39</b>		0.037	0.0051	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

**Client Sample ID: 2993-18-B05 (0.2)**

**Lab Sample ID: 500-103978-1**

**Date Collected: 11/12/15 15:05**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.53</b>		0.037	0.010	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
3,3'-Dichlorobenzidine	<0.19	F1 F2	0.19	0.053	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.25</b>	<b>F1</b>	0.19	0.069	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
Di-n-octyl phthalate	<0.19	F1	0.19	0.061	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Benzo[b]fluoranthene</b>	<b>0.98</b>		0.037	0.0081	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Benzo[k]fluoranthene</b>	<b>0.41</b>		0.037	0.011	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Benzo[a]pyrene</b>	<b>0.50</b>		0.037	0.0073	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.26</b>		0.037	0.0097	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Dibenz(a,h)anthracene</b>	<b>0.063</b>		0.037	0.0073	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
<b>Benzo[g,h,i]perylene</b>	<b>0.27</b>		0.037	0.012	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	11/17/15 07:35	11/20/15 22:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	87		25 - 110	11/17/15 07:35	11/20/15 22:30	1
Phenol-d5	93		31 - 110	11/17/15 07:35	11/20/15 22:30	1
Nitrobenzene-d5	84		25 - 115	11/17/15 07:35	11/20/15 22:30	1
2-Fluorobiphenyl	84		25 - 119	11/17/15 07:35	11/20/15 22:30	1
2,4,6-Tribromophenol	95		35 - 137	11/17/15 07:35	11/20/15 22:30	1
Terphenyl-d14	146	X	36 - 134	11/17/15 07:35	11/20/15 22:30	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Arsenic</b>	<b>8.0</b>		0.55	0.25	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Barium</b>	<b>88</b>		0.55	0.10	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Beryllium</b>	<b>0.67</b>		0.22	0.048	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Boron</b>	<b>8.1</b>		2.8	0.39	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Cadmium</b>	<b>0.77</b>	<b>B</b>	0.11	0.032	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Calcium</b>	<b>12000</b>		11	3.6	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Chromium</b>	<b>230</b>	<b>B</b>	0.55	0.095	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Cobalt</b>	<b>12</b>		0.28	0.062	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Copper</b>	<b>110</b>		0.55	0.12	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Iron</b>	<b>20000</b>		11	4.3	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Lead</b>	<b>74</b>		0.28	0.14	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Magnesium</b>	<b>6600</b>		5.5	2.2	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Manganese</b>	<b>570</b>		0.55	0.11	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Nickel</b>	<b>150</b>		0.55	0.15	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Potassium</b>	<b>1400</b>		28	4.5	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Selenium</b>	<b>0.96</b>		0.55	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Silver</b>	<b>0.19</b>	<b>J</b>	0.28	0.065	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Sodium</b>	<b>2300</b>		55	7.3	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
Thallium	<0.55		0.55	0.27	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Vanadium</b>	<b>22</b>		0.28	0.080	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1
<b>Zinc</b>	<b>310</b>		1.1	0.35	mg/Kg	☼	11/19/15 18:27	11/21/15 03:14	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.24</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 18:23	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/24/15 10:00	11/24/15 18:23	1
<b>Boron</b>	<b>0.16</b>	<b>J</b>	0.50	0.050	mg/L		11/24/15 10:00	11/24/15 18:23	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

**Client Sample ID: 2993-18-B05 (0.2)**

**Lab Sample ID: 500-103978-1**

**Date Collected: 11/12/15 15:05**

**Matrix: Solid**

**Date Received: 11/12/15 17:30**

**Percent Solids: 83.8**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/24/15 10:00	11/24/15 18:23	1
Chromium	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:23	1
Cobalt	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:23	1
<b>Iron</b>	<b>0.48</b>		0.20	0.20	mg/L		11/24/15 10:00	11/24/15 18:23	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/24/15 10:00	11/24/15 18:23	1
<b>Manganese</b>	<b>0.58</b>		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:23	1
Nickel	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:23	1
Selenium	<0.050		0.050	0.020	mg/L		11/24/15 10:00	11/24/15 18:23	1
Silver	<0.025		0.025	0.010	mg/L		11/24/15 10:00	11/24/15 18:23	1
<b>Zinc</b>	<b>0.32</b>		0.10	0.020	mg/L		11/24/15 10:00	11/24/15 18:23	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.83</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:29	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/24/15 10:00	11/25/15 13:31	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/24/15 10:00	11/25/15 13:31	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/24/15 17:15	11/25/15 09:10	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.095</b>	<b>B</b>	0.019	0.0065	mg/Kg	☼	11/17/15 14:00	11/19/15 09:42	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.94</b>		0.200	0.200	SU			12/02/15 12:00	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
X	Surrogate is outside control limits
E	Result exceeded calibration range.

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-103978-1

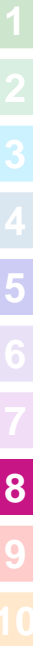
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
Phone: 708.534.5200 Fax: 708.534.5211

Report To \_\_\_\_\_ (optional)  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Bill To \_\_\_\_\_ (optional)  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
PO#/Reference# \_\_\_\_\_



500-103978 CCC

## Chain of Custody Record

Lab Job #: 500-103978

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: \_\_\_\_\_

Client: <u>E+E</u>		Client Project #: <u>1009341.0003.01</u>		Preservative		Parameter												Preservative Key					
Project Name: <u>EE9-WO003</u>				Project Location/State: <u>Chicago, IL</u>				Lab Project #				Lab PM: <u>Dick Wright</u>											
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	VOC	SVOC	Total/TCMP Metals	PH	Percent Solids							Comments					
			Date	Time																			
<u>1</u>		<u>2993-18-B05(O-2)</u>	<u>11/12/15</u>	<u>1505</u>	<u>2</u>	<u>S</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>												
<u>2</u>		<u>2993-18-B02(O-2)</u>	<u>11/12/15</u>	<u>1525</u>	<u>2</u>	<u>S</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>												
<u>3</u>		<u>2993-18-B03(O-2)</u>	<u>11/12/15</u>	<u>1535</u>	<u>2</u>	<u>S</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>												
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(-45deg); opacity: 0.5;"></div>																							

- 1. HCL, Cool to 4°
- 2. H2SO4, Cool to 4°
- 3. HNO3, Cool to 4°
- 4. NaOH, Cool to 4°
- 5. NaOH/Zn, Cool to 4°
- 6. NaHSO4
- 7. Cool to 4°
- 8. None
- 9. Other

Turnaround Time Required (Business Days)

1 Day  2 Days  5 Days  7 Days  10 Days  15 Days  Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>J. Hughes</u>	Company: <u>E+E</u>	Date: <u>11/12/15</u>	Time: <u>16:30</u>	Received By: <u>David Beaden</u>	Company: <u>TA</u>	Date: <u>11-12-15</u>	Time: <u>16:30</u>
Relinquished By: <u>David Beaden</u>	Company: <u>TA</u>	Date: <u>11/12/15</u>	Time: <u>17:30</u>	Received By: <u>[Signature]</u>	Company: <u>TA</u>	Date: <u>11-12-15</u>	Time: <u>17:30</u>

Lab Courier: \_\_\_\_\_  
Shipped: \_\_\_\_\_  
Hand Delivered: \_\_\_\_\_

Matrix Key

- WW - Wastewater
- W - Water
- S - Soil
- SL - Sludge
- MS - Miscellaneous
- OL - Oil
- A - Air
- SE - Sediment
- SO - Soil
- L - Leachate
- WI - Wipe
- DW - Drinking Water
- O - Other

Client Comments:

Lab Comments:

# Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-103978-1

**Login Number: 103978**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: James, Jeff A**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6, 2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-22 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-22-B02	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-22-B02(0-3.5)						
MATRIX	Soil						
DEPTH (feet)	0-3.5						
pH	8.61						
<b>VOCs (mg/kg)</b>							
Acetone	0.042	25	--	--	70,000	100,000	--
<b>SVOCs (mg/kg)</b>							
Benzo[a]anthracene	0.016 J	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.038 J	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.049	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.031 J	--	--	--	--	--	--
Chrysene	0.03 J	88	--	--	88	17,000	--
Fluoranthene	0.028 J	3,100	--	--	3100	82000	--
Phenanthrene	0.019 J	--	--	--	--	--	--
Pyrene	0.065	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Antimony	0.45 J	5	--	--	31	82	--
Arsenic	6.6	11.3	13	--	13	61	--
Barium	64	1,500	--	--	5,500	14,000	--
Beryllium	0.47	22	--	--	160	410	--
Boron	7.8	40	--	--	16,000	41,000	--
Cadmium	0.43	5.2	--	--	78	200	--
Calcium	65,000	--	--	--	--	--	--
Chromium	22 †	21	--	--	230	690	--
Cobalt	12	20	--	--	4,700	12,000	--
Copper	26	2,900	--	--	2,900	8,200	--
Iron	14,000	15,000	15900	--	--	--	--
Lead	27	107	--	--	400	700	--
Magnesium	30,000	325,000	--	--	--	730,000	--
Manganese	620	630	636	--	1,600	4,100	--
Mercury	0.026	0.89	--	--	10	0.1	--
Nickel	20	100	--	--	1,600	4,100	--
Potassium	1,400	--	--	--	--	--	--
Selenium	0.67	1.3	--	--	390	1,000	--
Sodium	2,800	--	--	--	--	--	--
Vanadium	33	550	--	--	550	1,400	--
Zinc	90	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.24 J	--	--	--	--	--	2
Chromium	ND U	--	--	--	--	--	0.1
Manganese	3.3 L	--	--	--	--	--	0.15
<b>SPLP Metals (mg/L)</b>							
Manganese	1.2 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104079-7

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:  
Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:25:56 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	6
Client Sample Results . . . . .	7
Definitions . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

**Job ID: 500-104079-7**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104079-7

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2015 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.9° C and 4.6° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 313208 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 313208 recovered outside control limits for the following analytes: Chloroethane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and / or acid surrogate outside acceptance limits: 2993-22-B02(0-3.5) (500-104079-17) and 2993-22-B03(0-3.5) (500-104079-18). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with batch 313322 had 1 analyte outside control limits: 2,4-Dinitrophenol. These results have been reported and qualified. 2993-22-B02(0-3.5) (500-104079-17) and 2993-22-B03(0-3.5) (500-104079-18)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analytes: 2993-22-B03(0-3.5) (500-104079-18). Elevated reporting limits (RLs) are provided.

Method(s) 6020A: The continuing calibration verification (CCV) associated with AD batch 500-314626 recovered above the upper control limit for Thallium (TI). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 500-314626/92).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

**Client Sample ID: 2993-22-B02(0-3.5)**

**Lab Sample ID: 500-104079-17**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.042		0.020	0.0038	mg/Kg	1	☼	8260B	Total/NA
Phenanthrene	0.019	J	0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.028	J	0.040	0.0074	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.065		0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.016	J	0.040	0.0054	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.030	J	0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.049		0.040	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.038	J	0.040	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.031	J	0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.45	J	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.6		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	64		0.54	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.47		0.22	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	7.8		2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.43		0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	65000		110	35	mg/Kg	10	☼	6010B	Total/NA
Chromium	22	B	0.54	0.094	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.27	0.062	mg/Kg	1	☼	6010B	Total/NA
Copper	26		0.54	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	14000	B	11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	27		0.27	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	30000		5.4	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	620		0.54	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	20		0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1400		27	4.4	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.67		0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	2800		54	7.2	mg/Kg	1	☼	6010B	Total/NA
Vanadium	33		0.27	0.079	mg/Kg	1	☼	6010B	Total/NA
Zinc	90	B	1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.24	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.53	B	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	3.3		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.17	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	1.2		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.026		0.019	0.0068	mg/Kg	1	☼	7471B	Total/NA
pH	8.61		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104079-17	2993-22-B02(0-3.5)	Solid	11/16/15 12:10	11/16/15 15:20

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

**Client Sample ID: 2993-22-B02(0-3.5)**

**Lab Sample ID: 500-104079-17**

**Date Collected: 11/16/15 12:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 82.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.042		0.020	0.0038	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Benzene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Bromodichloromethane	<0.0049		0.0049	0.00082	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Bromoform	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Bromomethane	<0.0049		0.0049	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
2-Butanone (MEK)	<0.0049		0.0049	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Carbon disulfide	<0.0049		0.0049	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Carbon tetrachloride	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Chlorobenzene	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Chloroethane	<0.0049	*	0.0049	0.0021	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Chloroform	<0.0049		0.0049	0.00095	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Chloromethane	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
cis-1,2-Dichloroethene	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
cis-1,3-Dichloropropene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Dibromochloromethane	<0.0049		0.0049	0.00056	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,1-Dichloroethane	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,2-Dichloroethane	<0.0049		0.0049	0.00072	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,1-Dichloroethene	<0.0049		0.0049	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,2-Dichloropropane	<0.0049		0.0049	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,3-Dichloropropane, Total	<0.0049		0.0049	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Ethylbenzene	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
2-Hexanone	<0.0049		0.0049	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Methylene Chloride	<0.0049		0.0049	0.0037	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
4-Methyl-2-pentanone (MIBK)	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Methyl tert-butyl ether	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Styrene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,1,1,2-Tetrachloroethane	<0.0049		0.0049	0.00078	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Tetrachloroethene	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Toluene	<0.0049		0.0049	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
trans-1,2-Dichloroethene	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
trans-1,3-Dichloropropene	<0.0049		0.0049	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,1,1-Trichloroethane	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
1,1,2-Trichloroethane	<0.0049		0.0049	0.00095	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Trichloroethene	<0.0049		0.0049	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Vinyl acetate	<0.0049		0.0049	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Vinyl chloride	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1
Xylenes, Total	<0.0098		0.0098	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 122	11/16/15 16:10	11/19/15 18:05	1
Dibromofluoromethane	111		75 - 120	11/16/15 16:10	11/19/15 18:05	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 134	11/16/15 16:10	11/19/15 18:05	1
Toluene-d8 (Surr)	96		75 - 122	11/16/15 16:10	11/19/15 18:05	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.089	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.060	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

**Client Sample ID: 2993-22-B02(0-3.5)**

**Lab Sample ID: 500-104079-17**

**Date Collected: 11/16/15 12:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 82.0**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2-Methylphenol	<0.20		0.20	0.064	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
N-Nitrosodi-n-propylamine	<0.081		0.081	0.049	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Hexachloroethane	<0.20		0.20	0.061	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Hexachlorobutadiene	<0.20		0.20	0.063	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Naphthalene	<0.040		0.040	0.0061	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,4-Dichlorophenol	<0.40		0.40	0.095	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4-Chloroaniline	<0.81		0.81	0.19	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,4,5-Trichlorophenol	<0.40		0.40	0.091	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Hexachlorocyclopentadiene	<0.81		0.81	0.23	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2-Methylnaphthalene	<0.040		0.040	0.0073	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2-Nitroaniline	<0.20		0.20	0.054	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,6-Dinitrotoluene	<0.20		0.20	0.078	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2-Nitrophenol	<0.40		0.40	0.094	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
3-Nitroaniline	<0.40		0.40	0.12	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,4-Dinitrophenol	<0.81	*	0.81	0.70	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Acenaphthylene	<0.040		0.040	0.0053	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
2,4-Dinitrotoluene	<0.20		0.20	0.063	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Acenaphthene	<0.040		0.040	0.0072	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4-Nitrophenol	<0.81		0.81	0.38	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Fluorene	<0.040		0.040	0.0056	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Hexachlorobenzene	<0.081		0.081	0.0093	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Diethyl phthalate	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Pentachlorophenol	<0.81		0.81	0.64	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
4,6-Dinitro-2-methylphenol	<0.81		0.81	0.32	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Phenanthrene</b>	<b>0.019</b>	<b>J</b>	0.040	0.0056	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Anthracene	<0.040		0.040	0.0067	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Di-n-butyl phthalate	<0.20		0.20	0.061	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Fluoranthene</b>	<b>0.028</b>	<b>J</b>	0.040	0.0074	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Pyrene</b>	<b>0.065</b>		0.040	0.0079	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Butyl benzyl phthalate	<0.20		0.20	0.076	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Benzo[a]anthracene</b>	<b>0.016</b>	<b>J</b>	0.040	0.0054	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

**Client Sample ID: 2993-22-B02(0-3.5)**

**Lab Sample ID: 500-104079-17**

**Date Collected: 11/16/15 12:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 82.0**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.030</b>	<b>J</b>	0.040	0.011	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.073	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Benzo[b]fluoranthene</b>	<b>0.049</b>		0.040	0.0086	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Benzo[k]fluoranthene	<0.040		0.040	0.012	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Benzo[a]pyrene</b>	<b>0.038</b>	<b>J</b>	0.040	0.0077	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Indeno[1,2,3-cd]pyrene	<0.040		0.040	0.010	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0077	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
<b>Benzo[g,h,i]perylene</b>	<b>0.031</b>	<b>J</b>	0.040	0.013	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1
3 & 4 Methylphenol	<0.20		0.20	0.067	mg/Kg	☼	11/19/15 17:05	11/24/15 02:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	82		25 - 110	11/19/15 17:05	11/24/15 02:39	1
Phenol-d5	86		31 - 110	11/19/15 17:05	11/24/15 02:39	1
Nitrobenzene-d5	81		25 - 115	11/19/15 17:05	11/24/15 02:39	1
2-Fluorobiphenyl	79		25 - 119	11/19/15 17:05	11/24/15 02:39	1
2,4,6-Tribromophenol	44		35 - 137	11/19/15 17:05	11/24/15 02:39	1
Terphenyl-d14	169	X	36 - 134	11/19/15 17:05	11/24/15 02:39	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.45</b>	<b>J</b>	1.1	0.23	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Arsenic</b>	<b>6.6</b>		0.54	0.25	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Barium</b>	<b>64</b>		0.54	0.10	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Beryllium</b>	<b>0.47</b>		0.22	0.047	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Boron</b>	<b>7.8</b>		2.7	0.38	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Cadmium</b>	<b>0.43</b>		0.11	0.032	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Calcium</b>	<b>65000</b>		110	35	mg/Kg	☼	11/25/15 10:46	11/26/15 15:33	10
<b>Chromium</b>	<b>22</b>	<b>B</b>	0.54	0.094	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Cobalt</b>	<b>12</b>		0.27	0.062	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Copper</b>	<b>26</b>		0.54	0.12	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Iron</b>	<b>14000</b>	<b>B</b>	11	4.2	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Lead</b>	<b>27</b>		0.27	0.14	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Magnesium</b>	<b>30000</b>		5.4	2.2	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Manganese</b>	<b>620</b>		0.54	0.11	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Nickel</b>	<b>20</b>		0.54	0.15	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Potassium</b>	<b>1400</b>		27	4.4	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Selenium</b>	<b>0.67</b>		0.54	0.27	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
Silver	<0.27		0.27	0.064	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Sodium</b>	<b>2800</b>		54	7.2	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
Thallium	<0.54		0.54	0.27	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Vanadium</b>	<b>33</b>		0.27	0.079	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1
<b>Zinc</b>	<b>90</b>	<b>B</b>	1.1	0.34	mg/Kg	☼	11/25/15 10:46	11/25/15 19:04	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.24</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 19:58	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 19:58	1
<b>Boron</b>	<b>0.53</b>	<b>B</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 19:58	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

**Client Sample ID: 2993-22-B02(0-3.5)**

**Lab Sample ID: 500-104079-17**

**Date Collected: 11/16/15 12:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 82.0**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 19:58	1
Chromium	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 19:58	1
Cobalt	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 19:58	1
Iron	<0.20		0.20	0.20	mg/L		11/27/15 11:15	11/27/15 19:58	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/27/15 11:15	11/27/15 19:58	1
<b>Manganese</b>	<b>3.3</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 19:58	1
Nickel	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 19:58	1
Selenium	<0.050		0.050	0.020	mg/L		11/27/15 11:15	11/27/15 19:58	1
Silver	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 19:58	1
<b>Zinc</b>	<b>0.17</b>	<b>B</b>	0.10	0.020	mg/L		11/27/15 11:15	11/27/15 19:58	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>1.2</b>		0.025	0.010	mg/L		12/01/15 10:10	12/01/15 20:15	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/27/15 11:15	11/30/15 20:31	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L		11/27/15 11:15	11/30/15 20:31	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/27/15 13:15	11/30/15 09:50	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.026</b>		0.019	0.0068	mg/Kg	☼	11/25/15 06:45	11/25/15 11:21	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.61</b>		0.200	0.200	SU			11/24/15 19:49	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-7

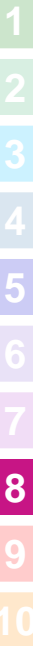
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional) \_\_\_\_\_  
 Contact: DT \_\_\_\_\_  
 Company: JF \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional) \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104079  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Matrix		Comments	
<u>EE</u>		<u>1009341-0003-01</u>									
Project Name		Lab Project #		Date		Time		# of Containers		Matrix	
<u>DLE</u>		<u>8011673</u>									
Project Location/State		Lab PM		Date		Time		# of Containers		Matrix	
<u>Cook County, IL</u>		<u>Dick Wright</u>									
Sampler		Sample ID		Date		Time		# of Containers		Matrix	
<u>S. Cooper</u>											
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix					
<u>17</u>		<u>2993-28-B02(03-5)</u>	<u>11-16-15</u>	<u>1210</u>	<u>2</u>	<u>S</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>18</u>		<u>2993-22-B03(03-5)</u>	<u>11-16-15</u>	<u>1225</u>	<u>2</u>	<u>S</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>

- Preservative Key
1. HCL, Cool to 4°
  2. H2SO4, Cool to 4°
  3. HNO3, Cool to 4°
  4. NaOH, Cool to 4°
  5. NaOH/Zn, Cool to 4°
  6. NaHSO4
  7. Cool to 4°
  8. None
  9. Other

By 11-16-15

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>S</u> Company: <u>EE</u> Date: <u>11-16-15</u> Time: <u>1430</u>	Received By: <u>David Beden</u> Company: <u>TA</u> Date: <u>11-16-15</u> Time: <u>14:30</u>
Relinquished By: <u>David Beden</u> Company: <u>TA</u> Date: <u>11-16-15</u> Time: <u>15:20</u>	Received By: <u>S</u> Company: <u>TAL</u> Date: <u>11/16/15</u> Time: <u>1520</u>

Lab Courier:   
 Shipped:   
 Hand Delivered:

Matrix Key

- |                    |                     |
|--------------------|---------------------|
| WW - Wastewater    | SE - Sediment       |
| W - Water          | SO - Soil           |
| S - Soil           | L - Leachate        |
| SL - Sludge        | WI - Wipe           |
| MS - Miscellaneous | DW - Drinking Water |
| OL - Oil           | O - Other           |
| A - Air            |                     |

Client Comments

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104079-7

**Login Number: 104079**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.6)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.



## DETECTED ANALYTES

SITE	ISGS #2993-25 (IDOT ROW)		Comparison Criteria					
	2993-25-B03	2993-25-B04	MACs			TACO		
BORING	2993-25-B03 (0-3.5)	2993-25-B04 (0-3.5)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE								
MATRIX	Soil	Soil						
DEPTH (feet)	0-3.5	0-3.5						
pH	8.37	8.08						
<b>VOCs (mg/kg)</b>								
Acetone	0.023	ND U	25	--	--	70,000	100,000	--
<b>SVOCs (mg/kg)</b>								
2-Methylnaphthalene	0.027 J	0.032 J	--	--	--	--	--	--
Acenaphthene	0.15	0.16	570	--	--	4,700	120,000	--
Acenaphthylene	0.0049 J	ND U	--	--	--	--	--	--
Anthracene	0.37	0.35	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	1.2 †*	0.95 †	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	1.2 †	0.95 J †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	1.8 †*	1.5 †	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.39	0.55	--	--	--	--	--	--
Benzo[k]fluoranthene	0.63	0.56	9	--	--	9	1,700	--
Carbazole	0.11 J	0.12 J	0.6	--	--	32	6,200	--
Chrysene	1.3	1.1 J	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.13 †	0.1 †	0.09	0.42	0.2	0.42	17	--
Dibenzofuran	0.05 J	0.059 J	--	--	--	--	--	--
Fluoranthene	3.3	1.8 J	3,100	--	--	3100	82000	--
Fluorene	0.12	0.13	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.47	0.54	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.0091 J	0.016 J	1.8	--	--	170	1.8	--
Phenanthrene	1.8	1.4 J	--	--	--	--	--	--
Pyrene	2.5	2.1 J	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>								
Antimony	0.34 J	ND U	5	--	--	31	82	--
Arsenic	3.8	4.3	11.3	13	--	13	61	--
Barium	25	38	1,500	--	--	5,500	14,000	--
Beryllium	0.28	0.42	22	--	--	160	410	--
Boron	8.8	11	40	--	--	16,000	41,000	--
Cadmium	0.092 J	0.12	5.2	--	--	78	200	--
Calcium	91,000	80,000	--	--	--	--	--	--
Chromium	6.8	23 †	21	--	--	230	690	--
Cobalt	4.2	6.1	20	--	--	4,700	12,000	--
Copper	9.8	16	2,900	--	--	2,900	8,200	--
Iron	7,300	11,000	15,000	15900	--	--	--	--
Lead	22	17	107	--	--	400	700	--
Magnesium	39,000	35,000	325,000	--	--	--	730,000	--
Manganese	230	540	630	636	--	1,600	4,100	--
Mercury	0.015 J	0.023	0.89	--	--	10	0.1	--
Nickel	9.9	17	100	--	--	1,600	4,100	--
Potassium	1,000	1,400	--	--	--	--	--	--
Selenium	ND U	0.5 J	1.3	--	--	390	1,000	--
Sodium	840	930	--	--	--	--	--	--
Thallium	ND U	0.36 J	2.6	--	--	6.3	160	--
Vanadium	9.2	28	550	--	--	550	1,400	--
Zinc	51	48	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>								
Barium	0.45 J	0.41 J	--	--	--	--	--	2
Boron	0.13 J	0.088 J	--	--	--	--	--	2
Chromium	ND U	ND U	--	--	--	--	--	0.1
Manganese	1.3 L	1.6 J L	--	--	--	--	--	0.15
Nickel	0.018 J	0.011 J	--	--	--	--	--	0.1
<b>SPLP Metals (mg/L)</b>								
Manganese	0.14	0.075	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-1

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:  
Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:22:26 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	6
Client Sample Results . . . . .	7
Definitions . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Job ID: 500-104045-1**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-25-B04 (0-3.5) (500-104045-1). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-25-B04 (0-3.5) (500-104045-1) and 2993-25-B03 (0-3.5) (500-104045-2) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B04 (0-3.5)**

**Lab Sample ID: 500-104045-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.016	J	0.037	0.0057	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.032	J	0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.16		0.037	0.0067	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.059	J	0.19	0.044	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.13		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	1.4	F1 F2	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.35		0.037	0.0062	mg/Kg	1	☼	8270D	Total/NA
Carbazole	0.12	J	0.19	0.093	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	1.8	F1 F2	0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.95	F2 F1	0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Chrysene	1.1	F2	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	1.5	F2 F1	0.037	0.0080	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.56		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.95	F1	0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.54		0.037	0.0097	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.10		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.55		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Pyrene - DL	2.1		0.18	0.037	mg/Kg	5	☼	8270D	Total/NA
Arsenic	4.3		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	38		0.56	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.42		0.22	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	11		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	80000	B	110	36	mg/Kg	10	☼	6010B	Total/NA
Chromium	23	B	0.56	0.097	mg/Kg	1	☼	6010B	Total/NA
Cobalt	6.1		0.28	0.063	mg/Kg	1	☼	6010B	Total/NA
Copper	16		0.56	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	11000		11	4.3	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	35000	B	5.6	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	540		0.56	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	17		0.56	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1400	B	28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.50	J	0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	930	B	56	7.4	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.36	J	0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	28		0.28	0.082	mg/Kg	1	☼	6010B	Total/NA
Zinc	48		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.41	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.088	J	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	1.6	F1	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.011	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.043	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.075		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.023		0.017	0.0060	mg/Kg	1	☼	7471B	Total/NA
pH	8.08		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-25-B03 (0-3.5)**

**Lab Sample ID: 500-104045-2**

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B03 (0-3.5) (Continued)**

**Lab Sample ID: 500-104045-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	0.023		0.018	0.0034	mg/Kg	1	☼		8260B	Total/NA
Naphthalene	0.0091	J	0.035	0.0055	mg/Kg	1	☼		8270D	Total/NA
2-Methylnaphthalene	0.027	J	0.035	0.0065	mg/Kg	1	☼		8270D	Total/NA
Acenaphthylene	0.0049	J	0.035	0.0047	mg/Kg	1	☼		8270D	Total/NA
Acenaphthene	0.15		0.035	0.0064	mg/Kg	1	☼		8270D	Total/NA
Dibenzofuran	0.050	J	0.18	0.042	mg/Kg	1	☼		8270D	Total/NA
Fluorene	0.12		0.035	0.0050	mg/Kg	1	☼		8270D	Total/NA
Phenanthrene	1.8		0.035	0.0050	mg/Kg	1	☼		8270D	Total/NA
Anthracene	0.37		0.035	0.0059	mg/Kg	1	☼		8270D	Total/NA
Carbazole	0.11	J	0.18	0.089	mg/Kg	1	☼		8270D	Total/NA
Benzo[a]anthracene	1.2		0.035	0.0048	mg/Kg	1	☼		8270D	Total/NA
Chrysene	1.3		0.035	0.0097	mg/Kg	1	☼		8270D	Total/NA
Benzo[b]fluoranthene	1.8		0.035	0.0077	mg/Kg	1	☼		8270D	Total/NA
Benzo[k]fluoranthene	0.63		0.035	0.010	mg/Kg	1	☼		8270D	Total/NA
Benzo[a]pyrene	1.2		0.035	0.0069	mg/Kg	1	☼		8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.47		0.035	0.0092	mg/Kg	1	☼		8270D	Total/NA
Dibenz(a,h)anthracene	0.13		0.035	0.0069	mg/Kg	1	☼		8270D	Total/NA
Benzo[g,h,i]perylene	0.39		0.035	0.011	mg/Kg	1	☼		8270D	Total/NA
Fluoranthene - DL	3.3		0.18	0.033	mg/Kg	5	☼		8270D	Total/NA
Pyrene - DL	2.5		0.18	0.035	mg/Kg	5	☼		8270D	Total/NA
Antimony	0.34	J	1.1	0.22	mg/Kg	1	☼		6010B	Total/NA
Arsenic	3.8		0.54	0.25	mg/Kg	1	☼		6010B	Total/NA
Barium	25		0.54	0.099	mg/Kg	1	☼		6010B	Total/NA
Beryllium	0.28		0.22	0.047	mg/Kg	1	☼		6010B	Total/NA
Boron	8.8		2.7	0.38	mg/Kg	1	☼		6010B	Total/NA
Cadmium	0.092	J	0.11	0.031	mg/Kg	1	☼		6010B	Total/NA
Calcium	91000	B	110	35	mg/Kg	10	☼		6010B	Total/NA
Chromium	6.8	B	0.54	0.093	mg/Kg	1	☼		6010B	Total/NA
Cobalt	4.2		0.27	0.061	mg/Kg	1	☼		6010B	Total/NA
Copper	9.8		0.54	0.12	mg/Kg	1	☼		6010B	Total/NA
Iron	7300		11	4.2	mg/Kg	1	☼		6010B	Total/NA
Lead	22		0.27	0.13	mg/Kg	1	☼		6010B	Total/NA
Magnesium	39000	B	5.4	2.2	mg/Kg	1	☼		6010B	Total/NA
Manganese	230		0.54	0.11	mg/Kg	1	☼		6010B	Total/NA
Nickel	9.9		0.54	0.15	mg/Kg	1	☼		6010B	Total/NA
Potassium	1000	B	27	4.4	mg/Kg	1	☼		6010B	Total/NA
Sodium	840	B	54	7.2	mg/Kg	1	☼		6010B	Total/NA
Vanadium	9.2		0.27	0.079	mg/Kg	1	☼		6010B	Total/NA
Zinc	51		1.1	0.34	mg/Kg	1	☼		6010B	Total/NA
Barium	0.45	J	0.50	0.050	mg/L	1			6010B	TCLP
Boron	0.13	J	0.50	0.050	mg/L	1			6010B	TCLP
Manganese	1.3		0.025	0.010	mg/L	1			6010B	TCLP
Nickel	0.018	J	0.025	0.010	mg/L	1			6010B	TCLP
Zinc	0.033	J B	0.10	0.020	mg/L	1			6010B	TCLP
Manganese	0.14		0.025	0.010	mg/L	1			6010B	SPLP East
Mercury	0.015	J	0.017	0.0058	mg/Kg	1	☼		7471B	Total/NA
pH	8.37		0.200	0.200	SU	1			9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-1	2993-25-B04 (0-3.5)	Solid	11/13/15 09:10	11/14/15 08:00
500-104045-2	2993-25-B03 (0-3.5)	Solid	11/13/15 09:20	11/14/15 08:00

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B04 (0-3.5)**

**Lab Sample ID: 500-104045-1**

**Date Collected: 11/13/15 09:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.016		0.016	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Benzene	<0.0039		0.0039	0.00087	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Bromodichloromethane	<0.0039		0.0039	0.00066	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Bromoform	<0.0039		0.0039	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Bromomethane	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
2-Butanone (MEK)	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Carbon disulfide	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Carbon tetrachloride	<0.0039		0.0039	0.00084	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Chlorobenzene	<0.0039		0.0039	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Chloroethane	<0.0039	*	0.0039	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Chloroform	<0.0039		0.0039	0.00076	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Chloromethane	<0.0039		0.0039	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
cis-1,2-Dichloroethene	<0.0039		0.0039	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
cis-1,3-Dichloropropene	<0.0039		0.0039	0.00089	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Dibromochloromethane	<0.0039		0.0039	0.00045	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,1-Dichloroethane	<0.0039		0.0039	0.00081	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,2-Dichloroethane	<0.0039		0.0039	0.00058	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,1-Dichloroethene	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,2-Dichloropropane	<0.0039		0.0039	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,3-Dichloropropane, Total	<0.0039		0.0039	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Ethylbenzene	<0.0039		0.0039	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
2-Hexanone	<0.0039		0.0039	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Methylene Chloride	<0.0039		0.0039	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
4-Methyl-2-pentanone (MIBK)	<0.0039		0.0039	0.00081	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Methyl tert-butyl ether	<0.0039		0.0039	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Styrene	<0.0039		0.0039	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,1,2,2-Tetrachloroethane	<0.0039		0.0039	0.00062	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Tetrachloroethene	<0.0039		0.0039	0.00081	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Toluene	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
trans-1,2-Dichloroethene	<0.0039		0.0039	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
trans-1,3-Dichloropropene	<0.0039		0.0039	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,1,1-Trichloroethane	<0.0039		0.0039	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
1,1,2-Trichloroethane	<0.0039		0.0039	0.00076	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Trichloroethene	<0.0039		0.0039	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Vinyl acetate	<0.0039		0.0039	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Vinyl chloride	<0.0039		0.0039	0.00093	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1
Xylenes, Total	<0.0078		0.0078	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 122	11/14/15 14:10	11/16/15 12:31	1
Dibromofluoromethane	104		75 - 120	11/14/15 14:10	11/16/15 12:31	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 134	11/14/15 14:10	11/16/15 12:31	1
Toluene-d8 (Surr)	93		75 - 122	11/14/15 14:10	11/16/15 12:31	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.083	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B04 (0-3.5)**

**Lab Sample ID: 500-104045-1**

**Date Collected: 11/13/15 09:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
N-Nitrosodi-n-propylamine	<0.075		0.075	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Hexachloroethane	<0.19	F1	0.19	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Nitrobenzene	<0.037		0.037	0.0093	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Naphthalene</b>	<b>0.016</b>	<b>J</b>	0.037	0.0057	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,4-Dichlorophenol	<0.37		0.37	0.088	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4-Chloroaniline	<0.75		0.75	0.17	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,4,5-Trichlorophenol	<0.37		0.37	0.085	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Hexachlorocyclopentadiene	<0.75	F1	0.75	0.21	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>2-Methylnaphthalene</b>	<b>0.032</b>	<b>J</b>	0.037	0.0068	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2-Nitrophenol	<0.37		0.37	0.088	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,4-Dinitrophenol	<0.75	F1	0.75	0.66	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
2,4-Dinitrotoluene	<0.19	F1	0.19	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Acenaphthene</b>	<b>0.16</b>		0.037	0.0067	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Dibenzofuran</b>	<b>0.059</b>	<b>J</b>	0.19	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4-Nitrophenol	<0.75		0.75	0.35	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Fluorene</b>	<b>0.13</b>		0.037	0.0052	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4-Bromophenyl phenyl ether	<0.19	F1	0.19	0.049	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Hexachlorobenzene	<0.075	F1	0.075	0.0086	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Pentachlorophenol	<0.75	F1	0.75	0.60	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
4,6-Dinitro-2-methylphenol	<0.75	F1	0.75	0.30	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Phenanthrene</b>	<b>1.4</b>	<b>F1 F2</b>	0.037	0.0052	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Anthracene</b>	<b>0.35</b>		0.037	0.0062	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Carbazole</b>	<b>0.12</b>	<b>J</b>	0.19	0.093	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Fluoranthene</b>	<b>1.8</b>	<b>F1 F2</b>	0.037	0.0069	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Butyl benzyl phthalate	<0.19	F1	0.19	0.071	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Benzo[a]anthracene</b>	<b>0.95</b>	<b>F2 F1</b>	0.037	0.0050	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Chrysene</b>	<b>1.1</b>	<b>F2</b>	0.037	0.010	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B04 (0-3.5)**

**Lab Sample ID: 500-104045-1**

**Date Collected: 11/13/15 09:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<0.19	F2 F1	0.19	0.052	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Bis(2-ethylhexyl) phthalate	<0.19	F1	0.19	0.068	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
Di-n-octyl phthalate	<0.19	F1	0.19	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Benzo[b]fluoranthene</b>	<b>1.5</b>	<b>F2 F1</b>	0.037	0.0080	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Benzo[k]fluoranthene</b>	<b>0.56</b>		0.037	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Benzo[a]pyrene</b>	<b>0.95</b>	<b>F1</b>	0.037	0.0072	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.54</b>		0.037	0.0097	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Dibenz(a,h)anthracene</b>	<b>0.10</b>		0.037	0.0072	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
<b>Benzo[g,h,i]perylene</b>	<b>0.55</b>		0.037	0.012	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1
3 & 4 Methylphenol	<0.19	F2	0.19	0.062	mg/Kg	☼	11/18/15 16:16	11/25/15 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	80		25 - 110	11/18/15 16:16	11/25/15 21:55	1
Phenol-d5	86		31 - 110	11/18/15 16:16	11/25/15 21:55	1
Nitrobenzene-d5	75		25 - 115	11/18/15 16:16	11/25/15 21:55	1
2-Fluorobiphenyl	83		25 - 119	11/18/15 16:16	11/25/15 21:55	1
2,4,6-Tribromophenol	95		35 - 137	11/18/15 16:16	11/25/15 21:55	1
Terphenyl-d14	209	X	36 - 134	11/18/15 16:16	11/25/15 21:55	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Pyrene</b>	<b>2.1</b>		0.18	0.037	mg/Kg	☼	11/18/15 16:16	12/01/15 12:23	5

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Arsenic</b>	<b>4.3</b>		0.56	0.26	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Barium</b>	<b>38</b>		0.56	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Beryllium</b>	<b>0.42</b>		0.22	0.049	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Boron</b>	<b>11</b>		2.8	0.39	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Cadmium</b>	<b>0.12</b>		0.11	0.033	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Calcium</b>	<b>80000</b>	<b>B</b>	110	36	mg/Kg	☼	11/24/15 11:26	11/25/15 13:37	10
<b>Chromium</b>	<b>23</b>	<b>B</b>	0.56	0.097	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Cobalt</b>	<b>6.1</b>		0.28	0.063	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Copper</b>	<b>16</b>		0.56	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Iron</b>	<b>11000</b>		11	4.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Lead</b>	<b>17</b>		0.28	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Magnesium</b>	<b>35000</b>	<b>B</b>	5.6	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Manganese</b>	<b>540</b>		0.56	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Nickel</b>	<b>17</b>		0.56	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Potassium</b>	<b>1400</b>	<b>B</b>	28	4.6	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Selenium</b>	<b>0.50</b>	<b>J</b>	0.56	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
Silver	<0.28		0.28	0.066	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Sodium</b>	<b>930</b>	<b>B</b>	56	7.4	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Thallium</b>	<b>0.36</b>	<b>J</b>	0.56	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Vanadium</b>	<b>28</b>		0.28	0.082	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1
<b>Zinc</b>	<b>48</b>		1.1	0.36	mg/Kg	☼	11/24/15 11:26	11/25/15 04:02	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B04 (0-3.5)**

**Lab Sample ID: 500-104045-1**

**Date Collected: 11/13/15 09:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.41</b>	<b>J</b>	0.50	0.050	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Beryllium	<0.0040		0.0040	0.0040	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
<b>Boron</b>	<b>0.088</b>	<b>J</b>	0.50	0.050	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Cadmium	<0.0050		0.0050	0.0020	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
<b>Manganese</b>	<b>1.6</b>	<b>F1</b>	0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
<b>Nickel</b>	<b>0.011</b>	<b>J</b>	0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 12:48	1
<b>Zinc</b>	<b>0.043</b>	<b>J B</b>	0.10	0.020	mg/L	-	11/25/15 14:05	11/26/15 12:48	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.075</b>		0.025	0.010	mg/L	-	12/01/15 09:45	12/01/15 17:35	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:05	11/30/15 14:33	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:05	11/30/15 14:33	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 08:54	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.023</b>		0.017	0.0060	mg/Kg	☼	11/25/15 06:45	11/25/15 11:38	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.08</b>		0.200	0.200	SU	-		11/21/15 12:39	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B03 (0-3.5)**

**Lab Sample ID: 500-104045-2**

**Date Collected: 11/13/15 09:20**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 90.9**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>0.023</b>		0.018	0.0034	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Benzene	<0.0044		0.0044	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Bromodichloromethane	<0.0044		0.0044	0.00075	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Bromoform	<0.0044		0.0044	0.00090	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Bromomethane	<0.0044		0.0044	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
2-Butanone (MEK)	<0.0044		0.0044	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Carbon disulfide	<0.0044		0.0044	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Carbon tetrachloride	<0.0044		0.0044	0.00095	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Chlorobenzene	<0.0044		0.0044	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Chloroethane	<0.0044	*	0.0044	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Chloroform	<0.0044		0.0044	0.00086	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Chloromethane	<0.0044		0.0044	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
cis-1,2-Dichloroethene	<0.0044		0.0044	0.00090	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
cis-1,3-Dichloropropene	<0.0044		0.0044	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Dibromochloromethane	<0.0044		0.0044	0.00051	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,1-Dichloroethane	<0.0044		0.0044	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,2-Dichloroethane	<0.0044		0.0044	0.00066	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,1-Dichloroethene	<0.0044		0.0044	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,2-Dichloropropane	<0.0044		0.0044	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,3-Dichloropropane, Total	<0.0044		0.0044	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Ethylbenzene	<0.0044		0.0044	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
2-Hexanone	<0.0044		0.0044	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Methylene Chloride	<0.0044		0.0044	0.0033	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Methyl tert-butyl ether	<0.0044		0.0044	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Styrene	<0.0044		0.0044	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,1,2,2-Tetrachloroethane	<0.0044		0.0044	0.00070	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Tetrachloroethene	<0.0044		0.0044	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Toluene	<0.0044		0.0044	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
trans-1,2-Dichloroethene	<0.0044		0.0044	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
trans-1,3-Dichloropropene	<0.0044		0.0044	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,1,1-Trichloroethane	<0.0044		0.0044	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
1,1,2-Trichloroethane	<0.0044		0.0044	0.00086	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Trichloroethene	<0.0044		0.0044	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Vinyl acetate	<0.0044		0.0044	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Vinyl chloride	<0.0044		0.0044	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1
Xylenes, Total	<0.0089		0.0089	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 122	11/14/15 14:10	11/16/15 12:55	1
Dibromofluoromethane	103		75 - 120	11/14/15 14:10	11/16/15 12:55	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 134	11/14/15 14:10	11/16/15 12:55	1
Toluene-d8 (Surr)	91		75 - 122	11/14/15 14:10	11/16/15 12:55	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.079	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.053	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
1,3-Dichlorobenzene	<0.18		0.18	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
1,4-Dichlorobenzene	<0.18		0.18	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B03 (0-3.5)**

**Lab Sample ID: 500-104045-2**

**Date Collected: 11/13/15 09:20**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 90.9**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2-Methylphenol	<0.18		0.18	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.041	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
N-Nitrosodi-n-propylamine	<0.18		0.18	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Hexachloroethane	<0.18		0.18	0.054	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2-Chlorophenol	<0.18		0.18	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Nitrobenzene	<0.035		0.035	0.0089	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.036	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.038	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Isophorone	<0.18		0.18	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,4-Dimethylphenol	<0.35		0.35	0.14	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Hexachlorobutadiene	<0.18		0.18	0.056	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Naphthalene</b>	<b>0.0091</b>	<b>J</b>	0.035	0.0055	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,4-Dichlorophenol	<0.35		0.35	0.085	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4-Chloroaniline	<0.72		0.72	0.17	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,4,6-Trichlorophenol	<0.35		0.35	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,4,5-Trichlorophenol	<0.35		0.35	0.081	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Hexachlorocyclopentadiene	<0.72		0.72	0.20	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>2-Methylnaphthalene</b>	<b>0.027</b>	<b>J</b>	0.035	0.0065	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2-Nitroaniline	<0.18		0.18	0.048	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2-Chloronaphthalene	<0.18		0.18	0.039	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4-Chloro-3-methylphenol	<0.35		0.35	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,6-Dinitrotoluene	<0.18		0.18	0.070	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2-Nitrophenol	<0.35		0.35	0.084	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
3-Nitroaniline	<0.35		0.35	0.11	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Dimethyl phthalate	<0.18		0.18	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,4-Dinitrophenol	<0.72		0.72	0.63	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Acenaphthylene</b>	<b>0.0049</b>	<b>J</b>	0.035	0.0047	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
2,4-Dinitrotoluene	<0.18		0.18	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Acenaphthene</b>	<b>0.15</b>		0.035	0.0064	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Dibenzofuran</b>	<b>0.050</b>	<b>J</b>	0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4-Nitrophenol	<0.72		0.72	0.34	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Fluorene</b>	<b>0.12</b>		0.035	0.0050	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4-Nitroaniline	<0.35		0.35	0.15	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Hexachlorobenzene	<0.072		0.072	0.0083	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Diethyl phthalate	<0.18		0.18	0.060	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Pentachlorophenol	<0.72		0.72	0.57	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
N-Nitrosodiphenylamine	<0.18		0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
4,6-Dinitro-2-methylphenol	<0.72		0.72	0.29	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Phenanthrene</b>	<b>1.8</b>		0.035	0.0050	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Anthracene</b>	<b>0.37</b>		0.035	0.0059	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Carbazole</b>	<b>0.11</b>	<b>J</b>	0.18	0.089	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Di-n-butyl phthalate	<0.18		0.18	0.054	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Butyl benzyl phthalate	<0.18		0.18	0.068	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Benzo[a]anthracene</b>	<b>1.2</b>		0.035	0.0048	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Chrysene</b>	<b>1.3</b>		0.035	0.0097	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.050	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B03 (0-3.5)**

**Lab Sample ID: 500-104045-2**

**Date Collected: 11/13/15 09:20**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 90.9**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	<0.18		0.18	0.065	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
Di-n-octyl phthalate	<0.18		0.18	0.058	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Benzo[b]fluoranthene</b>	<b>1.8</b>		0.035	0.0077	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Benzo[k]fluoranthene</b>	<b>0.63</b>		0.035	0.010	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Benzo[a]pyrene</b>	<b>1.2</b>		0.035	0.0069	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.47</b>		0.035	0.0092	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Dibenz(a,h)anthracene</b>	<b>0.13</b>		0.035	0.0069	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Benzo[g,h,i]perylene</b>	<b>0.39</b>		0.035	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
3 & 4 Methylphenol	<0.18		0.18	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 15:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorophenol	82		25 - 110				11/18/15 16:16	11/25/15 15:51	1
Phenol-d5	87		31 - 110				11/18/15 16:16	11/25/15 15:51	1
Nitrobenzene-d5	83		25 - 115				11/18/15 16:16	11/25/15 15:51	1
2-Fluorobiphenyl	85		25 - 119				11/18/15 16:16	11/25/15 15:51	1
2,4,6-Tribromophenol	96		35 - 137				11/18/15 16:16	11/25/15 15:51	1
Terphenyl-d14	107		36 - 134				11/18/15 16:16	11/25/15 15:51	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Fluoranthene</b>	<b>3.3</b>		0.18	0.033	mg/Kg	☼	11/18/15 16:16	11/30/15 12:14	5
<b>Pyrene</b>	<b>2.5</b>		0.18	0.035	mg/Kg	☼	11/18/15 16:16	11/30/15 12:14	5

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.34</b>	<b>J</b>	1.1	0.22	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Arsenic</b>	<b>3.8</b>		0.54	0.25	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Barium</b>	<b>25</b>		0.54	0.099	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Beryllium</b>	<b>0.28</b>		0.22	0.047	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Boron</b>	<b>8.8</b>		2.7	0.38	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Cadmium</b>	<b>0.092</b>	<b>J</b>	0.11	0.031	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Calcium</b>	<b>91000</b>	<b>B</b>	110	35	mg/Kg	☼	11/24/15 11:26	11/25/15 13:41	10
<b>Chromium</b>	<b>6.8</b>	<b>B</b>	0.54	0.093	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Cobalt</b>	<b>4.2</b>		0.27	0.061	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Copper</b>	<b>9.8</b>		0.54	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Iron</b>	<b>7300</b>		11	4.2	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Lead</b>	<b>22</b>		0.27	0.13	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Magnesium</b>	<b>39000</b>	<b>B</b>	5.4	2.2	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Manganese</b>	<b>230</b>		0.54	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Nickel</b>	<b>9.9</b>		0.54	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Potassium</b>	<b>1000</b>	<b>B</b>	27	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
Selenium	<0.54		0.54	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
Silver	<0.27		0.27	0.063	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Sodium</b>	<b>840</b>	<b>B</b>	54	7.2	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
Thallium	<0.54		0.54	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Vanadium</b>	<b>9.2</b>		0.27	0.079	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1
<b>Zinc</b>	<b>51</b>		1.1	0.34	mg/Kg	☼	11/24/15 11:26	11/25/15 04:07	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

**Client Sample ID: 2993-25-B03 (0-3.5)**

**Lab Sample ID: 500-104045-2**

Date Collected: 11/13/15 09:20

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 90.9

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.45</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:08	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 13:08	1
<b>Boron</b>	<b>0.13</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:08	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 13:08	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:08	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:08	1
Iron	<0.20		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 13:08	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 13:08	1
<b>Manganese</b>	<b>1.3</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:08	1
<b>Nickel</b>	<b>0.018</b>	<b>J</b>	0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:08	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 13:08	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:08	1
<b>Zinc</b>	<b>0.033</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 13:08	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.14</b>		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 18:00	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 14:49	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 14:49	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 08:56	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.015</b>	<b>J</b>	0.017	0.0058	mg/Kg	☼	11/25/15 06:45	11/25/15 11:47	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.37</b>		0.200	0.200	SU			11/21/15 12:41	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
X	Surrogate is outside control limits
E	Result exceeded calibration range.

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-1

## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


2417 Bond Street, University Park, IL 60484  
Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
Contact: DJS  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

Bill To (optional)  
Contact: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
Chain of Custody Number: \_\_\_\_\_  
Page \_\_\_\_\_ of 43, 47, 26, 44  
Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter					Preservative Key		
EE		10093410.0063.01									 500-104045 COC		
Project Name		Lab Project #		# of Containers	Matrix	VOC	SVOC	Total TAC Metals	Turbidity	TAC Metals	pH/°C Sal. d.	Comments	
DDE		1004633											
Project Location/State		Lab PM											
Cook County, IL		D. Wright											
Sampler		Sample ID		Sampling									
S-Coop				Date	Time								
Lab ID	MS/MSD												
1		2993-25-B04 (0-3.5)		11-13-11	0910	2	S	X	X	X	X	X	
2		2993-25-B03 (0-3.5)		11-13-11	0920	2	S	X	X	X	X	X	
<del>                             11-13-11                              [Handwritten signature and scribbles]                         </del>													

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>GC</u> Date: <u>11/13/11</u> Time: <u>1325</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/13/11</u> Time: <u>1525</u>	Lab Courier: <input checked="" type="checkbox"/>
Relinquished By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/13/10</u> Time: <u>1720</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/13/15</u> Time: <u>0800</u>	Shipped: <input type="checkbox"/>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: <input type="checkbox"/>

Matrix Key

WW - Wastewater      SE - Sediment  
 W - Water              SO - Soil  
 S - Soil                L - Leachate  
 SL - Sludge            WI - Wipe  
 MS - Miscellaneous    DW - Drinking Water  
 OL - Oil                O - Other  
 A - Air

Client Comments

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-1

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-35 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-35-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-35-B01 (0-1)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	8.77						
<b>VOCs (mg/kg)</b>							
Acetone	0.035	25	--	--	70,000	100,000	--
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.02 J	--	--	--	--	--	--
Acenaphthene	0.031 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.017 J	--	--	--	--	--	--
Anthracene	0.084	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.34	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.39 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.64	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.15	--	--	--	--	--	--
Benzo[k]fluoranthene	0.21	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.13 J	46	--	--	46	4,100	--
Chrysene	0.43	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.043	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.85	3,100	--	--	3100	82000	--
Fluorene	0.021 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.17	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.013 J	1.8	--	--	170	1.8	--
Phenanthrene	0.4	--	--	--	--	--	--
Pyrene	0.84	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Antimony	0.27 J	5	--	--	31	82	--
Arsenic	5.7	11.3	13	--	13	61	--
Barium	81	1,500	--	--	5,500	14,000	--
Beryllium	0.59	22	--	--	160	410	--
Boron	9.9	40	--	--	16,000	41,000	--
Cadmium	0.4	5.2	--	--	78	200	--
Calcium	60,000	--	--	--	--	--	--
Chromium	26 †	21	--	--	230	690	--
Cobalt	9.3	20	--	--	4,700	12,000	--
Copper	44	2,900	--	--	2,900	8,200	--
Iron	15,000	15,000	15900	--	--	--	--
Lead	43	107	--	--	400	700	--
Magnesium	24,000	325,000	--	--	--	730,000	--
Manganese	420	630	636	--	1,600	4,100	--
Mercury	0.052	0.89	--	--	10	0.1	--
Nickel	24	100	--	--	1,600	4,100	--
Potassium	1,700	--	--	--	--	--	--
Selenium	0.67	1.3	--	--	390	1,000	--
Sodium	1,600	--	--	--	--	--	--
Thallium	0.33 J	2.6	--	--	6.3	160	--
Vanadium	19	550	--	--	550	1,400	--
Zinc	140	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.4 J	--	--	--	--	--	2
Boron	0.32 J	--	--	--	--	--	2
Cadmium	0.0023 J	--	--	--	--	--	0.005
Chromium	ND U	--	--	--	--	--	0.1
Manganese	2.9 L	--	--	--	--	--	0.15
Nickel	0.012 J	--	--	--	--	--	0.1
<b>SPLP Metals (mg/L)</b>							
Manganese	1.1 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-2

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:23:27 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	5
Client Sample Results . . . . .	6
Definitions . . . . .	10
Certification Summary . . . . .	11
Chain of Custody . . . . .	12
Receipt Checklists . . . . .	13

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

**Job ID: 500-104045-2**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-35-B01 (0-1) (500-104045-3). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-35-B01 (0-1) (500-104045-3) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

**Client Sample ID: 2993-35-B01 (0-1)**

**Lab Sample ID: 500-104045-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.035		0.019	0.0037	mg/Kg	1	☼	8260B	Total/NA
Naphthalene	0.013	J	0.036	0.0056	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.020	J	0.036	0.0067	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.017	J	0.036	0.0048	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.031	J	0.036	0.0065	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.021	J	0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.40		0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.084		0.036	0.0061	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.85		0.036	0.0068	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.84		0.036	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.34		0.036	0.0049	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.43		0.036	0.0099	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.13	J	0.18	0.067	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.64		0.036	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.21		0.036	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.39		0.036	0.0071	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.17		0.036	0.0094	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.043		0.036	0.0070	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.15		0.036	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.27	J	1.1	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	5.7		0.57	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	81		0.57	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.59		0.23	0.050	mg/Kg	1	☼	6010B	Total/NA
Boron	9.9		2.9	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.40		0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	60000	B	110	37	mg/Kg	10	☼	6010B	Total/NA
Chromium	26	B	0.57	0.099	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.3		0.29	0.065	mg/Kg	1	☼	6010B	Total/NA
Copper	44		0.57	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	15000		11	4.4	mg/Kg	1	☼	6010B	Total/NA
Lead	43		0.29	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	24000	B	5.7	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	420		0.57	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	24		0.57	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	1700	B	29	4.7	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.67		0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	1600	B	57	7.6	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.33	J	0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	19		0.29	0.084	mg/Kg	1	☼	6010B	Total/NA
Zinc	140		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.40	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.32	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0023	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	2.9		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.012	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.16	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	1.1		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.052		0.018	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.77		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-3	2993-35-B01 (0-1)	Solid	11/13/15 09:30	11/14/15 08:00

---

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

**Client Sample ID: 2993-35-B01 (0-1)**

**Lab Sample ID: 500-104045-3**

**Date Collected: 11/13/15 09:30**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>0.035</b>		0.019	0.0037	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Benzene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Bromodichloromethane	<0.0048		0.0048	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Bromoform	<0.0048		0.0048	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Bromomethane	<0.0048		0.0048	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
2-Butanone (MEK)	<0.0048		0.0048	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Carbon disulfide	<0.0048		0.0048	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Carbon tetrachloride	<0.0048		0.0048	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Chlorobenzene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Chloroethane	<0.0048	*	0.0048	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Chloroform	<0.0048		0.0048	0.00093	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Chloromethane	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
cis-1,2-Dichloroethene	<0.0048		0.0048	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
cis-1,3-Dichloropropene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Dibromochloromethane	<0.0048		0.0048	0.00055	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,1-Dichloroethane	<0.0048		0.0048	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,2-Dichloroethane	<0.0048		0.0048	0.00071	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,1-Dichloroethene	<0.0048		0.0048	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,2-Dichloropropane	<0.0048		0.0048	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,3-Dichloropropane, Total	<0.0048		0.0048	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Ethylbenzene	<0.0048		0.0048	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
2-Hexanone	<0.0048		0.0048	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Methylene Chloride	<0.0048		0.0048	0.0036	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
4-Methyl-2-pentanone (MIBK)	<0.0048		0.0048	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Methyl tert-butyl ether	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Styrene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,1,1,2-Tetrachloroethane	<0.0048		0.0048	0.00076	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Tetrachloroethene	<0.0048		0.0048	0.00099	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Toluene	<0.0048		0.0048	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
trans-1,2-Dichloroethene	<0.0048		0.0048	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
trans-1,3-Dichloropropene	<0.0048		0.0048	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,1,1-Trichloroethane	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
1,1,2-Trichloroethane	<0.0048		0.0048	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Trichloroethene	<0.0048		0.0048	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Vinyl acetate	<0.0048		0.0048	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Vinyl chloride	<0.0048		0.0048	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1
Xylenes, Total	<0.0095		0.0095	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 13:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 122	11/14/15 14:10	11/16/15 13:19	1
Dibromofluoromethane	106		75 - 120	11/14/15 14:10	11/16/15 13:19	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 134	11/14/15 14:10	11/16/15 13:19	1
Toluene-d8 (Surr)	93		75 - 122	11/14/15 14:10	11/16/15 13:19	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.081	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.055	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
1,3-Dichlorobenzene	<0.18		0.18	0.041	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
1,4-Dichlorobenzene	<0.18		0.18	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

**Client Sample ID: 2993-35-B01 (0-1)**

**Lab Sample ID: 500-104045-3**

**Date Collected: 11/13/15 09:30**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.6**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2-Methylphenol	<0.18		0.18	0.058	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
N-Nitrosodi-n-propylamine	<0.074		0.074	0.045	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Hexachloroethane	<0.18		0.18	0.055	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2-Chlorophenol	<0.18		0.18	0.062	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Nitrobenzene	<0.036		0.036	0.0091	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.037	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.039	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Isophorone	<0.18		0.18	0.041	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,4-Dimethylphenol	<0.36		0.36	0.14	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Hexachlorobutadiene	<0.18		0.18	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Naphthalene</b>	<b>0.013</b>	<b>J</b>	0.036	0.0056	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,4-Dichlorophenol	<0.36		0.36	0.087	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,4,6-Trichlorophenol	<0.36		0.36	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,4,5-Trichlorophenol	<0.36		0.36	0.083	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>2-Methylnaphthalene</b>	<b>0.020</b>	<b>J</b>	0.036	0.0067	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2-Nitroaniline	<0.18		0.18	0.049	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2-Chloronaphthalene	<0.18		0.18	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4-Chloro-3-methylphenol	<0.36		0.36	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,6-Dinitrotoluene	<0.18		0.18	0.072	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2-Nitrophenol	<0.36		0.36	0.086	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
3-Nitroaniline	<0.36		0.36	0.11	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Dimethyl phthalate	<0.18		0.18	0.048	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,4-Dinitrophenol	<0.74		0.74	0.64	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Acenaphthylene</b>	<b>0.017</b>	<b>J</b>	0.036	0.0048	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
2,4-Dinitrotoluene	<0.18		0.18	0.058	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Acenaphthene</b>	<b>0.031</b>	<b>J</b>	0.036	0.0065	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Dibenzofuran	<0.18		0.18	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Fluorene</b>	<b>0.021</b>	<b>J</b>	0.036	0.0051	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4-Nitroaniline	<0.36		0.36	0.15	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.048	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Hexachlorobenzene	<0.074		0.074	0.0084	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Diethyl phthalate	<0.18		0.18	0.062	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Pentachlorophenol	<0.74		0.74	0.58	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
N-Nitrosodiphenylamine	<0.18		0.18	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.29	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Phenanthrene</b>	<b>0.40</b>		0.036	0.0051	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Anthracene</b>	<b>0.084</b>		0.036	0.0061	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Carbazole	<0.18		0.18	0.091	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Di-n-butyl phthalate	<0.18		0.18	0.056	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Fluoranthene</b>	<b>0.85</b>		0.036	0.0068	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Pyrene</b>	<b>0.84</b>		0.036	0.0072	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Butyl benzyl phthalate	<0.18		0.18	0.069	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Benzo[a]anthracene</b>	<b>0.34</b>		0.036	0.0049	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

**Client Sample ID: 2993-35-B01 (0-1)**

**Lab Sample ID: 500-104045-3**

Date Collected: 11/13/15 09:30

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 86.6

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.43</b>		0.036	0.0099	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.051	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.13</b>	<b>J</b>	0.18	0.067	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
Di-n-octyl phthalate	<0.18		0.18	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Benzo[b]fluoranthene</b>	<b>0.64</b>		0.036	0.0079	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Benzo[k]fluoranthene</b>	<b>0.21</b>		0.036	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Benzo[a]pyrene</b>	<b>0.39</b>		0.036	0.0071	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.17</b>		0.036	0.0094	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Dibenz(a,h)anthracene</b>	<b>0.043</b>		0.036	0.0070	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
<b>Benzo[g,h,i]perylene</b>	<b>0.15</b>		0.036	0.012	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1
3 & 4 Methylphenol	<0.18		0.18	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	78		25 - 110	11/18/15 16:16	11/25/15 17:04	1
Phenol-d5	82		31 - 110	11/18/15 16:16	11/25/15 17:04	1
Nitrobenzene-d5	73		25 - 115	11/18/15 16:16	11/25/15 17:04	1
2-Fluorobiphenyl	80		25 - 119	11/18/15 16:16	11/25/15 17:04	1
2,4,6-Tribromophenol	113		35 - 137	11/18/15 16:16	11/25/15 17:04	1
Terphenyl-d14	137	X	36 - 134	11/18/15 16:16	11/25/15 17:04	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.27</b>	<b>J</b>	1.1	0.24	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Arsenic</b>	<b>5.7</b>		0.57	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Barium</b>	<b>81</b>		0.57	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Beryllium</b>	<b>0.59</b>		0.23	0.050	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Boron</b>	<b>9.9</b>		2.9	0.40	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Cadmium</b>	<b>0.40</b>		0.11	0.033	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Calcium</b>	<b>60000</b>	<b>B</b>	110	37	mg/Kg	☼	11/24/15 11:26	11/25/15 13:46	10
<b>Chromium</b>	<b>26</b>	<b>B</b>	0.57	0.099	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Cobalt</b>	<b>9.3</b>		0.29	0.065	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Copper</b>	<b>44</b>		0.57	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Iron</b>	<b>15000</b>		11	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Lead</b>	<b>43</b>		0.29	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Magnesium</b>	<b>24000</b>	<b>B</b>	5.7	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Manganese</b>	<b>420</b>		0.57	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Nickel</b>	<b>24</b>		0.57	0.16	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Potassium</b>	<b>1700</b>	<b>B</b>	29	4.7	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Selenium</b>	<b>0.67</b>		0.57	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
Silver	<0.29		0.29	0.067	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Sodium</b>	<b>1600</b>	<b>B</b>	57	7.6	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Thallium</b>	<b>0.33</b>	<b>J</b>	0.57	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Vanadium</b>	<b>19</b>		0.29	0.084	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1
<b>Zinc</b>	<b>140</b>		1.1	0.36	mg/Kg	☼	11/24/15 11:26	11/25/15 04:13	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.40</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:14	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 13:14	1
<b>Boron</b>	<b>0.32</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:14	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

**Client Sample ID: 2993-35-B01 (0-1)**

**Lab Sample ID: 500-104045-3**

**Date Collected: 11/13/15 09:30**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.6**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0023</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
<b>Manganese</b>	<b>2.9</b>		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
<b>Nickel</b>	<b>0.012</b>	<b>J</b>	0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 13:14	1
<b>Zinc</b>	<b>0.16</b>	<b>B</b>	0.10	0.020	mg/L	-	11/25/15 14:05	11/26/15 13:14	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>1.1</b>		0.025	0.010	mg/L	-	12/01/15 09:45	12/01/15 18:04	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:05	11/30/15 14:53	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:05	11/30/15 14:53	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 09:02	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.052</b>		0.018	0.0064	mg/Kg	☼	11/25/15 06:45	11/25/15 11:49	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.77</b>		0.200	0.200	SU	-		11/21/15 12:43	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-2

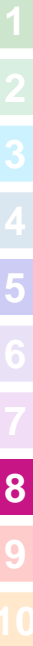
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other
Project Name		Lab Project #		Sampling		# of Containers		Matrix		
Project Location/State		Lab PM		Date	Time					
Lab ID	MS/MSD	Sample ID								
E+E		1009346.0003.01								Comments
EE9-W0003										
Chicago, IL		Dick Wright								
3		2993-35-B01(0-1)		11/13/15	0430	2	5	VOC	SVOC	
								Total/TCMP	Metals	
								pH	Percent Solids	

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>J. Hughes</u>	Company: <u>E+E</u>	Date: <u>11/13/15</u>	Time: <u>1555</u>	Received By: <u>P. Neal</u>	Company: <u>TAL</u>	Date: <u>11/13/15</u>	Time: <u>1735</u>
Relinquished By: <u>P. Neal</u>	Company: <u>TAL</u>	Date: <u>11/13/15</u>	Time: <u>1720</u>	Received By: <u>SMK</u>	Company: <u>TAL</u>	Date: <u>11/14/15</u>	Time: <u>0800</u>

Lab Courier:   
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_

Lab Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-2

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-38 (IDOT ROW)		Comparison Criteria					
	2993-38-B02	2993-38-B05	MACs			TACO		
BORING	2993-38-B02 (0-3.5)	2993-38-B05 (0-3.5)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-38-B02 (0-3.5)	2993-38-B05 (0-3.5)						
MATRIX	Soil	Soil						
DEPTH (feet)	0-3.5	0-3.5						
pH	8.73	8.06						
<b>VOCs (None Detected)</b>								
<b>SVOCs (mg/kg)</b>								
2-Methylnaphthalene	0.048	0.056	--	--	--	--	--	--
Acenaphthene	0.031 J	ND U	570	--	--	4,700	120,000	--
Anthracene	0.048	0.015 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.17	0.053	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.17 †	0.054	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.28	0.095	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.07	0.034 J	--	--	--	--	--	--
Benzo[k]fluoranthene	0.096	0.032 J	9	--	--	9	1,700	--
Chrysene	0.2	0.082	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.021 J	ND U	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.39	0.12	3,100	--	--	3100	82000	--
Fluorene	0.025 J	ND U	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.081	0.032 J	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.034 J	0.019 J	1.8	--	--	170	1.8	--
Phenanthrene	0.26	0.12	--	--	--	--	--	--
Pyrene	0.32	0.13	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>								
Arsenic	5.3	6.1	11.3	13	--	13	61	--
Barium	67	33	1,500	--	--	5,500	14,000	--
Beryllium	0.53	0.48	22	--	--	160	410	--
Boron	21	14	40	--	--	16,000	41,000	--
Cadmium	0.23	0.12	5.2	--	--	78	200	--
Calcium	110,000	80,000	--	--	--	--	--	--
Chromium	13	13	21	--	--	230	690	--
Cobalt	7.2	9.6	20	--	--	4,700	12,000	--
Copper	21	21	2,900	--	--	2,900	8,200	--
Iron	12,000	14,000	15,000	15900	--	--	--	--
Lead	44	23	107	--	--	400	700	--
Magnesium	45,000	32,000	325,000	--	--	--	730,000	--
Manganese	290	290	630	636	--	1,600	4,100	--
Mercury	0.047	0.02	0.89	--	--	10	0.1	--
Nickel	19	25	100	--	--	1,600	4,100	--
Potassium	1,700	2,200	--	--	--	--	--	--
Selenium	0.5 J	0.44 J	1.3	--	--	390	1,000	--
Sodium	3,200	930	--	--	--	--	--	--
Vanadium	16	16	550	--	--	550	1,400	--
Zinc	65	56	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>								
Barium	0.26 J	0.23 J	--	--	--	--	--	2
Boron	0.37 J	0.31 J	--	--	--	--	--	2
Manganese	1 L	1.4 L	--	--	--	--	--	0.15
Nickel	0.025	0.037	--	--	--	--	--	0.1
<b>SPLP Metals (mg/L)</b>								
Manganese	ND U	ND U	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-4

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:26:22 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	8
Client Sample Results . . . . .	9
Definitions . . . . .	25
Certification Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	28

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Job ID: 500-104045-4**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-4

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312958 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples were diluted due to the abundance of target and non-target analytes: 2993-38-B01 (0-3.5) (500-104045-8). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-38-B06 (0-3.5) (500-104045-5). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-38-B06 (0-3.5) (500-104045-5), 2993-38-B05 (0-3.5) (500-104045-6), 2993-38-B02 (0-3.5) (500-104045-7) and 2993-38-B01 (0-3.5) (500-104045-8) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

**Client Sample ID: 2993-38-B05 (0-3.5)**

**Lab Sample ID: 500-104045-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.019	J	0.037	0.0057	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.056		0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.12		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.015	J	0.037	0.0062	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.12		0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.13		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.053		0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.082		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B05 (0-3.5) (Continued)**

**Lab Sample ID: 500-104045-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.095		0.037	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.032	J	0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.054		0.037	0.0071	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.032	J	0.037	0.0095	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.034	J	0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.1		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	33		0.56	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.48		0.22	0.048	mg/Kg	1	☼	6010B	Total/NA
Boron	14		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	80000	B	110	36	mg/Kg	10	☼	6010B	Total/NA
Chromium	13	B	0.56	0.096	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.6		0.28	0.063	mg/Kg	1	☼	6010B	Total/NA
Copper	21		0.56	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	14000		11	4.3	mg/Kg	1	☼	6010B	Total/NA
Lead	23		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	32000	B	5.6	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	290		0.56	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	25		0.56	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	2200	B	28	4.5	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.44	J	0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	930	B	56	7.4	mg/Kg	1	☼	6010B	Total/NA
Vanadium	16		0.28	0.081	mg/Kg	1	☼	6010B	Total/NA
Zinc	56		1.1	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	0.23	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.31	J	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	1.4		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.037		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.083	J B	0.10	0.020	mg/L	1		6010B	TCLP
Mercury	0.020		0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	8.06		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-38-B02 (0-3.5)**

**Lab Sample ID: 500-104045-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.034	J	0.038	0.0059	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.048		0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.031	J	0.038	0.0069	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.025	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.26		0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.048		0.038	0.0065	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.39		0.038	0.0072	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.32		0.038	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.17		0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.20		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.28		0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.096		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.17		0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.081		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.021	J	0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B02 (0-3.5) (Continued)**

**Lab Sample ID: 500-104045-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.070		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	5.3		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	67		0.58	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.53		0.23	0.051	mg/Kg	1	☼	6010B	Total/NA
Boron	21		2.9	0.41	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.23		0.12	0.034	mg/Kg	1	☼	6010B	Total/NA
Calcium	110000	B	120	38	mg/Kg	10	☼	6010B	Total/NA
Chromium	13	B	0.58	0.10	mg/Kg	1	☼	6010B	Total/NA
Cobalt	7.2		0.29	0.066	mg/Kg	1	☼	6010B	Total/NA
Copper	21		0.58	0.13	mg/Kg	1	☼	6010B	Total/NA
Iron	12000		12	4.5	mg/Kg	1	☼	6010B	Total/NA
Lead	44		0.29	0.15	mg/Kg	1	☼	6010B	Total/NA
Magnesium	45000	B	5.8	2.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	290		0.58	0.12	mg/Kg	1	☼	6010B	Total/NA
Nickel	19		0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	1700	B	29	4.8	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.50	J	0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Sodium	3200	B	58	7.7	mg/Kg	1	☼	6010B	Total/NA
Vanadium	16		0.29	0.085	mg/Kg	1	☼	6010B	Total/NA
Zinc	65		1.2	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	0.26	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.37	J	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	1.0		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.025		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.051	J B	0.10	0.020	mg/L	1		6010B	TCLP
Mercury	0.047		0.017	0.0059	mg/Kg	1	☼	7471B	Total/NA
pH	8.73		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-6	2993-38-B05 (0-3.5)	Solid	11/13/15 09:50	11/14/15 08:00
500-104045-7	2993-38-B02 (0-3.5)	Solid	11/13/15 10:00	11/14/15 08:00

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B05 (0-3.5)**

**Lab Sample ID: 500-104045-6**

**Date Collected: 11/13/15 09:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 87.8**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.016		0.016	0.0032	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Benzene	<0.0041		0.0041	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Bromodichloromethane	<0.0041		0.0041	0.00069	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Bromoform	<0.0041		0.0041	0.00084	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Bromomethane	<0.0041		0.0041	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
2-Butanone (MEK)	<0.0041		0.0041	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Carbon disulfide	<0.0041		0.0041	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Carbon tetrachloride	<0.0041		0.0041	0.00088	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Chlorobenzene	<0.0041		0.0041	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Chloroethane	<0.0041	*	0.0041	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Chloroform	<0.0041		0.0041	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Chloromethane	<0.0041		0.0041	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
cis-1,2-Dichloroethene	<0.0041		0.0041	0.00084	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
cis-1,3-Dichloropropene	<0.0041		0.0041	0.00093	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Dibromochloromethane	<0.0041		0.0041	0.00047	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,1-Dichloroethane	<0.0041		0.0041	0.00084	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,2-Dichloroethane	<0.0041		0.0041	0.00061	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,1-Dichloroethene	<0.0041		0.0041	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,2-Dichloropropane	<0.0041		0.0041	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,3-Dichloropropane, Total	<0.0041		0.0041	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Ethylbenzene	<0.0041		0.0041	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
2-Hexanone	<0.0041		0.0041	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Methylene Chloride	<0.0041		0.0041	0.0031	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
4-Methyl-2-pentanone (MIBK)	<0.0041		0.0041	0.00084	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Methyl tert-butyl ether	<0.0041		0.0041	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Styrene	<0.0041		0.0041	0.00096	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,1,2,2-Tetrachloroethane	<0.0041		0.0041	0.00065	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Tetrachloroethene	<0.0041		0.0041	0.00085	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Toluene	<0.0041		0.0041	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
trans-1,2-Dichloroethene	<0.0041		0.0041	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
trans-1,3-Dichloropropene	<0.0041		0.0041	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,1,1-Trichloroethane	<0.0041		0.0041	0.00095	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
1,1,2-Trichloroethane	<0.0041		0.0041	0.00079	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Trichloroethene	<0.0041		0.0041	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Vinyl acetate	<0.0041		0.0041	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Vinyl chloride	<0.0041		0.0041	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1
Xylenes, Total	<0.0082		0.0082	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 122	11/14/15 14:10	11/16/15 13:43	1
Dibromofluoromethane	106		75 - 120	11/14/15 14:10	11/16/15 13:43	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 134	11/14/15 14:10	11/16/15 13:43	1
Toluene-d8 (Surr)	94		75 - 122	11/14/15 14:10	11/16/15 13:43	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.082	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.055	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
1,3-Dichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
1,4-Dichlorobenzene	<0.19		0.19	0.047	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B05 (0-3.5)**

**Lab Sample ID: 500-104045-6**

**Date Collected: 11/13/15 09:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 87.8**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2-Methylphenol	<0.19		0.19	0.059	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
N-Nitrosodi-n-propylamine	<0.074		0.074	0.045	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Hexachloroethane	<0.19		0.19	0.056	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2-Chlorophenol	<0.19		0.19	0.063	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Nitrobenzene	<0.037		0.037	0.0092	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Isophorone	<0.19		0.19	0.041	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Hexachlorobutadiene	<0.19		0.19	0.058	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Naphthalene</b>	<b>0.019</b>	<b>J</b>	0.037	0.0057	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,4-Dichlorophenol	<0.37		0.37	0.087	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,4,5-Trichlorophenol	<0.37		0.37	0.084	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>2-Methylnaphthalene</b>	<b>0.056</b>		0.037	0.0068	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,6-Dinitrotoluene	<0.19		0.19	0.072	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2-Nitrophenol	<0.37		0.37	0.087	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
3-Nitroaniline	<0.37		0.37	0.11	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Dimethyl phthalate	<0.19		0.19	0.048	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,4-Dinitrophenol	<0.74		0.74	0.65	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Acenaphthene	<0.037		0.037	0.0066	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Dibenzofuran	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Fluorene	<0.037		0.037	0.0052	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4-Nitroaniline	<0.37		0.37	0.15	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Hexachlorobenzene	<0.074		0.074	0.0085	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Diethyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Pentachlorophenol	<0.74		0.74	0.59	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
N-Nitrosodiphenylamine	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.30	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Phenanthrene</b>	<b>0.12</b>		0.037	0.0051	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Anthracene</b>	<b>0.015</b>	<b>J</b>	0.037	0.0062	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Carbazole	<0.19		0.19	0.092	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Di-n-butyl phthalate	<0.19		0.19	0.056	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Fluoranthene</b>	<b>0.12</b>		0.037	0.0068	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Pyrene</b>	<b>0.13</b>		0.037	0.0073	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Butyl benzyl phthalate	<0.19		0.19	0.070	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Benzo[a]anthracene</b>	<b>0.053</b>		0.037	0.0050	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B05 (0-3.5)**

**Lab Sample ID: 500-104045-6**

**Date Collected: 11/13/15 09:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 87.8**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.082</b>		0.037	0.010	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.067	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Di-n-octyl phthalate	<0.19		0.19	0.060	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Benzo[b]fluoranthene</b>	<b>0.095</b>		0.037	0.0079	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Benzo[k]fluoranthene</b>	<b>0.032 J</b>		0.037	0.011	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Benzo[a]pyrene</b>	<b>0.054</b>		0.037	0.0071	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.032 J</b>		0.037	0.0095	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0071	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
<b>Benzo[g,h,i]perylene</b>	<b>0.034 J</b>		0.037	0.012	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1
3 & 4 Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	11/18/15 16:16	11/30/15 13:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	72		25 - 110	11/18/15 16:16	11/30/15 13:05	1
Phenol-d5	74		31 - 110	11/18/15 16:16	11/30/15 13:05	1
Nitrobenzene-d5	67		25 - 115	11/18/15 16:16	11/30/15 13:05	1
2-Fluorobiphenyl	76		25 - 119	11/18/15 16:16	11/30/15 13:05	1
2,4,6-Tribromophenol	97		35 - 137	11/18/15 16:16	11/30/15 13:05	1
Terphenyl-d14	125		36 - 134	11/18/15 16:16	11/30/15 13:05	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Arsenic</b>	<b>6.1</b>		0.56	0.26	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Barium</b>	<b>33</b>		0.56	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Beryllium</b>	<b>0.48</b>		0.22	0.048	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Boron</b>	<b>14</b>		2.8	0.39	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Cadmium</b>	<b>0.12</b>		0.11	0.032	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Calcium</b>	<b>80000 B</b>		110	36	mg/Kg	☼	11/24/15 11:26	11/25/15 14:05	10
<b>Chromium</b>	<b>13 B</b>		0.56	0.096	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Cobalt</b>	<b>9.6</b>		0.28	0.063	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Copper</b>	<b>21</b>		0.56	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Iron</b>	<b>14000</b>		11	4.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Lead</b>	<b>23</b>		0.28	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Magnesium</b>	<b>32000 B</b>		5.6	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Manganese</b>	<b>290</b>		0.56	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Nickel</b>	<b>25</b>		0.56	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Potassium</b>	<b>2200 B</b>		28	4.5	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Selenium</b>	<b>0.44 J</b>		0.56	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
Silver	<0.28		0.28	0.065	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Sodium</b>	<b>930 B</b>		56	7.4	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
Thallium	<0.56		0.56	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Vanadium</b>	<b>16</b>		0.28	0.081	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1
<b>Zinc</b>	<b>56</b>		1.1	0.35	mg/Kg	☼	11/24/15 11:26	11/25/15 04:35	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.23 J</b>		0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:38	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 13:38	1
<b>Boron</b>	<b>0.31 J</b>		0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:38	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B05 (0-3.5)**

**Lab Sample ID: 500-104045-6**

**Date Collected: 11/13/15 09:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 87.8**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 13:38	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:38	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:38	1
Iron	<0.20		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 13:38	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 13:38	1
<b>Manganese</b>	<b>1.4</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:38	1
<b>Nickel</b>	<b>0.037</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:38	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 13:38	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:38	1
<b>Zinc</b>	<b>0.083</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 13:38	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	<0.025		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 17:18	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 15:12	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 15:12	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:11	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.020</b>		0.018	0.0061	mg/Kg	☼	11/25/15 06:45	11/25/15 11:55	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.06</b>		0.200	0.200	SU			11/21/15 12:50	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B02 (0-3.5)**

**Lab Sample ID: 500-104045-7**

**Date Collected: 11/13/15 10:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.017		0.017	0.0033	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Benzene	<0.0043		0.0043	0.00095	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Bromodichloromethane	<0.0043		0.0043	0.00072	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Bromoform	<0.0043		0.0043	0.00087	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Bromomethane	<0.0043		0.0043	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
2-Butanone (MEK)	<0.0043		0.0043	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Carbon disulfide	<0.0043		0.0043	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Carbon tetrachloride	<0.0043		0.0043	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Chlorobenzene	<0.0043		0.0043	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Chloroethane	<0.0043	*	0.0043	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Chloroform	<0.0043		0.0043	0.00083	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Chloromethane	<0.0043		0.0043	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
cis-1,2-Dichloroethene	<0.0043		0.0043	0.00087	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
cis-1,3-Dichloropropene	<0.0043		0.0043	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Dibromochloromethane	<0.0043		0.0043	0.00049	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,1-Dichloroethane	<0.0043		0.0043	0.00088	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,2-Dichloroethane	<0.0043		0.0043	0.00063	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,1-Dichloroethene	<0.0043		0.0043	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,2-Dichloropropane	<0.0043		0.0043	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,3-Dichloropropane, Total	<0.0043		0.0043	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Ethylbenzene	<0.0043		0.0043	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
2-Hexanone	<0.0043		0.0043	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Methylene Chloride	<0.0043		0.0043	0.0032	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
4-Methyl-2-pentanone (MIBK)	<0.0043		0.0043	0.00088	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Methyl tert-butyl ether	<0.0043		0.0043	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Styrene	<0.0043		0.0043	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,1,2,2-Tetrachloroethane	<0.0043		0.0043	0.00068	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Tetrachloroethene	<0.0043		0.0043	0.00089	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Toluene	<0.0043		0.0043	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
trans-1,2-Dichloroethene	<0.0043		0.0043	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
trans-1,3-Dichloropropene	<0.0043		0.0043	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,1,1-Trichloroethane	<0.0043		0.0043	0.00099	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
1,1,2-Trichloroethane	<0.0043		0.0043	0.00083	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Trichloroethene	<0.0043		0.0043	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Vinyl acetate	<0.0043		0.0043	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Vinyl chloride	<0.0043		0.0043	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1
Xylenes, Total	<0.0085		0.0085	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 122	11/14/15 14:10	11/16/15 14:07	1
Dibromofluoromethane	104		75 - 120	11/14/15 14:10	11/16/15 14:07	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 134	11/14/15 14:10	11/16/15 14:07	1
Toluene-d8 (Surr)	94		75 - 122	11/14/15 14:10	11/16/15 14:07	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.086	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.058	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
1,4-Dichlorobenzene	<0.19		0.19	0.050	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B02 (0-3.5)**

**Lab Sample ID: 500-104045-7**

**Date Collected: 11/13/15 10:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2-Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.045	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
N-Nitrosodi-n-propylamine	<0.19		0.19	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Hexachloroethane	<0.19		0.19	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2-Chlorophenol	<0.19		0.19	0.066	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Hexachlorobutadiene	<0.19		0.19	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Naphthalene</b>	<b>0.034</b>	<b>J</b>	0.038	0.0059	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,4-Dichlorophenol	<0.38		0.38	0.092	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4-Chloroaniline	<0.78		0.78	0.18	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,4,5-Trichlorophenol	<0.38		0.38	0.088	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Hexachlorocyclopentadiene	<0.78		0.78	0.22	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>2-Methylnaphthalene</b>	<b>0.048</b>		0.038	0.0071	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2-Chloronaphthalene	<0.19		0.19	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,6-Dinitrotoluene	<0.19		0.19	0.076	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2-Nitrophenol	<0.38		0.38	0.091	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,4-Dinitrophenol	<0.78		0.78	0.68	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Acenaphthylene	<0.038		0.038	0.0051	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Acenaphthene</b>	<b>0.031</b>	<b>J</b>	0.038	0.0069	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4-Nitrophenol	<0.78		0.78	0.37	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Fluorene</b>	<b>0.025</b>	<b>J</b>	0.038	0.0054	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.051	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Hexachlorobenzene	<0.078		0.078	0.0090	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Pentachlorophenol	<0.78		0.78	0.62	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
N-Nitrosodiphenylamine	<0.19		0.19	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
4,6-Dinitro-2-methylphenol	<0.78		0.78	0.31	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Phenanthrene</b>	<b>0.26</b>		0.038	0.0054	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Anthracene</b>	<b>0.048</b>		0.038	0.0065	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Carbazole	<0.19		0.19	0.097	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Di-n-butyl phthalate	<0.19		0.19	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Fluoranthene</b>	<b>0.39</b>		0.038	0.0072	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Pyrene</b>	<b>0.32</b>		0.038	0.0077	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Butyl benzyl phthalate	<0.19		0.19	0.073	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Benzo[a]anthracene</b>	<b>0.17</b>		0.038	0.0052	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B02 (0-3.5)**

**Lab Sample ID: 500-104045-7**

**Date Collected: 11/13/15 10:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.20</b>		0.038	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.071	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
Di-n-octyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Benzo[b]fluoranthene</b>	<b>0.28</b>		0.038	0.0083	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Benzo[k]fluoranthene</b>	<b>0.096</b>		0.038	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Benzo[a]pyrene</b>	<b>0.17</b>		0.038	0.0075	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.081</b>		0.038	0.010	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Dibenz(a,h)anthracene</b>	<b>0.021</b>	J	0.038	0.0075	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
<b>Benzo[g,h,i]perylene</b>	<b>0.070</b>		0.038	0.012	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	11/18/15 16:16	11/25/15 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	66		25 - 110	11/18/15 16:16	11/25/15 16:39	1
Phenol-d5	70		31 - 110	11/18/15 16:16	11/25/15 16:39	1
Nitrobenzene-d5	65		25 - 115	11/18/15 16:16	11/25/15 16:39	1
2-Fluorobiphenyl	67		25 - 119	11/18/15 16:16	11/25/15 16:39	1
2,4,6-Tribromophenol	67		35 - 137	11/18/15 16:16	11/25/15 16:39	1
Terphenyl-d14	95		36 - 134	11/18/15 16:16	11/25/15 16:39	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.24	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Arsenic</b>	<b>5.3</b>		0.58	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Barium</b>	<b>67</b>		0.58	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Beryllium</b>	<b>0.53</b>		0.23	0.051	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Boron</b>	<b>21</b>		2.9	0.41	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Cadmium</b>	<b>0.23</b>		0.12	0.034	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Calcium</b>	<b>110000</b>	B	120	38	mg/Kg	☼	11/24/15 11:26	11/25/15 14:09	10
<b>Chromium</b>	<b>13</b>	B	0.58	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Cobalt</b>	<b>7.2</b>		0.29	0.066	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Copper</b>	<b>21</b>		0.58	0.13	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Iron</b>	<b>12000</b>		12	4.5	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Lead</b>	<b>44</b>		0.29	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Magnesium</b>	<b>45000</b>	B	5.8	2.4	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Manganese</b>	<b>290</b>		0.58	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Nickel</b>	<b>19</b>		0.58	0.16	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Potassium</b>	<b>1700</b>	B	29	4.8	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Selenium</b>	<b>0.50</b>	J	0.58	0.29	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
Silver	<0.29		0.29	0.068	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Sodium</b>	<b>3200</b>	B	58	7.7	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
Thallium	<0.58		0.58	0.29	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Vanadium</b>	<b>16</b>		0.29	0.085	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1
<b>Zinc</b>	<b>65</b>		1.2	0.37	mg/Kg	☼	11/24/15 11:26	11/25/15 04:41	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.26</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:43	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 13:43	1
<b>Boron</b>	<b>0.37</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:43	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

**Client Sample ID: 2993-38-B02 (0-3.5)**

**Lab Sample ID: 500-104045-7**

**Date Collected: 11/13/15 10:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 13:43	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:43	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:43	1
Iron	<0.20		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 13:43	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 13:43	1
<b>Manganese</b>	<b>1.0</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:43	1
<b>Nickel</b>	<b>0.025</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:43	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 13:43	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:43	1
<b>Zinc</b>	<b>0.051</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 13:43	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	<0.025		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 17:23	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 15:16	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 15:16	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:13	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.047</b>		0.017	0.0059	mg/Kg	☼	11/25/15 06:45	11/25/15 12:01	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.73</b>		0.200	0.200	SU			11/21/15 12:52	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-4

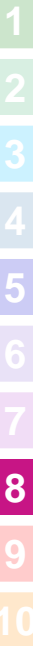
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: DT  
 Company: JS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PC#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Matrix		Comments			
<u>EE</u>		<u>10093410.0003.01</u>								Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other			
Project Name		Lab Project #											
<u>Don Ryan Expressway</u>		<u>50011633</u>											
Project Location/State		Lab RM											
<u>Cook County, IL</u>		<u>D. Wright</u>											
Sampler													
<u>S. Cooper</u>													
Lab ID	MS/MSD	Sample ID		Sampling		# of Containers	Matrix	VOC	SVOC	Total TAC metals	Total TAC metals	pH/9.5 solids	Comments
		Date	Time	Date	Time								
<u>5</u>		<u>2993-38-B06</u>	<u>(0-3.5)</u>	<u>11/13/15</u>	<u>0940</u>	<u>2 S</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>6</u>		<u>2993-38-B05</u>	<u>(0-3.5)</u>	<u>11/13/15</u>	<u>0950</u>	<u>2 S</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>7</u>		<u>2993-38-B02</u>	<u>(0-3.5)</u>	<u>11/13/15</u>	<u>1000</u>	<u>2 S</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>8</u>		<u>2993-38-B01</u>	<u>(0-3.5)</u>	<u>11/13/15</u>	<u>1010</u>	<u>2 S</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date \_\_\_\_\_

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
<u>[Signature]</u>	<u>EE</u>	<u>11/13/15</u>	<u>1525</u>	<u>[Signature]</u>	<u>TA</u>	<u>11/13/15</u>	<u>1525</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
<u>[Signature]</u>	<u>TA</u>	<u>11/13/15</u>	<u>1720</u>	<u>[Signature]</u>	<u>TAL</u>	<u>11/14/15</u>	<u>0800</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier   
 Shipped \_\_\_\_\_  
 Hand Delivered \_\_\_\_\_

Matrix Key

WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Silt L - Leachate  
 SL - Sludge WL - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments

\_\_\_\_\_

Lab Comments:

\_\_\_\_\_

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-4

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.



## DETECTED ANALYTES

SITE	ISGS #2993-45 (IDOT ROW)	Comparison Criteria					
BORING	2993-45-B01	MACs			TACO		
SAMPLE	2993-45-B01 (0-1)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	7.98						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.026 J	--	--	--	--	--	--
Anthracene	0.013 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.067	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.075	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.13	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.035 J	--	--	--	--	--	--
Benzo[k]fluoranthene	0.037 J	9	--	--	9	1,700	--
Chrysene	0.095	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.011 J	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.17	3,100	--	--	3100	82000	--
Indeno[1,2,3-cd]pyrene	0.038 J	0.9	1.6	0.9	1.6	170	--
Phenanthrene	0.12	--	--	--	--	--	--
Pyrene	0.15	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Arsenic	9.1	11.3	13	--	13	61	--
Barium	60	1,500	--	--	5,500	14,000	--
Beryllium	0.7	22	--	--	160	410	--
Boron	11	40	--	--	16,000	41,000	--
Cadmium	0.17	5.2	--	--	78	200	--
Calcium	27,000	--	--	--	--	--	--
Chromium	19	21	--	--	230	690	--
Cobalt	16	20	--	--	4,700	12,000	--
Copper	30	2,900	--	--	2,900	8,200	--
Iron	19,000 †m	15,000	15900	--	--	--	--
Lead	26	107	--	--	400	700	--
Magnesium	17,000	325,000	--	--	--	730,000	--
Manganese	380	630	636	--	1,600	4,100	--
Mercury	0.028	0.89	--	--	10	0.1	--
Nickel	33	100	--	--	1,600	4,100	--
Potassium	2,200	--	--	--	--	--	--
Selenium	1.1	1.3	--	--	390	1,000	--
Sodium	2,300	--	--	--	--	--	--
Thallium	0.83	2.6	--	--	6.3	160	--
Vanadium	22	550	--	--	550	1,400	--
Zinc	76	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.21 J	--	--	--	--	--	2
Boron	0.29 J	--	--	--	--	--	2
Iron	0.21	--	--	--	--	--	5
Manganese	1.5 L	--	--	--	--	--	0.15
<b>SPLP Metals (mg/L)</b>							
Manganese	0.088	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-3

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:24:56 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	5
Client Sample Results . . . . .	6
Definitions . . . . .	10
Certification Summary . . . . .	11
Chain of Custody . . . . .	12
Receipt Checklists . . . . .	13

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

**Job ID: 500-104045-3**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312958 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-45-B01 (0-1) (500-104045-4) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

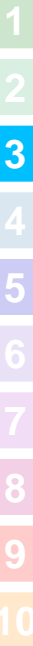
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

**Client Sample ID: 2993-45-B01 (0-1)**

**Lab Sample ID: 500-104045-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.026	J	0.039	0.0072	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.12		0.039	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.013	J	0.039	0.0065	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.17		0.039	0.0072	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.15		0.039	0.0078	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.067		0.039	0.0053	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.095		0.039	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.13		0.039	0.0084	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.037	J	0.039	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.075		0.039	0.0076	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.038	J	0.039	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.011	J	0.039	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.035	J	0.039	0.013	mg/Kg	1	☼	8270D	Total/NA
Arsenic	9.1		0.50	0.23	mg/Kg	1	☼	6010B	Total/NA
Barium	60		0.50	0.092	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.70		0.20	0.044	mg/Kg	1	☼	6010B	Total/NA
Boron	11		2.5	0.35	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.17		0.10	0.029	mg/Kg	1	☼	6010B	Total/NA
Calcium	27000	B	10	3.3	mg/Kg	1	☼	6010B	Total/NA
Chromium	19	B	0.50	0.087	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.25	0.057	mg/Kg	1	☼	6010B	Total/NA
Copper	30		0.50	0.11	mg/Kg	1	☼	6010B	Total/NA
Iron	19000		10	3.9	mg/Kg	1	☼	6010B	Total/NA
Lead	26		0.25	0.13	mg/Kg	1	☼	6010B	Total/NA
Magnesium	17000	B	5.0	2.0	mg/Kg	1	☼	6010B	Total/NA
Manganese	380		0.50	0.10	mg/Kg	1	☼	6010B	Total/NA
Nickel	33		0.50	0.14	mg/Kg	1	☼	6010B	Total/NA
Potassium	2200	B	25	4.1	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.1		0.50	0.25	mg/Kg	1	☼	6010B	Total/NA
Sodium	2300	B	50	6.7	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.83		0.50	0.25	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.25	0.074	mg/Kg	1	☼	6010B	Total/NA
Zinc	76		1.0	0.32	mg/Kg	1	☼	6010B	Total/NA
Barium	0.21	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.29	J	0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.21		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	1.5		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.069	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.088		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.028		0.019	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.98		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-4	2993-45-B01 (0-1)	Solid	11/13/15 09:40	11/14/15 08:00

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

**Client Sample ID: 2993-45-B01 (0-1)**

**Lab Sample ID: 500-104045-4**

Date Collected: 11/13/15 09:40

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 84.4

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.039		0.039	0.0075	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Benzene	<0.0097		0.0097	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Bromodichloromethane	<0.0097		0.0097	0.0016	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Bromoform	<0.0097		0.0097	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Bromomethane	<0.0097		0.0097	0.0036	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
2-Butanone (MEK)	<0.0097		0.0097	0.0035	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Carbon disulfide	<0.0097		0.0097	0.0036	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Carbon tetrachloride	<0.0097		0.0097	0.0021	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Chlorobenzene	<0.0097		0.0097	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Chloroethane	<0.0097	*	0.0097	0.0041	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Chloroform	<0.0097		0.0097	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Chloromethane	<0.0097		0.0097	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
cis-1,2-Dichloroethene	<0.0097		0.0097	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
cis-1,3-Dichloropropene	<0.0097		0.0097	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Dibromochloromethane	<0.0097		0.0097	0.0011	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,1-Dichloroethane	<0.0097		0.0097	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,2-Dichloroethane	<0.0097		0.0097	0.0014	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,1-Dichloroethene	<0.0097		0.0097	0.0035	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,2-Dichloropropane	<0.0097		0.0097	0.0026	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,3-Dichloropropane, Total	<0.0097		0.0097	0.0027	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Ethylbenzene	<0.0097		0.0097	0.0024	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
2-Hexanone	<0.0097		0.0097	0.0030	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Methylene Chloride	<0.0097		0.0097	0.0074	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
4-Methyl-2-pentanone (MIBK)	<0.0097		0.0097	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Methyl tert-butyl ether	<0.0097		0.0097	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Styrene	<0.0097		0.0097	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,1,2,2-Tetrachloroethane	<0.0097		0.0097	0.0015	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Tetrachloroethene	<0.0097		0.0097	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Toluene	<0.0097		0.0097	0.0034	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
trans-1,2-Dichloroethene	<0.0097		0.0097	0.0024	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
trans-1,3-Dichloropropene	<0.0097		0.0097	0.0027	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,1,1-Trichloroethane	<0.0097		0.0097	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
1,1,2-Trichloroethane	<0.0097		0.0097	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Trichloroethene	<0.0097		0.0097	0.0026	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Vinyl acetate	<0.0097		0.0097	0.0026	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Vinyl chloride	<0.0097		0.0097	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1
Xylenes, Total	<0.019		0.019	0.0036	mg/Kg	☼	11/14/15 14:10	11/17/15 15:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 122	11/14/15 14:10	11/17/15 15:47	1
Dibromofluoromethane	109		75 - 120	11/14/15 14:10	11/17/15 15:47	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 134	11/14/15 14:10	11/17/15 15:47	1
Toluene-d8 (Surr)	95		75 - 122	11/14/15 14:10	11/17/15 15:47	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.087	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
1,3-Dichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
1,4-Dichlorobenzene	<0.20		0.20	0.050	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

**Client Sample ID: 2993-45-B01 (0-1)**

**Lab Sample ID: 500-104045-4**

**Date Collected: 11/13/15 09:40**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.4**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2-Methylphenol	<0.20		0.20	0.063	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.045	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
N-Nitrosodi-n-propylamine	<0.20		0.20	0.048	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Hexachloroethane	<0.20		0.20	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2-Chlorophenol	<0.20		0.20	0.067	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Nitrobenzene	<0.039		0.039	0.0097	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,4-Dimethylphenol	<0.39		0.39	0.15	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Hexachlorobutadiene	<0.20		0.20	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Naphthalene	<0.039		0.039	0.0060	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,4-Dichlorophenol	<0.39		0.39	0.093	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4-Chloroaniline	<0.79		0.79	0.18	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,4,6-Trichlorophenol	<0.39		0.39	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,4,5-Trichlorophenol	<0.39		0.39	0.089	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Hexachlorocyclopentadiene	<0.79		0.79	0.22	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>2-Methylnaphthalene</b>	<b>0.026</b>	<b>J</b>	0.039	0.0072	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2-Nitroaniline	<0.20		0.20	0.053	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2-Chloronaphthalene	<0.20		0.20	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4-Chloro-3-methylphenol	<0.39		0.39	0.13	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,6-Dinitrotoluene	<0.20		0.20	0.077	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2-Nitrophenol	<0.39		0.39	0.092	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
3-Nitroaniline	<0.39		0.39	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Dimethyl phthalate	<0.20		0.20	0.051	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,4-Dinitrophenol	<0.79		0.79	0.69	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Acenaphthylene	<0.039		0.039	0.0051	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
2,4-Dinitrotoluene	<0.20		0.20	0.062	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Acenaphthene	<0.039		0.039	0.0070	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Dibenzofuran	<0.20		0.20	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4-Nitrophenol	<0.79		0.79	0.37	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Fluorene	<0.039		0.039	0.0055	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4-Nitroaniline	<0.39		0.39	0.16	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.051	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Hexachlorobenzene	<0.079		0.079	0.0091	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Pentachlorophenol	<0.79		0.79	0.63	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
N-Nitrosodiphenylamine	<0.20		0.20	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
4,6-Dinitro-2-methylphenol	<0.79		0.79	0.31	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Phenanthrene</b>	<b>0.12</b>		0.039	0.0054	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Anthracene</b>	<b>0.013</b>	<b>J</b>	0.039	0.0065	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Carbazole	<0.20		0.20	0.098	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Di-n-butyl phthalate	<0.20		0.20	0.059	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Fluoranthene</b>	<b>0.17</b>		0.039	0.0072	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Pyrene</b>	<b>0.15</b>		0.039	0.0078	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Butyl benzyl phthalate	<0.20		0.20	0.074	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Benzo[a]anthracene</b>	<b>0.067</b>		0.039	0.0053	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

**Client Sample ID: 2993-45-B01 (0-1)**

**Lab Sample ID: 500-104045-4**

**Date Collected: 11/13/15 09:40**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.4**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.095</b>		0.039	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.055	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.071	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
Di-n-octyl phthalate	<0.20		0.20	0.064	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Benzo[b]fluoranthene</b>	<b>0.13</b>		0.039	0.0084	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Benzo[k]fluoranthene</b>	<b>0.037 J</b>		0.039	0.012	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Benzo[a]pyrene</b>	<b>0.075</b>		0.039	0.0076	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.038 J</b>		0.039	0.010	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Dibenz(a,h)anthracene</b>	<b>0.011 J</b>		0.039	0.0075	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
<b>Benzo[g,h,i]perylene</b>	<b>0.035 J</b>		0.039	0.013	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1
3 & 4 Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	11/18/15 16:16	11/25/15 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	67		25 - 110	11/18/15 16:16	11/25/15 16:15	1
Phenol-d5	74		31 - 110	11/18/15 16:16	11/25/15 16:15	1
Nitrobenzene-d5	70		25 - 115	11/18/15 16:16	11/25/15 16:15	1
2-Fluorobiphenyl	71		25 - 119	11/18/15 16:16	11/25/15 16:15	1
2,4,6-Tribromophenol	107		35 - 137	11/18/15 16:16	11/25/15 16:15	1
Terphenyl-d14	94		36 - 134	11/18/15 16:16	11/25/15 16:15	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	0.21	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Arsenic</b>	<b>9.1</b>		0.50	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Barium</b>	<b>60</b>		0.50	0.092	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Beryllium</b>	<b>0.70</b>		0.20	0.044	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Boron</b>	<b>11</b>		2.5	0.35	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Cadmium</b>	<b>0.17</b>		0.10	0.029	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Calcium</b>	<b>27000 B</b>		10	3.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Chromium</b>	<b>19 B</b>		0.50	0.087	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Cobalt</b>	<b>16</b>		0.25	0.057	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Copper</b>	<b>30</b>		0.50	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Iron</b>	<b>19000</b>		10	3.9	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Lead</b>	<b>26</b>		0.25	0.13	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Magnesium</b>	<b>17000 B</b>		5.0	2.0	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Manganese</b>	<b>380</b>		0.50	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Nickel</b>	<b>33</b>		0.50	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Potassium</b>	<b>2200 B</b>		25	4.1	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Selenium</b>	<b>1.1</b>		0.50	0.25	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
Silver	<0.25		0.25	0.059	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Sodium</b>	<b>2300 B</b>		50	6.7	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Thallium</b>	<b>0.83</b>		0.50	0.25	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Vanadium</b>	<b>22</b>		0.25	0.074	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1
<b>Zinc</b>	<b>76</b>		1.0	0.32	mg/Kg	☼	11/24/15 11:26	11/25/15 04:25	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.21 J</b>		0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:19	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 13:19	1
<b>Boron</b>	<b>0.29 J</b>		0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:19	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

**Client Sample ID: 2993-45-B01 (0-1)**

**Lab Sample ID: 500-104045-4**

**Date Collected: 11/13/15 09:40**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.4**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 13:19	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:19	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:19	1
<b>Iron</b>	<b>0.21</b>		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 13:19	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 13:19	1
<b>Manganese</b>	<b>1.5</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:19	1
Nickel	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:19	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 13:19	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:19	1
<b>Zinc</b>	<b>0.069</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 13:19	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.088</b>		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 18:09	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 14:57	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 14:57	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:04	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.028</b>		0.019	0.0066	mg/Kg	☼	11/25/15 06:45	11/25/15 11:51	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.98</b>		0.200	0.200	SU			11/21/15 12:46	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-3

## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-164045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other			
Project Name		Lab Project #		Matrix		Matrix		Matrix					
Project Location/State		Lab PM		Matrix		Matrix		Matrix					
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix	VOC	SVOC	Total/TCMP	Metals	pH	Percent Solids	Comments
4		2993-45-BO10-1	11/13/15	0840	2	S	X	X	X	X	X	X	
/													

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u>	Company: <u>E+E</u>	Date: <u>11/13/15</u>	Time: <u>1355</u>	Received By: <u>[Signature]</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1355</u>
Relinquished By: <u>[Signature]</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1320</u>	Received By: <u>[Signature]</u>	Company: <u>TAL</u>	Date: <u>11/14/15</u>	Time: <u>0800</u>
Relinquished By: _____	Company: _____	Date: _____	Time: _____	Received By: _____	Company: _____	Date: _____	Time: _____

Lab Courier:   
 Shipped:   
 Hand Delivered:

Matrix Key

WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-3

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-50 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-50-B07	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-50-B07 (0-3.5)						
MATRIX	Soil						
DEPTH (feet)	0-3.5						
pH	8.41						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.027 J	--	--	--	--	--	--
Acenaphthylene	0.0089 J	--	--	--	--	--	--
Anthracene	0.021 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.1	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.11 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.16	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.053	--	--	--	--	--	--
Benzo[k]fluoranthene	0.048	9	--	--	9	1,700	--
Chrysene	0.13	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.013 J	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.25	3,100	--	--	3100	82000	--
Fluorene	0.0072 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.057	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.011 J	1.8	--	--	170	1.8	--
Phenanthrene	0.17	--	--	--	--	--	--
Pyrene	0.2	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Arsenic	5.6	11.3	13	--	13	61	--
Barium	27	1,500	--	--	5,500	14,000	--
Beryllium	0.38	22	--	--	160	410	--
Boron	11	40	--	--	16,000	41,000	--
Cadmium	0.1 J	5.2	--	--	78	200	--
Calcium	86,000	--	--	--	--	--	--
Chromium	9	21	--	--	230	690	--
Cobalt	8	20	--	--	4,700	12,000	--
Copper	16	2,900	--	--	2,900	8,200	--
Iron	11,000	15,000	15900	--	--	--	--
Lead	17	107	--	--	400	700	--
Magnesium	37,000	325,000	--	--	--	730,000	--
Manganese	270	630	636	--	1,600	4,100	--
Mercury	0.012 J	0.89	--	--	10	0.1	--
Nickel	19	100	--	--	1,600	4,100	--
Potassium	1,500	--	--	--	--	--	--
Selenium	0.31 J	1.3	--	--	390	1,000	--
Sodium	410	--	--	--	--	--	--
Thallium	0.35 J	2.6	--	--	6.3	160	--
Vanadium	13	550	--	--	550	1,400	--
Zinc	36	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.42 J	--	--	--	--	--	2
Boron	0.35 J	--	--	--	--	--	2
Cobalt	0.012 J	--	--	--	--	--	1
Manganese	1.3 L	--	--	--	--	--	0.15
Nickel	0.025	--	--	--	--	--	0.1
<b>SPLP Metals (mg/L)</b>							
Manganese	0.31 L	--	--	--	--	--	0.15



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-6

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:28:14 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	5
Client Sample Results . . . . .	6
Definitions . . . . .	10
Certification Summary . . . . .	11
Chain of Custody . . . . .	12
Receipt Checklists . . . . .	13

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

**Job ID: 500-104045-6**

**Laboratory: TestAmerica Chicago**

## Narrative

**Job Narrative  
500-104045-6**

### Comments

No additional comments.

### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-50-B07 (0-3.5) (500-104045-10) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

**Client Sample ID: 2993-50-B07 (0-3.5)**

**Lab Sample ID: 500-104045-10**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.011	J	0.035	0.0055	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.027	J	0.035	0.0066	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.0089	J	0.035	0.0047	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0072	J	0.035	0.0050	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.17		0.035	0.0050	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.021	J	0.035	0.0060	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.25		0.035	0.0066	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.20		0.035	0.0071	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.10		0.035	0.0048	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.13		0.035	0.0097	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.16		0.035	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.048		0.035	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.11		0.035	0.0069	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.057		0.035	0.0093	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.013	J	0.035	0.0069	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.053		0.035	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	5.6		0.53	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	27		0.53	0.097	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.38		0.21	0.046	mg/Kg	1	☼	6010B	Total/NA
Boron	11		2.7	0.37	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.10	J	0.11	0.031	mg/Kg	1	☼	6010B	Total/NA
Calcium	86000	B	110	34	mg/Kg	10	☼	6010B	Total/NA
Chromium	9.0	B	0.53	0.091	mg/Kg	1	☼	6010B	Total/NA
Cobalt	8.0		0.27	0.060	mg/Kg	1	☼	6010B	Total/NA
Copper	16		0.53	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	11000		11	4.1	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.27	0.13	mg/Kg	1	☼	6010B	Total/NA
Magnesium	37000	B	5.3	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	270		0.53	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	19		0.53	0.14	mg/Kg	1	☼	6010B	Total/NA
Potassium	1500	B	27	4.3	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.31	J	0.53	0.26	mg/Kg	1	☼	6010B	Total/NA
Sodium	410	B	53	7.0	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.35	J	0.53	0.26	mg/Kg	1	☼	6010B	Total/NA
Vanadium	13		0.27	0.078	mg/Kg	1	☼	6010B	Total/NA
Zinc	36		1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.42	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.35	J	0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.012	J	0.025	0.010	mg/L	1		6010B	TCLP
Manganese	1.3		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.025		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.10	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.31		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.012	J	0.017	0.0059	mg/Kg	1	☼	7471B	Total/NA
pH	8.41		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-10	2993-50-B07 (0-3.5)	Solid	11/13/15 10:35	11/14/15 08:00

---

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

**Client Sample ID: 2993-50-B07 (0-3.5)**

**Lab Sample ID: 500-104045-10**

**Date Collected: 11/13/15 10:35**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.016		0.016	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Benzene	<0.0039		0.0039	0.00087	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Bromodichloromethane	<0.0039		0.0039	0.00066	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Bromoform	<0.0039		0.0039	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Bromomethane	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
2-Butanone (MEK)	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Carbon disulfide	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Carbon tetrachloride	<0.0039		0.0039	0.00083	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Chlorobenzene	<0.0039		0.0039	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Chloroethane	<0.0039	*	0.0039	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Chloroform	<0.0039		0.0039	0.00076	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Chloromethane	<0.0039		0.0039	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
cis-1,2-Dichloroethene	<0.0039		0.0039	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
cis-1,3-Dichloropropene	<0.0039		0.0039	0.00089	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Dibromochloromethane	<0.0039		0.0039	0.00045	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,1-Dichloroethane	<0.0039		0.0039	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,2-Dichloroethane	<0.0039		0.0039	0.00058	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,1-Dichloroethene	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,2-Dichloropropane	<0.0039		0.0039	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,3-Dichloropropane, Total	<0.0039		0.0039	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Ethylbenzene	<0.0039		0.0039	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
2-Hexanone	<0.0039		0.0039	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Methylene Chloride	<0.0039		0.0039	0.0029	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
4-Methyl-2-pentanone (MIBK)	<0.0039		0.0039	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Methyl tert-butyl ether	<0.0039		0.0039	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Styrene	<0.0039		0.0039	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,1,2,2-Tetrachloroethane	<0.0039		0.0039	0.00062	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Tetrachloroethene	<0.0039		0.0039	0.00081	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Toluene	<0.0039		0.0039	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
trans-1,2-Dichloroethene	<0.0039		0.0039	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
trans-1,3-Dichloropropene	<0.0039		0.0039	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,1,1-Trichloroethane	<0.0039		0.0039	0.00090	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
1,1,2-Trichloroethane	<0.0039		0.0039	0.00075	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Trichloroethene	<0.0039		0.0039	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Vinyl acetate	<0.0039		0.0039	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Vinyl chloride	<0.0039		0.0039	0.00093	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1
Xylenes, Total	<0.0078		0.0078	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 122	11/14/15 14:10	11/16/15 15:19	1
Dibromofluoromethane	101		75 - 120	11/14/15 14:10	11/16/15 15:19	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 134	11/14/15 14:10	11/16/15 15:19	1
Toluene-d8 (Surr)	96		75 - 122	11/14/15 14:10	11/16/15 15:19	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.079	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.054	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
1,3-Dichlorobenzene	<0.18		0.18	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
1,4-Dichlorobenzene	<0.18		0.18	0.046	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

**Client Sample ID: 2993-50-B07 (0-3.5)**

**Lab Sample ID: 500-104045-10**

**Date Collected: 11/13/15 10:35**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.043	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2-Methylphenol	<0.18		0.18	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.041	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
N-Nitrosodi-n-propylamine	<0.072		0.072	0.044	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Hexachloroethane	<0.18		0.18	0.054	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2-Chlorophenol	<0.18		0.18	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Nitrobenzene	<0.035		0.035	0.0089	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.036	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.038	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Isophorone	<0.18		0.18	0.040	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,4-Dimethylphenol	<0.35		0.35	0.14	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Hexachlorobutadiene	<0.18		0.18	0.056	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Naphthalene</b>	<b>0.011</b>	<b>J</b>	0.035	0.0055	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,4-Dichlorophenol	<0.35		0.35	0.085	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4-Chloroaniline	<0.72		0.72	0.17	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,4,6-Trichlorophenol	<0.35		0.35	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,4,5-Trichlorophenol	<0.35		0.35	0.081	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Hexachlorocyclopentadiene	<0.72		0.72	0.21	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>2-Methylnaphthalene</b>	<b>0.027</b>	<b>J</b>	0.035	0.0066	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2-Nitroaniline	<0.18		0.18	0.048	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2-Chloronaphthalene	<0.18		0.18	0.039	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4-Chloro-3-methylphenol	<0.35		0.35	0.12	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,6-Dinitrotoluene	<0.18		0.18	0.070	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2-Nitrophenol	<0.35		0.35	0.084	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
3-Nitroaniline	<0.35		0.35	0.11	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Dimethyl phthalate	<0.18		0.18	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,4-Dinitrophenol	<0.72		0.72	0.63	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Acenaphthylene</b>	<b>0.0089</b>	<b>J</b>	0.035	0.0047	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
2,4-Dinitrotoluene	<0.18		0.18	0.057	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Acenaphthene	<0.035		0.035	0.0064	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Dibenzofuran	<0.18		0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4-Nitrophenol	<0.72		0.72	0.34	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Fluorene</b>	<b>0.0072</b>	<b>J</b>	0.035	0.0050	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4-Nitroaniline	<0.35		0.35	0.15	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.047	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Hexachlorobenzene	<0.072		0.072	0.0083	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Diethyl phthalate	<0.18		0.18	0.061	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Pentachlorophenol	<0.72		0.72	0.57	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
N-Nitrosodiphenylamine	<0.18		0.18	0.042	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
4,6-Dinitro-2-methylphenol	<0.72		0.72	0.29	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Phenanthrene</b>	<b>0.17</b>		0.035	0.0050	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Anthracene</b>	<b>0.021</b>	<b>J</b>	0.035	0.0060	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Carbazole	<0.18		0.18	0.089	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Di-n-butyl phthalate	<0.18		0.18	0.054	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Fluoranthene</b>	<b>0.25</b>		0.035	0.0066	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Pyrene</b>	<b>0.20</b>		0.035	0.0071	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Butyl benzyl phthalate	<0.18		0.18	0.068	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Benzo[a]anthracene</b>	<b>0.10</b>		0.035	0.0048	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

**Client Sample ID: 2993-50-B07 (0-3.5)**

**Lab Sample ID: 500-104045-10**

Date Collected: 11/13/15 10:35

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 88.3

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.13</b>		0.035	0.0097	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.050	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Bis(2-ethylhexyl) phthalate	<0.18		0.18	0.065	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
Di-n-octyl phthalate	<0.18		0.18	0.058	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Benzo[b]fluoranthene</b>	<b>0.16</b>		0.035	0.0077	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Benzo[k]fluoranthene</b>	<b>0.048</b>		0.035	0.011	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Benzo[a]pyrene</b>	<b>0.11</b>		0.035	0.0069	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.057</b>		0.035	0.0093	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Dibenz(a,h)anthracene</b>	<b>0.013</b>	J	0.035	0.0069	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
<b>Benzo[g,h,i]perylene</b>	<b>0.053</b>		0.035	0.012	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1
3 & 4 Methylphenol	<0.18		0.18	0.060	mg/Kg	☼	11/18/15 16:16	11/25/15 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	81		25 - 110	11/18/15 16:16	11/25/15 15:26	1
Phenol-d5	89		31 - 110	11/18/15 16:16	11/25/15 15:26	1
Nitrobenzene-d5	82		25 - 115	11/18/15 16:16	11/25/15 15:26	1
2-Fluorobiphenyl	86		25 - 119	11/18/15 16:16	11/25/15 15:26	1
2,4,6-Tribromophenol	109		35 - 137	11/18/15 16:16	11/25/15 15:26	1
Terphenyl-d14	103		36 - 134	11/18/15 16:16	11/25/15 15:26	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.22	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Arsenic</b>	<b>5.6</b>		0.53	0.25	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Barium</b>	<b>27</b>		0.53	0.097	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Beryllium</b>	<b>0.38</b>		0.21	0.046	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Boron</b>	<b>11</b>		2.7	0.37	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Cadmium</b>	<b>0.10</b>	J	0.11	0.031	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Calcium</b>	<b>86000</b>	B	110	34	mg/Kg	☼	11/24/15 11:26	11/25/15 14:22	10
<b>Chromium</b>	<b>9.0</b>	B	0.53	0.091	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Cobalt</b>	<b>8.0</b>		0.27	0.060	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Copper</b>	<b>16</b>		0.53	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Iron</b>	<b>11000</b>		11	4.1	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Lead</b>	<b>17</b>		0.27	0.13	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Magnesium</b>	<b>37000</b>	B	5.3	2.2	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Manganese</b>	<b>270</b>		0.53	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Nickel</b>	<b>19</b>		0.53	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Potassium</b>	<b>1500</b>	B	27	4.3	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Selenium</b>	<b>0.31</b>	J	0.53	0.26	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
Silver	<0.27		0.27	0.062	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Sodium</b>	<b>410</b>	B	53	7.0	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Thallium</b>	<b>0.35</b>	J	0.53	0.26	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Vanadium</b>	<b>13</b>		0.27	0.078	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1
<b>Zinc</b>	<b>36</b>		1.1	0.34	mg/Kg	☼	11/24/15 11:26	11/25/15 04:56	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.42</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:59	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 13:59	1
<b>Boron</b>	<b>0.35</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 13:59	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

**Client Sample ID: 2993-50-B07 (0-3.5)**

**Lab Sample ID: 500-104045-10**

**Date Collected: 11/13/15 10:35**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 88.3**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 13:59	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:59	1
<b>Cobalt</b>	<b>0.012</b>	<b>J</b>	0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:59	1
Iron	<0.20		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 13:59	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 13:59	1
<b>Manganese</b>	<b>1.3</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:59	1
<b>Nickel</b>	<b>0.025</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:59	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 13:59	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 13:59	1
<b>Zinc</b>	<b>0.10</b>	<b>B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 13:59	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.31</b>		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 18:17	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 15:28	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 15:28	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:19	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.012</b>	<b>J</b>	0.017	0.0059	mg/Kg	☼	11/25/15 06:45	11/25/15 12:07	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.41</b>		0.200	0.200	SU			11/21/15 13:00	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-6

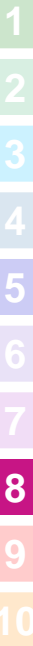
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional) DT JS Bill To (optional) \_\_\_\_\_  
 Contact: \_\_\_\_\_ Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_ Company: \_\_\_\_\_  
 Address: \_\_\_\_\_ Address: \_\_\_\_\_  
 Address: \_\_\_\_\_ Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_ PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter						Preservative Key	
Project Name		Lab Project #		Sampling		# of Containers	Matrix	VOC	SVOC	Total Trace Metals	Trace Metals		Pb/Cd/Cu/Ag/Sr/Pb
Lab ID	MS/MSD	Sample ID	Date	Time	Comments								
EE		1009341-0003-01											1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other
DRE		50011633											
Cook County, IL		Lab PM: D. Wright											
S. Cooper													
10		2993-50-307(0-3.5)	11-13-15	1035		2 S		X	X	X	X	X	
<del>11-17-15</del>													

Turnaround Time Required (Business Days) \_\_\_\_\_  
 Requested Due Date \_\_\_\_\_  
 Sample Disposal:  Disposal by Lab  Return to Client  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>EE</u> Date: <u>11/13/15</u> Time: <u>1525</u>	Received By: <u>P. Neal</u> Company: <u>TA</u> Date: <u>11/13/15</u> Time: <u>1525</u>	Lab Courier: _____
Relinquished By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11/13/15</u> Time: <u>1720</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/14/15</u> Time: <u>0800</u>	Shipped: _____
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: _____

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_  
 Lab Comments: \_\_\_\_\_

# Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-6

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-59 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-59-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-59-B01(0-0.75)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	8.32						
<b>VOCs (mg/kg)</b>							
Acetone	0.031	25	--	--	70,000	100,000	--
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.026 J	--	--	--	--	--	--
Acenaphthene	0.012 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.006 J	--	--	--	--	--	--
Anthracene	0.029 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.18	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.2 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.35	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.15	--	--	--	--	--	--
Benzo[k]fluoranthene	0.13	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.34	46	--	--	46	4,100	--
Chrysene	0.24	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.038	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.37	3,100	--	--	3100	82000	--
Fluorene	0.01 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.16 J	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.0081 J	1.8	--	--	170	1.8	--
Phenanthrene	0.2	--	--	--	--	--	--
Pyrene	0.57	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Arsenic	7.8	11.3	13	--	13	61	--
Barium	54	1,500	--	--	5,500	14,000	--
Beryllium	0.63	22	--	--	160	410	--
Boron	9.9	40	--	--	16,000	41,000	--
Cadmium	0.59	5.2	--	--	78	200	--
Calcium	51,000	--	--	--	--	--	--
Chromium	15	21	--	--	230	690	--
Cobalt	16	20	--	--	4,700	12,000	--
Copper	29	2,900	--	--	2,900	8,200	--
Iron	17,000 †m	15,000	15900	--	--	--	--
Lead	27	107	--	--	400	700	--
Magnesium	20,000	325,000	--	--	--	730,000	--
Manganese	390	630	636	--	1,600	4,100	--
Mercury	0.031	0.89	--	--	10	0.1	--
Nickel	30	100	--	--	1,600	4,100	--
Potassium	1,800	--	--	--	--	--	--
Selenium	0.48 J	1.3	--	--	390	1,000	--
Sodium	2,300	--	--	--	--	--	--
Vanadium	18	550	--	--	550	1,400	--
Zinc	170	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.38 J	--	--	--	--	--	2
Iron	ND U	--	--	--	--	--	5
Manganese	1.2 L	--	--	--	--	--	0.15
Nickel	0.011 J	--	--	--	--	--	0.1
<b>SPLP Metals (mg/L)</b>							
Manganese	0.92 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104079-3

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:21:29 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	6
Client Sample Results . . . . .	7
Definitions . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

**Job ID: 500-104079-3**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104079-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2015 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.9° C and 4.6° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 313208 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 313208 recovered outside control limits for the following analytes: Chloroethane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and / or acid surrogate outside acceptance limits: 2993-59-B01(0-0.75) (500-104079-5) and 2993-59-B02(0-0.75) (500-104079-6). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with batch 313199 had 1 analyte outside control limits: Indeno(1,2,3-cd)pyrene. These results have been reported and qualified. 2993-59-B01(0-0.75) (500-104079-5) and 2993-59-B02(0-0.75) (500-104079-6)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The following sample was diluted due to the nature of the sample matrix: 2993-59-B02(0-0.75) (500-104079-6). Elevated reporting limits (RLs) are provided.

Method(s) 6010B: The following sample was diluted due to the nature of the sample matrix: 2993-59-B02(0-0.75) (500-104079-6). Elevated reporting limits (RLs) are provided.

Method(s) 6020A: The continuing calibration verification (CCV) associated with AD batch 500-314626 recovered above the upper control limit for Thallium (TI). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 500-314626/104) and (CCV 500-314626/92).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

**Client Sample ID: 2993-59-B01(0-0.75)**

**Lab Sample ID: 500-104079-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.031		0.018	0.0034	mg/Kg	1	☼	8260B	Total/NA
Naphthalene	0.0081	J	0.037	0.0057	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.026	J	0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.0060	J	0.037	0.0049	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.012	J	0.037	0.0067	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.010	J	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.20		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.029	J	0.037	0.0062	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.37		0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.57		0.037	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.18		0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.24		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.34		0.19	0.068	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.35		0.037	0.0080	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.13		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.20		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.16	*	0.037	0.0096	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.038		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.15		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.8		0.53	0.24	mg/Kg	1	☼	6010B	Total/NA
Barium	54		0.53	0.096	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.63		0.21	0.046	mg/Kg	1	☼	6010B	Total/NA
Boron	9.9		2.6	0.37	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.59	B	0.11	0.030	mg/Kg	1	☼	6010B	Total/NA
Calcium	51000	B	110	34	mg/Kg	10	☼	6010B	Total/NA
Chromium	15	B	0.53	0.090	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.26	0.059	mg/Kg	1	☼	6010B	Total/NA
Copper	29		0.53	0.11	mg/Kg	1	☼	6010B	Total/NA
Iron	17000		11	4.1	mg/Kg	1	☼	6010B	Total/NA
Lead	27		0.26	0.13	mg/Kg	1	☼	6010B	Total/NA
Magnesium	20000		5.3	2.1	mg/Kg	1	☼	6010B	Total/NA
Manganese	390		0.53	0.10	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		0.53	0.14	mg/Kg	1	☼	6010B	Total/NA
Potassium	1800		26	4.3	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.48	J	0.53	0.26	mg/Kg	1	☼	6010B	Total/NA
Sodium	2300		53	6.9	mg/Kg	1	☼	6010B	Total/NA
Vanadium	18		0.26	0.077	mg/Kg	1	☼	6010B	Total/NA
Zinc	170		1.1	0.33	mg/Kg	1	☼	6010B	Total/NA
Barium	0.38	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.42	J B	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	1.2		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.011	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.13	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.92		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.031		0.017	0.0058	mg/Kg	1	☼	7471B	Total/NA
pH	8.32		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104079-5	2993-59-B01(0-0.75)	Solid	11/16/15 09:40	11/16/15 15:20

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

**Client Sample ID: 2993-59-B01(0-0.75)**

**Lab Sample ID: 500-104079-5**

**Date Collected: 11/16/15 09:40**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 88.4**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.031		0.018	0.0034	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Benzene	<0.0044		0.0044	0.00098	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Bromodichloromethane	<0.0044		0.0044	0.00075	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Bromoform	<0.0044		0.0044	0.00091	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Bromomethane	<0.0044		0.0044	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
2-Butanone (MEK)	<0.0044		0.0044	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Carbon disulfide	<0.0044		0.0044	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Carbon tetrachloride	<0.0044		0.0044	0.00095	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Chlorobenzene	<0.0044		0.0044	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Chloroethane	<0.0044	*	0.0044	0.0019	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Chloroform	<0.0044		0.0044	0.00087	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Chloromethane	<0.0044		0.0044	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
cis-1,2-Dichloroethene	<0.0044		0.0044	0.00091	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
cis-1,3-Dichloropropene	<0.0044		0.0044	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Dibromochloromethane	<0.0044		0.0044	0.00051	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,1-Dichloroethane	<0.0044		0.0044	0.00091	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,2-Dichloroethane	<0.0044		0.0044	0.00066	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,1-Dichloroethene	<0.0044		0.0044	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,2-Dichloropropane	<0.0044		0.0044	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,3-Dichloropropane, Total	<0.0044		0.0044	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Ethylbenzene	<0.0044		0.0044	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
2-Hexanone	<0.0044		0.0044	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Methylene Chloride	<0.0044		0.0044	0.0034	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.00091	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Methyl tert-butyl ether	<0.0044		0.0044	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Styrene	<0.0044		0.0044	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,1,2,2-Tetrachloroethane	<0.0044		0.0044	0.00070	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Tetrachloroethene	<0.0044		0.0044	0.00092	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Toluene	<0.0044		0.0044	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
trans-1,2-Dichloroethene	<0.0044		0.0044	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
trans-1,3-Dichloropropene	<0.0044		0.0044	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,1,1-Trichloroethane	<0.0044		0.0044	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
1,1,2-Trichloroethane	<0.0044		0.0044	0.00086	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Trichloroethene	<0.0044		0.0044	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Vinyl acetate	<0.0044		0.0044	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Vinyl chloride	<0.0044		0.0044	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1
Xylenes, Total	<0.0089		0.0089	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 13:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 122	11/16/15 16:10	11/19/15 13:20	1
Dibromofluoromethane	104		75 - 120	11/16/15 16:10	11/19/15 13:20	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 134	11/16/15 16:10	11/19/15 13:20	1
Toluene-d8 (Surr)	98		75 - 122	11/16/15 16:10	11/19/15 13:20	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.083	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

**Client Sample ID: 2993-59-B01(0-0.75)**

**Lab Sample ID: 500-104079-5**

**Date Collected: 11/16/15 09:40**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 88.4**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
N-Nitrosodi-n-propylamine	<0.075		0.075	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Nitrobenzene	<0.037		0.037	0.0093	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Hexachlorobutadiene	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Naphthalene</b>	<b>0.0081</b>	<b>J</b>	0.037	0.0057	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,4-Dichlorophenol	<0.37		0.37	0.088	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4-Chloroaniline	<0.75		0.75	0.17	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,4,5-Trichlorophenol	<0.37		0.37	0.085	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Hexachlorocyclopentadiene	<0.75		0.75	0.21	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>2-Methylnaphthalene</b>	<b>0.026</b>	<b>J</b>	0.037	0.0068	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2-Nitrophenol	<0.37		0.37	0.088	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,4-Dinitrophenol	<0.75		0.75	0.66	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Acenaphthylene</b>	<b>0.0060</b>	<b>J</b>	0.037	0.0049	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Acenaphthene</b>	<b>0.012</b>	<b>J</b>	0.037	0.0067	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4-Nitrophenol	<0.75		0.75	0.35	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Fluorene</b>	<b>0.010</b>	<b>J</b>	0.037	0.0052	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Hexachlorobenzene	<0.075		0.075	0.0086	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Pentachlorophenol	<0.75		0.75	0.60	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
4,6-Dinitro-2-methylphenol	<0.75		0.75	0.30	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Phenanthrene</b>	<b>0.20</b>		0.037	0.0052	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Anthracene</b>	<b>0.029</b>	<b>J</b>	0.037	0.0062	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Carbazole	<0.19		0.19	0.093	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Fluoranthene</b>	<b>0.37</b>		0.037	0.0069	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Pyrene</b>	<b>0.57</b>		0.037	0.0074	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Butyl benzyl phthalate	<0.19		0.19	0.071	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Benzo[a]anthracene</b>	<b>0.18</b>		0.037	0.0050	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

**Client Sample ID: 2993-59-B01(0-0.75)**

**Lab Sample ID: 500-104079-5**

**Date Collected: 11/16/15 09:40**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 88.4**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.24</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.34</b>		0.19	0.068	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Benzo[b]fluoranthene</b>	<b>0.35</b>		0.037	0.0080	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Benzo[k]fluoranthene</b>	<b>0.13</b>		0.037	0.011	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Benzo[a]pyrene</b>	<b>0.20</b>		0.037	0.0072	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.16 *</b>		0.037	0.0096	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Dibenz(a,h)anthracene</b>	<b>0.038</b>		0.037	0.0072	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
<b>Benzo[g,h,i]perylene</b>	<b>0.15</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:18	11/25/15 22:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	87		25 - 110	11/19/15 07:18	11/25/15 22:43	1
Phenol-d5	89		31 - 110	11/19/15 07:18	11/25/15 22:43	1
Nitrobenzene-d5	83		25 - 115	11/19/15 07:18	11/25/15 22:43	1
2-Fluorobiphenyl	84		25 - 119	11/19/15 07:18	11/25/15 22:43	1
2,4,6-Tribromophenol	74		35 - 137	11/19/15 07:18	11/25/15 22:43	1
Terphenyl-d14	169	X	36 - 134	11/19/15 07:18	11/25/15 22:43	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.22	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Arsenic</b>	<b>7.8</b>		0.53	0.24	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Barium</b>	<b>54</b>		0.53	0.096	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Beryllium</b>	<b>0.63</b>		0.21	0.046	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Boron</b>	<b>9.9</b>		2.6	0.37	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Cadmium</b>	<b>0.59 B</b>		0.11	0.030	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Calcium</b>	<b>51000 B</b>		110	34	mg/Kg	☼	11/24/15 20:28	11/25/15 21:49	10
<b>Chromium</b>	<b>15 B</b>		0.53	0.090	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Cobalt</b>	<b>16</b>		0.26	0.059	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Copper</b>	<b>29</b>		0.53	0.11	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Iron</b>	<b>17000</b>		11	4.1	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Lead</b>	<b>27</b>		0.26	0.13	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Magnesium</b>	<b>20000</b>		5.3	2.1	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Manganese</b>	<b>390</b>		0.53	0.10	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Nickel</b>	<b>30</b>		0.53	0.14	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Potassium</b>	<b>1800</b>		26	4.3	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Selenium</b>	<b>0.48 J</b>		0.53	0.26	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
Silver	<0.26		0.26	0.061	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Sodium</b>	<b>2300</b>		53	6.9	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
Thallium	<0.53		0.53	0.26	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Vanadium</b>	<b>18</b>		0.26	0.077	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1
<b>Zinc</b>	<b>170</b>		1.1	0.33	mg/Kg	☼	11/24/15 20:28	11/25/15 21:43	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.38 J</b>		0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:47	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 18:47	1
<b>Boron</b>	<b>0.42 J B</b>		0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:47	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

**Client Sample ID: 2993-59-B01(0-0.75)**

**Lab Sample ID: 500-104079-5**

**Date Collected: 11/16/15 09:40**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 88.4**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 18:47	1
Chromium	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:47	1
Cobalt	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:47	1
Iron	<0.20		0.20	0.20	mg/L		11/27/15 11:15	11/27/15 18:47	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/27/15 11:15	11/27/15 18:47	1
<b>Manganese</b>	<b>1.2</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:47	1
<b>Nickel</b>	<b>0.011</b>	<b>J</b>	0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:47	1
Selenium	<0.050		0.050	0.020	mg/L		11/27/15 11:15	11/27/15 18:47	1
Silver	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:47	1
<b>Zinc</b>	<b>0.13</b>	<b>B</b>	0.10	0.020	mg/L		11/27/15 11:15	11/27/15 18:47	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.92</b>		0.025	0.010	mg/L		12/01/15 10:10	12/01/15 23:32	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/27/15 11:15	11/30/15 19:36	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L		11/27/15 11:15	11/30/15 19:36	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/27/15 13:15	11/30/15 09:19	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.031</b>		0.017	0.0058	mg/Kg	☼	11/25/15 06:45	11/25/15 10:52	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.32</b>		0.200	0.200	SU			11/24/15 18:38	1



# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-3

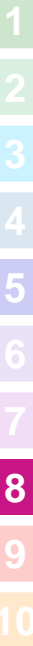
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: BT  
 Company: JS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104079  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter					Preservative Key	
Project Name		Lab Project #		Sampler		Lab PM		Matrix				
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix	VOC	S VOC	Total PAH	metals	2-(p)SP-1 PAH metals	PH 9.5-10.5
5		2993-59-B01 (0-0.75)	11/16/15	0940	2 S		X	X	X	X	X	
6		2993-59-B02 (0-0.75)	11/16/15	0945	2 S		X	X	X	X	X	
<del>                     [Large diagonal line across the table with handwritten "11-16-15" and a signature]                 </del>												

Turnaround Time Required (Business Days):  
 \_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other  
 Requested Due Date: \_\_\_\_\_

Sample Disposal:  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>EE</u> Date: <u>11/16/15</u> Time: <u>14:30</u>	Received By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11/16/15</u> Time: <u>14:30</u>
Relinquished By: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11/16/15</u> Time: <u>15:20</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/16/15</u> Time: <u>15:20</u>

Lab Courier:   
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:  
 \_\_\_\_\_

Lab Comments:  
 \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104079-3

**Login Number: 104079**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.6)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-62 (IDOT ROW)		Comparison Criteria					
	2993-62-B01	2993-62-B02	MACs			TACO		
SAMPLE	2993-62-B01(0-0.75)	2993-62-B02(0-0.75)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
MATRIX	Soil	Soil						
DEPTH (feet)	0-0.75	0-0.75						
pH	7.99	7.97						
<b>VOCs (None Detected)</b>								
<b>SVOCs (mg/kg)</b>								
2-Methylnaphthalene	0.02 J	0.031 J	--	--	--	--	--	--
Acenaphthene	0.017 J	0.033 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.011 J	0.022 J	--	--	--	--	--	--
Anthracene	0.051	0.11	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.26	0.73	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.33 †	0.87 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.67	1.7 †*	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.3	0.75	--	--	--	--	--	--
Benzo[k]fluoranthene	0.18	0.44	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.19	1.3	46	--	--	46	4,100	--
Butyl benzyl phthalate	0.2	0.46	930	--	--	930	930	--
Carbazole	ND U	0.094 J	0.6	--	--	32	6,200	--
Chrysene	0.39	1.1	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.049	0.17 †	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.59	1.5	3,100	--	--	3100	82000	--
Fluorene	0.017 J	0.038	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.25 J	0.69 J	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.013 J	0.03 J	1.8	--	--	170	1.8	--
Phenanthrene	0.32	0.72	--	--	--	--	--	--
Pyrene	0.81	2.4	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>								
Antimony	0.24 J	ND U	5	--	--	31	82	--
Arsenic	7.2	7.6	11.3	13	--	13	61	--
Barium	90	86	1,500	--	--	5,500	14,000	--
Beryllium	0.69	0.71	22	--	--	160	410	--
Boron	5.6	6.1	40	--	--	16,000	41,000	--
Cadmium	0.4	ND U	5.2	--	--	78	200	--
Calcium	13,000	15,000	--	--	--	--	--	--
Chromium	23 †	34 †	21	--	--	230	690	--
Cobalt	12	11	20	--	--	4,700	12,000	--
Copper	27	45	2,900	--	--	2,900	8,200	--
Iron	20,000 †m	21,000 †m	15,000	15900	--	--	--	--
Lead	35	44	107	--	--	400	700	--
Magnesium	8,300	9,300	325,000	--	--	--	730,000	--
Manganese	590	490	630	636	--	1,600	4,100	--
Mercury	0.051	0.037	0.89	--	--	10	0.1	--
Nickel	22	30	100	--	--	1,600	4,100	--
Potassium	1,600	1,500	--	--	--	--	--	--
Selenium	0.55 J	0.68	1.3	--	--	390	1,000	--
Sodium	2,700	1,900	--	--	--	--	--	--
Vanadium	21	21	550	--	--	550	1,400	--
Zinc	230	170	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>								
Barium	0.35 J	0.38 J	--	--	--	--	--	2
Cadmium	0.002 J	ND U	--	--	--	--	--	0.005
Chromium	ND U	ND U	--	--	--	--	--	0.1
Iron	ND U	ND U	--	--	--	--	--	5
Manganese	1.1 L	1.1 L	--	--	--	--	--	0.15
Zinc	0.27	0.25	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>								
Manganese	0.77 L	0.52 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104079-2

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:  
Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:20:38 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	6
Client Sample Results . . . . .	7
Definitions . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18



# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Job ID: 500-104079-2**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104079-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2015 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.9° C and 4.6° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 313208 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 313208 recovered outside control limits for the following analytes: Chloroethane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and / or acid surrogate outside acceptance limits: 2993-62-B01(0-0.75) (500-104079-3) and 2993-62-B02(0-0.75) (500-104079-4). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with batch 313199 had 1 analyte outside control limits: Indeno(1,2,3-cd)pyrene. These results have been reported and qualified. 2993-62-B01(0-0.75) (500-104079-3) and 2993-62-B02(0-0.75) (500-104079-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6020A: The continuing calibration verification (CCV) associated with AD batch 500-314626 recovered above the upper control limit for Thallium (TI). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 500-314626/92).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B01(0-0.75)**

**Lab Sample ID: 500-104079-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.013	J	0.038	0.0059	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.020	J	0.038	0.0070	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.011	J	0.038	0.0050	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.017	J	0.038	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.017	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.32		0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.051		0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.59		0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.81		0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
Butyl benzyl phthalate	0.20		0.19	0.072	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.26		0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.39		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.19		0.19	0.070	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.67		0.038	0.0082	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.18		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.33		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.25	*	0.038	0.0099	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.049		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.30		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.24	J	1.1	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.2		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	90		0.57	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.69		0.23	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	5.6		2.9	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.40	B	0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	13000	B	11	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	23	B	0.57	0.098	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.29	0.065	mg/Kg	1	☼	6010B	Total/NA
Copper	27		0.57	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	20000		11	4.4	mg/Kg	1	☼	6010B	Total/NA
Lead	35		0.29	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	8300		5.7	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	590		0.57	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	22		0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1600		29	4.7	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.55	J	0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	2700		57	7.5	mg/Kg	1	☼	6010B	Total/NA
Vanadium	21		0.29	0.083	mg/Kg	1	☼	6010B	Total/NA
Zinc	230		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.35	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.50	B	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0020	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	1.1		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.27	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.77		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.051		0.020	0.0069	mg/Kg	1	☼	7471B	Total/NA
pH	7.99		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-62-B02(0-0.75)**

**Lab Sample ID: 500-104079-4**

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B02(0-0.75) (Continued)**

**Lab Sample ID: 500-104079-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.030	J	0.038	0.0058	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.031	J	0.038	0.0069	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.022	J	0.038	0.0050	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.033	J	0.038	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.038		0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.72		0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.11		0.038	0.0063	mg/Kg	1	☼	8270D	Total/NA
Carbazole	0.094	J	0.19	0.094	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	1.5		0.038	0.0070	mg/Kg	1	☼	8270D	Total/NA
Pyrene	2.4		0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Butyl benzyl phthalate	0.46		0.19	0.072	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.73		0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Chrysene	1.1		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	1.3		0.19	0.069	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	1.7		0.038	0.0082	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.44		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.87		0.038	0.0073	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.69	*	0.038	0.0098	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.17		0.038	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.75		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.6		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	86		0.56	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.71		0.22	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	6.1		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.26	B	0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	15000	B	11	3.6	mg/Kg	1	☼	6010B	Total/NA
Chromium	34	B	0.56	0.097	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.28	0.063	mg/Kg	1	☼	6010B	Total/NA
Copper	45		0.56	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	21000		11	4.3	mg/Kg	1	☼	6010B	Total/NA
Lead	44		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	9300		5.6	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	490		0.56	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		0.56	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1500		28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.68		0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	1900		56	7.4	mg/Kg	1	☼	6010B	Total/NA
Vanadium	21		0.28	0.082	mg/Kg	1	☼	6010B	Total/NA
Zinc	170		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.38	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.45	J B	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	1.1		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.25	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.52		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.037		0.017	0.0058	mg/Kg	1	☼	7471B	Total/NA
pH	7.97		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104079-3	2993-62-B01(0-0.75)	Solid	11/16/15 09:20	11/16/15 15:20
500-104079-4	2993-62-B02(0-0.75)	Solid	11/16/15 09:30	11/16/15 15:20

---

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B01(0-0.75)**

**Lab Sample ID: 500-104079-3**

**Date Collected: 11/16/15 09:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.5**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.023		0.023	0.0044	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Benzene	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Bromodichloromethane	<0.0056		0.0056	0.00095	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Bromoform	<0.0056		0.0056	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Bromomethane	<0.0056		0.0056	0.0021	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
2-Butanone (MEK)	<0.0056		0.0056	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Carbon disulfide	<0.0056		0.0056	0.0021	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Carbon tetrachloride	<0.0056		0.0056	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Chlorobenzene	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Chloroethane	<0.0056	*	0.0056	0.0024	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Chloroform	<0.0056		0.0056	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Chloromethane	<0.0056		0.0056	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
cis-1,2-Dichloroethene	<0.0056		0.0056	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
cis-1,3-Dichloropropene	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Dibromochloromethane	<0.0056		0.0056	0.00065	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,1-Dichloroethane	<0.0056		0.0056	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,2-Dichloroethane	<0.0056		0.0056	0.00083	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,1-Dichloroethene	<0.0056		0.0056	0.0021	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,2-Dichloropropane	<0.0056		0.0056	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,3-Dichloropropane, Total	<0.0056		0.0056	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Ethylbenzene	<0.0056		0.0056	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
2-Hexanone	<0.0056		0.0056	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Methylene Chloride	<0.0056		0.0056	0.0043	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
4-Methyl-2-pentanone (MIBK)	<0.0056		0.0056	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Methyl tert-butyl ether	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Styrene	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,1,2,2-Tetrachloroethane	<0.0056		0.0056	0.00089	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Tetrachloroethene	<0.0056		0.0056	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Toluene	<0.0056		0.0056	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
trans-1,2-Dichloroethene	<0.0056		0.0056	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
trans-1,3-Dichloropropene	<0.0056		0.0056	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,1,1-Trichloroethane	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
1,1,2-Trichloroethane	<0.0056		0.0056	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Trichloroethene	<0.0056		0.0056	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Vinyl acetate	<0.0056		0.0056	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Vinyl chloride	<0.0056		0.0056	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1
Xylenes, Total	<0.011		0.011	0.0021	mg/Kg	☼	11/16/15 16:10	11/19/15 12:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 122	11/16/15 16:10	11/19/15 12:32	1
Dibromofluoromethane	105		75 - 120	11/16/15 16:10	11/19/15 12:32	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 134	11/16/15 16:10	11/19/15 12:32	1
Toluene-d8 (Surr)	99		75 - 122	11/16/15 16:10	11/19/15 12:32	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.084	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B01(0-0.75)**

**Lab Sample ID: 500-104079-3**

**Date Collected: 11/16/15 09:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.5**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
N-Nitrosodi-n-propylamine	<0.077		0.077	0.046	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Nitrobenzene	<0.038		0.038	0.0095	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,4-Dimethylphenol	<0.38		0.38	0.14	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Naphthalene</b>	<b>0.013</b>	<b>J</b>	0.038	0.0059	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,4-Dichlorophenol	<0.38		0.38	0.090	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4-Chloroaniline	<0.77		0.77	0.18	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,4,5-Trichlorophenol	<0.38		0.38	0.087	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Hexachlorocyclopentadiene	<0.77		0.77	0.22	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>2-Methylnaphthalene</b>	<b>0.020</b>	<b>J</b>	0.038	0.0070	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,6-Dinitrotoluene	<0.19		0.19	0.075	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2-Nitrophenol	<0.38		0.38	0.090	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,4-Dinitrophenol	<0.77		0.77	0.67	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Acenaphthylene</b>	<b>0.011</b>	<b>J</b>	0.038	0.0050	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Acenaphthene</b>	<b>0.017</b>	<b>J</b>	0.038	0.0068	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4-Nitrophenol	<0.77		0.77	0.36	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Fluorene</b>	<b>0.017</b>	<b>J</b>	0.038	0.0053	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Hexachlorobenzene	<0.077		0.077	0.0088	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Pentachlorophenol	<0.77		0.77	0.61	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
4,6-Dinitro-2-methylphenol	<0.77		0.77	0.31	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Phenanthrene</b>	<b>0.32</b>		0.038	0.0053	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Anthracene</b>	<b>0.051</b>		0.038	0.0064	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Carbazole	<0.19		0.19	0.095	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Fluoranthene</b>	<b>0.59</b>		0.038	0.0071	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Pyrene</b>	<b>0.81</b>		0.038	0.0076	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Butyl benzyl phthalate</b>	<b>0.20</b>		0.19	0.072	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Benzo[a]anthracene</b>	<b>0.26</b>		0.038	0.0051	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B01(0-0.75)**

**Lab Sample ID: 500-104079-3**

**Date Collected: 11/16/15 09:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.5**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.39</b>		0.038	0.010	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.19</b>		0.19	0.070	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Benzo[b]fluoranthene</b>	<b>0.67</b>		0.038	0.0082	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Benzo[k]fluoranthene</b>	<b>0.18</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Benzo[a]pyrene</b>	<b>0.33</b>		0.038	0.0074	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.25 *</b>		0.038	0.0099	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Dibenz(a,h)anthracene</b>	<b>0.049</b>		0.038	0.0074	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
<b>Benzo[g,h,i]perylene</b>	<b>0.30</b>		0.038	0.012	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:18	11/25/15 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	96		25 - 110	11/19/15 07:18	11/25/15 21:45	1
Phenol-d5	102		31 - 110	11/19/15 07:18	11/25/15 21:45	1
Nitrobenzene-d5	96		25 - 115	11/19/15 07:18	11/25/15 21:45	1
2-Fluorobiphenyl	95		25 - 119	11/19/15 07:18	11/25/15 21:45	1
2,4,6-Tribromophenol	97		35 - 137	11/19/15 07:18	11/25/15 21:45	1
Terphenyl-d14	176	X	36 - 134	11/19/15 07:18	11/25/15 21:45	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.24</b>	<b>J</b>	1.1	0.24	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Arsenic</b>	<b>7.2</b>		0.57	0.26	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Barium</b>	<b>90</b>		0.57	0.10	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Beryllium</b>	<b>0.69</b>		0.23	0.049	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Boron</b>	<b>5.6</b>		2.9	0.40	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Cadmium</b>	<b>0.40</b>	<b>B</b>	0.11	0.033	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Calcium</b>	<b>13000</b>	<b>B</b>	11	3.7	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Chromium</b>	<b>23</b>	<b>B</b>	0.57	0.098	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Cobalt</b>	<b>12</b>		0.29	0.065	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Copper</b>	<b>27</b>		0.57	0.12	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Iron</b>	<b>20000</b>		11	4.4	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Lead</b>	<b>35</b>		0.29	0.14	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Magnesium</b>	<b>8300</b>		5.7	2.3	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Manganese</b>	<b>590</b>		0.57	0.11	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Nickel</b>	<b>22</b>		0.57	0.15	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Potassium</b>	<b>1600</b>		29	4.7	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Selenium</b>	<b>0.55</b>	<b>J</b>	0.57	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
Silver	<0.29		0.29	0.067	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Sodium</b>	<b>2700</b>		57	7.5	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
Thallium	<0.57		0.57	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Vanadium</b>	<b>21</b>		0.29	0.083	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1
<b>Zinc</b>	<b>230</b>		1.1	0.36	mg/Kg	☼	11/24/15 20:28	11/25/15 21:26	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.35</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:28	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 18:28	1
<b>Boron</b>	<b>0.50</b>	<b>B</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:28	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B01(0-0.75)**

**Lab Sample ID: 500-104079-3**

**Date Collected: 11/16/15 09:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.5**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0020</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Iron	<0.20		0.20	0.20	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
<b>Manganese</b>	<b>1.1</b>		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
Silver	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:28	1
<b>Zinc</b>	<b>0.27</b>	<b>B</b>	0.10	0.020	mg/L	-	11/27/15 11:15	11/27/15 18:28	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.77</b>		0.025	0.010	mg/L	-	12/01/15 10:10	12/01/15 23:24	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/27/15 11:15	11/30/15 19:20	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L	-	11/27/15 11:15	11/30/15 19:20	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/27/15 13:15	11/30/15 09:15	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.051</b>		0.020	0.0069	mg/Kg	☼	11/25/15 06:45	11/25/15 10:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.99</b>		0.200	0.200	SU	-		11/24/15 18:27	1



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B02(0-0.75)**

**Lab Sample ID: 500-104079-4**

**Date Collected: 11/16/15 09:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 86.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.022		0.022	0.0042	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Benzene	<0.0055		0.0055	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Bromodichloromethane	<0.0055		0.0055	0.00093	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Bromoform	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Bromomethane	<0.0055		0.0055	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
2-Butanone (MEK)	<0.0055		0.0055	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Carbon disulfide	<0.0055		0.0055	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Carbon tetrachloride	<0.0055		0.0055	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Chlorobenzene	<0.0055		0.0055	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Chloroethane	<0.0055	*	0.0055	0.0023	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Chloroform	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Chloromethane	<0.0055		0.0055	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
cis-1,2-Dichloroethene	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
cis-1,3-Dichloropropene	<0.0055		0.0055	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Dibromochloromethane	<0.0055		0.0055	0.00063	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,1-Dichloroethane	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,2-Dichloroethane	<0.0055		0.0055	0.00081	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,1-Dichloroethene	<0.0055		0.0055	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,2-Dichloropropane	<0.0055		0.0055	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,3-Dichloropropane, Total	<0.0055		0.0055	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Ethylbenzene	<0.0055		0.0055	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
2-Hexanone	<0.0055		0.0055	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Methylene Chloride	<0.0055		0.0055	0.0041	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
4-Methyl-2-pentanone (MIBK)	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Methyl tert-butyl ether	<0.0055		0.0055	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Styrene	<0.0055		0.0055	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,1,2,2-Tetrachloroethane	<0.0055		0.0055	0.00087	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Tetrachloroethene	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Toluene	<0.0055		0.0055	0.0019	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
trans-1,2-Dichloroethene	<0.0055		0.0055	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
trans-1,3-Dichloropropene	<0.0055		0.0055	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,1,1-Trichloroethane	<0.0055		0.0055	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
1,1,2-Trichloroethane	<0.0055		0.0055	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Trichloroethene	<0.0055		0.0055	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Vinyl acetate	<0.0055		0.0055	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Vinyl chloride	<0.0055		0.0055	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1
Xylenes, Total	<0.011		0.011	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 122	11/16/15 16:10	11/19/15 12:56	1
Dibromofluoromethane	110		75 - 120	11/16/15 16:10	11/19/15 12:56	1
1,2-Dichloroethane-d4 (Surr)	117		70 - 134	11/16/15 16:10	11/19/15 12:56	1
Toluene-d8 (Surr)	94		75 - 122	11/16/15 16:10	11/19/15 12:56	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.084	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B02(0-0.75)**

**Lab Sample ID: 500-104079-4**

**Date Collected: 11/16/15 09:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 86.2**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Nitrobenzene	<0.038		0.038	0.0094	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,4-Dimethylphenol	<0.38		0.38	0.14	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Naphthalene</b>	<b>0.030</b>	<b>J</b>	0.038	0.0058	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,4-Dichlorophenol	<0.38		0.38	0.090	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,4,5-Trichlorophenol	<0.38		0.38	0.086	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>2-Methylnaphthalene</b>	<b>0.031</b>	<b>J</b>	0.038	0.0069	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2-Nitrophenol	<0.38		0.38	0.089	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,4-Dinitrophenol	<0.76		0.76	0.67	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Acenaphthylene</b>	<b>0.022</b>	<b>J</b>	0.038	0.0050	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Acenaphthene</b>	<b>0.033</b>	<b>J</b>	0.038	0.0068	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Fluorene</b>	<b>0.038</b>		0.038	0.0053	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Hexachlorobenzene	<0.076		0.076	0.0088	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Pentachlorophenol	<0.76		0.76	0.61	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Phenanthrene</b>	<b>0.72</b>		0.038	0.0053	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Anthracene</b>	<b>0.11</b>		0.038	0.0063	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Carbazole</b>	<b>0.094</b>	<b>J</b>	0.19	0.094	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Fluoranthene</b>	<b>1.5</b>		0.038	0.0070	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Pyrene</b>	<b>2.4</b>		0.038	0.0075	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Butyl benzyl phthalate</b>	<b>0.46</b>		0.19	0.072	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Benzo[a]anthracene</b>	<b>0.73</b>		0.038	0.0051	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B02(0-0.75)**

**Lab Sample ID: 500-104079-4**

**Date Collected: 11/16/15 09:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 86.2**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>1.1</b>		0.038	0.010	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>1.3</b>		0.19	0.069	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Benzo[b]fluoranthene</b>	<b>1.7</b>		0.038	0.0082	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Benzo[k]fluoranthene</b>	<b>0.44</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Benzo[a]pyrene</b>	<b>0.87</b>		0.038	0.0073	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.69 *</b>		0.038	0.0098	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Dibenz(a,h)anthracene</b>	<b>0.17</b>		0.038	0.0073	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
<b>Benzo[g,h,i]perylene</b>	<b>0.75</b>		0.038	0.012	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:18	11/25/15 22:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	105		25 - 110	11/19/15 07:18	11/25/15 22:14	1
Phenol-d5	107		31 - 110	11/19/15 07:18	11/25/15 22:14	1
Nitrobenzene-d5	100		25 - 115	11/19/15 07:18	11/25/15 22:14	1
2-Fluorobiphenyl	102		25 - 119	11/19/15 07:18	11/25/15 22:14	1
2,4,6-Tribromophenol	110		35 - 137	11/19/15 07:18	11/25/15 22:14	1
Terphenyl-d14	196 X		36 - 134	11/19/15 07:18	11/25/15 22:14	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Arsenic</b>	<b>7.6</b>		0.56	0.26	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Barium</b>	<b>86</b>		0.56	0.10	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Beryllium</b>	<b>0.71</b>		0.22	0.049	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Boron</b>	<b>6.1</b>		2.8	0.39	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Cadmium</b>	<b>0.26 B</b>		0.11	0.033	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Calcium</b>	<b>15000 B</b>		11	3.6	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Chromium</b>	<b>34 B</b>		0.56	0.097	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Cobalt</b>	<b>11</b>		0.28	0.063	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Copper</b>	<b>45</b>		0.56	0.12	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Iron</b>	<b>21000</b>		11	4.3	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Lead</b>	<b>44</b>		0.28	0.14	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Magnesium</b>	<b>9300</b>		5.6	2.3	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Manganese</b>	<b>490</b>		0.56	0.11	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Nickel</b>	<b>30</b>		0.56	0.15	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Potassium</b>	<b>1500</b>		28	4.6	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Selenium</b>	<b>0.68</b>		0.56	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
Silver	<0.28		0.28	0.066	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Sodium</b>	<b>1900</b>		56	7.4	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
Thallium	<0.56		0.56	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Vanadium</b>	<b>21</b>		0.28	0.082	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1
<b>Zinc</b>	<b>170</b>		1.1	0.36	mg/Kg	☼	11/24/15 20:28	11/25/15 21:31	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.38 J</b>		0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:42	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 18:42	1
<b>Boron</b>	<b>0.45 J B</b>		0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:42	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

**Client Sample ID: 2993-62-B02(0-0.75)**

**Lab Sample ID: 500-104079-4**

**Date Collected: 11/16/15 09:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 86.2**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 18:42	1
Chromium	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:42	1
Cobalt	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:42	1
Iron	<0.20		0.20	0.20	mg/L		11/27/15 11:15	11/27/15 18:42	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/27/15 11:15	11/27/15 18:42	1
<b>Manganese</b>	<b>1.1</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:42	1
Nickel	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:42	1
Selenium	<0.050		0.050	0.020	mg/L		11/27/15 11:15	11/27/15 18:42	1
Silver	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:42	1
<b>Zinc</b>	<b>0.25</b>	<b>B</b>	0.10	0.020	mg/L		11/27/15 11:15	11/27/15 18:42	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.52</b>		0.025	0.010	mg/L		12/01/15 10:10	12/01/15 23:28	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/27/15 11:15	11/30/15 19:24	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L		11/27/15 11:15	11/30/15 19:24	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/27/15 13:15	11/30/15 09:17	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.037</b>		0.017	0.0058	mg/Kg	☼	11/25/15 06:45	11/25/15 10:50	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.97</b>		0.200	0.200	SU			11/24/15 18:32	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-2

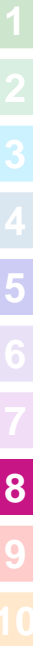
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: DE  
 Company: DE  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104079  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter												Preservative Key	
Project Name		Lab Project #		Parameter		Parameter												1. HCL, Cool to 4°	
Project Location/State		Lab Project #		Parameter		Parameter												2. H2SO4, Cool to 4°	
Sampler		Lab PM		Parameter		Parameter												3. HNO3, Cool to 4°	
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix													4. NaOH, Cool to 4°
3		2993-62-301 (0-075)	11/16/15	0920	2	S	Voc	Voc											5. NaOH/Zn, Cool to 4°
4		2993-62-302 (0-075)	11/16/15	0930	2	S	Voc	Voc											6. NaHSO4
<p><i>[Handwritten signature and date 11/16/15]</i></p>																			

- 1. HCL, Cool to 4°
- 2. H2SO4, Cool to 4°
- 3. HNO3, Cool to 4°
- 4. NaOH, Cool to 4°
- 5. NaOH/Zn, Cool to 4°
- 6. NaHSO4
- 7. Cool to 4°
- 8. None
- 9. Other

Turnaround Time Required (Business Days)  
 \_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other  
 Requested Due Date \_\_\_\_\_

Sample Disposal  
 Return to Client  Disposal by Lab  Archive for \_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>[Signature]</u> Company <u>TA</u> Date <u>11/16/15</u> Time <u>14:30</u>	Received By <u>[Signature]</u> Company <u>TA</u> Date <u>11/16/15</u> Time <u>14:30</u>	Lab Courier
Relinquished By <u>[Signature]</u> Company <u>TA</u> Date <u>11/16/15</u> Time <u>15:20</u>	Received By <u>[Signature]</u> Company <u>TA</u> Date <u>11/16/15</u> Time <u>15:20</u>	Shipped
Relinquished By _____ Company _____ Date _____ Time _____	Received By _____ Company _____ Date _____ Time _____	Hand Delivered

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - CL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_

Lab Comments: \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104079-2

**Login Number: 104079**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.6)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-71 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-71-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-71-B01(0-0.75)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	6.99						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
Acenaphthylene	0.0053 J	--	--	--	--	--	--
Anthracene	0.023 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.13	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.16 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.29	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.12	--	--	--	--	--	--
Benzo[k]fluoranthene	0.12	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.27	46	--	--	46	4,100	--
Chrysene	0.18	88	--	--	88	17,000	--
Fluoranthene	0.3	3,100	--	--	3100	82000	--
Fluorene	0.0068 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.12 J	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.0064 J	1.8	--	--	170	1.8	--
Phenanthrene	0.13	--	--	--	--	--	--
Pyrene	0.38	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Arsenic	6.8	11.3	13	--	13	61	--
Barium	78	1,500	--	--	5,500	14,000	--
Beryllium	0.69	22	--	--	160	410	--
Boron	3.9	40	--	--	16,000	41,000	--
Calcium	3,100	--	--	--	--	--	--
Chromium	16	21	--	--	230	690	--
Cobalt	10	20	--	--	4,700	12,000	--
Copper	20	2,900	--	--	2,900	8,200	--
Iron	18,000 †m	15,000	15900	--	--	--	--
Lead	22	107	--	--	400	700	--
Magnesium	2,800	325,000	--	--	--	730,000	--
Manganese	420	630	636	--	1,600	4,100	--
Mercury	0.03	0.89	--	--	10	0.1	--
Nickel	21	100	--	--	1,600	4,100	--
Potassium	1,500	--	--	--	--	--	--
Selenium	0.38 J	1.3	--	--	390	1,000	--
Sodium	2,500	--	--	--	--	--	--
Vanadium	20	550	--	--	550	1,400	--
Zinc	76	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.35 J	--	--	--	--	--	2
Iron	0.29	--	--	--	--	--	5
Manganese	0.54 L	--	--	--	--	--	0.15
<b>SPLP Metals (mg/L)</b>							
Manganese	0.7 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104079-1

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:19:40 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	6
Client Sample Results . . . . .	7
Definitions . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

**Job ID: 500-104079-1**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104079-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2015 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.9° C and 4.6° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 313208 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 313208 recovered outside control limits for the following analytes: Chloroethane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and / or acid surrogate outside acceptance limits: 2993-71-B01(0-0.75) (500-104079-1) and 2993-71-B02(0-0.75) (500-104079-2). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with batch 313199 had 1 analyte outside control limits: Indeno(1,2,3-cd)pyrene. These results have been reported and qualified. 2993-71-B01(0-0.75) (500-104079-1) and 2993-71-B02(0-0.75) (500-104079-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6020A: The continuing calibration verification (CCV) associated with AD batch 500-314626 recovered above the upper control limit for Thallium (TI). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 500-314626/92).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

**Client Sample ID: 2993-71-B01(0-0.75)**

**Lab Sample ID: 500-104079-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.0064	J	0.040	0.0061	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.0053	J	0.040	0.0053	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0068	J	0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.13		0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.023	J	0.040	0.0067	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.30		0.040	0.0074	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.38		0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.13		0.040	0.0054	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.18		0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.27		0.20	0.073	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.29		0.040	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.12		0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.16		0.040	0.0077	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.12	*	0.040	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.12		0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.8		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	78		0.56	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.69		0.22	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	3.9		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.22	B	0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	3100	B	11	3.6	mg/Kg	1	☼	6010B	Total/NA
Chromium	16	B	0.56	0.096	mg/Kg	1	☼	6010B	Total/NA
Cobalt	10		0.28	0.063	mg/Kg	1	☼	6010B	Total/NA
Copper	20		0.56	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	18000		11	4.3	mg/Kg	1	☼	6010B	Total/NA
Lead	22		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	2800		5.6	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	420		0.56	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	21		0.56	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1500		28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.38	J	0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	2500		56	7.4	mg/Kg	1	☼	6010B	Total/NA
Vanadium	20		0.28	0.082	mg/Kg	1	☼	6010B	Total/NA
Zinc	76		1.1	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	0.35	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.088	J B	0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.29		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	0.54		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.053	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.70		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.030		0.018	0.0063	mg/Kg	1	☼	7471B	Total/NA
pH	6.99		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104079-1	2993-71-B01(0-0.75)	Solid	11/16/15 09:05	11/16/15 15:20

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

**Client Sample ID: 2993-71-B01(0-0.75)**

**Lab Sample ID: 500-104079-1**

**Date Collected: 11/16/15 09:05**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.021		0.021	0.0041	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Benzene	<0.0053		0.0053	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Bromodichloromethane	<0.0053		0.0053	0.00090	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Bromoform	<0.0053		0.0053	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Bromomethane	<0.0053		0.0053	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
2-Butanone (MEK)	<0.0053		0.0053	0.0019	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Carbon disulfide	<0.0053		0.0053	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Carbon tetrachloride	<0.0053		0.0053	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Chlorobenzene	<0.0053		0.0053	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Chloroethane	<0.0053	*	0.0053	0.0022	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Chloroform	<0.0053		0.0053	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Chloromethane	<0.0053		0.0053	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
cis-1,2-Dichloroethene	<0.0053		0.0053	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
cis-1,3-Dichloropropene	<0.0053		0.0053	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Dibromochloromethane	<0.0053		0.0053	0.00061	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,1-Dichloroethane	<0.0053		0.0053	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,2-Dichloroethane	<0.0053		0.0053	0.00079	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,1-Dichloroethene	<0.0053		0.0053	0.0019	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,2-Dichloropropane	<0.0053		0.0053	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,3-Dichloropropane, Total	<0.0053		0.0053	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Ethylbenzene	<0.0053		0.0053	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
2-Hexanone	<0.0053		0.0053	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Methylene Chloride	<0.0053		0.0053	0.0040	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
4-Methyl-2-pentanone (MIBK)	<0.0053		0.0053	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Methyl tert-butyl ether	<0.0053		0.0053	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Styrene	<0.0053		0.0053	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,1,2,2-Tetrachloroethane	<0.0053		0.0053	0.00084	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Tetrachloroethene	<0.0053		0.0053	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Toluene	<0.0053		0.0053	0.0019	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
trans-1,2-Dichloroethene	<0.0053		0.0053	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
trans-1,3-Dichloropropene	<0.0053		0.0053	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,1,1-Trichloroethane	<0.0053		0.0053	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
1,1,2-Trichloroethane	<0.0053		0.0053	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Trichloroethene	<0.0053		0.0053	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Vinyl acetate	<0.0053		0.0053	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Vinyl chloride	<0.0053		0.0053	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1
Xylenes, Total	<0.011		0.011	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 11:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 122	11/16/15 16:10	11/19/15 11:45	1
Dibromofluoromethane	104		75 - 120	11/16/15 16:10	11/19/15 11:45	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 134	11/16/15 16:10	11/19/15 11:45	1
Toluene-d8 (Surr)	94		75 - 122	11/16/15 16:10	11/19/15 11:45	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.089	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

**Client Sample ID: 2993-71-B01(0-0.75)**

**Lab Sample ID: 500-104079-1**

**Date Collected: 11/16/15 09:05**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2-Methylphenol	<0.20		0.20	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
N-Nitrosodi-n-propylamine	<0.080		0.080	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Hexachloroethane	<0.20		0.20	0.061	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Nitrobenzene	<0.040		0.040	0.0099	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Hexachlorobutadiene	<0.20		0.20	0.063	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Naphthalene</b>	<b>0.0064</b>	<b>J</b>	0.040	0.0061	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,4-Dichlorophenol	<0.40		0.40	0.095	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4-Chloroaniline	<0.80		0.80	0.19	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,4,5-Trichlorophenol	<0.40		0.40	0.091	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Hexachlorocyclopentadiene	<0.80		0.80	0.23	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2-Methylnaphthalene	<0.040		0.040	0.0073	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2-Nitroaniline	<0.20		0.20	0.054	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,6-Dinitrotoluene	<0.20		0.20	0.078	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2-Nitrophenol	<0.40		0.40	0.094	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
3-Nitroaniline	<0.40		0.40	0.12	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,4-Dinitrophenol	<0.80		0.80	0.70	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Acenaphthylene</b>	<b>0.0053</b>	<b>J</b>	0.040	0.0053	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
2,4-Dinitrotoluene	<0.20		0.20	0.063	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Acenaphthene	<0.040		0.040	0.0072	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4-Nitrophenol	<0.80		0.80	0.38	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Fluorene</b>	<b>0.0068</b>	<b>J</b>	0.040	0.0056	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Hexachlorobenzene	<0.080		0.080	0.0092	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Diethyl phthalate	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Pentachlorophenol	<0.80		0.80	0.64	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
4,6-Dinitro-2-methylphenol	<0.80		0.80	0.32	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Phenanthrene</b>	<b>0.13</b>		0.040	0.0056	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Anthracene</b>	<b>0.023</b>	<b>J</b>	0.040	0.0067	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Di-n-butyl phthalate	<0.20		0.20	0.061	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Fluoranthene</b>	<b>0.30</b>		0.040	0.0074	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Pyrene</b>	<b>0.38</b>		0.040	0.0079	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Butyl benzyl phthalate	<0.20		0.20	0.076	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Benzo[a]anthracene</b>	<b>0.13</b>		0.040	0.0054	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

**Client Sample ID: 2993-71-B01(0-0.75)**

**Lab Sample ID: 500-104079-1**

**Date Collected: 11/16/15 09:05**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.18</b>		0.040	0.011	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.27</b>		0.20	0.073	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Benzo[b]fluoranthene</b>	<b>0.29</b>		0.040	0.0086	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Benzo[k]fluoranthene</b>	<b>0.12</b>		0.040	0.012	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Benzo[a]pyrene</b>	<b>0.16</b>		0.040	0.0077	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.12 *</b>		0.040	0.010	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0077	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
<b>Benzo[g,h,i]perylene</b>	<b>0.12</b>		0.040	0.013	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1
3 & 4 Methylphenol	<0.20		0.20	0.066	mg/Kg	☼	11/19/15 07:18	11/25/15 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	102		25 - 110	11/19/15 07:18	11/25/15 20:48	1
Phenol-d5	105		31 - 110	11/19/15 07:18	11/25/15 20:48	1
Nitrobenzene-d5	102		25 - 115	11/19/15 07:18	11/25/15 20:48	1
2-Fluorobiphenyl	101		25 - 119	11/19/15 07:18	11/25/15 20:48	1
2,4,6-Tribromophenol	95		35 - 137	11/19/15 07:18	11/25/15 20:48	1
Terphenyl-d14	161	X	36 - 134	11/19/15 07:18	11/25/15 20:48	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Arsenic</b>	<b>6.8</b>		0.56	0.26	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Barium</b>	<b>78</b>		0.56	0.10	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Beryllium</b>	<b>0.69</b>		0.22	0.049	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Boron</b>	<b>3.9</b>		2.8	0.39	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Cadmium</b>	<b>0.22</b>	<b>B</b>	0.11	0.032	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Calcium</b>	<b>3100</b>	<b>B</b>	11	3.6	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Chromium</b>	<b>16</b>	<b>B</b>	0.56	0.096	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Cobalt</b>	<b>10</b>		0.28	0.063	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Copper</b>	<b>20</b>		0.56	0.12	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Iron</b>	<b>18000</b>		11	4.3	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Lead</b>	<b>22</b>		0.28	0.14	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Magnesium</b>	<b>2800</b>		5.6	2.3	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Manganese</b>	<b>420</b>		0.56	0.11	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Nickel</b>	<b>21</b>		0.56	0.15	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Potassium</b>	<b>1500</b>		28	4.6	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Selenium</b>	<b>0.38</b>	<b>J</b>	0.56	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
Silver	<0.28		0.28	0.066	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Sodium</b>	<b>2500</b>		56	7.4	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
Thallium	<0.56		0.56	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Vanadium</b>	<b>20</b>		0.28	0.082	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1
<b>Zinc</b>	<b>76</b>		1.1	0.35	mg/Kg	☼	11/24/15 20:28	11/25/15 21:16	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.35</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:02	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 18:02	1
<b>Boron</b>	<b>0.088</b>	<b>J B</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:02	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

**Client Sample ID: 2993-71-B01(0-0.75)**

**Lab Sample ID: 500-104079-1**

**Date Collected: 11/16/15 09:05**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 18:02	1
Chromium	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:02	1
Cobalt	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:02	1
<b>Iron</b>	<b>0.29</b>		0.20	0.20	mg/L		11/27/15 11:15	11/27/15 18:02	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/27/15 11:15	11/27/15 18:02	1
<b>Manganese</b>	<b>0.54</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:02	1
Nickel	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:02	1
Selenium	<0.050		0.050	0.020	mg/L		11/27/15 11:15	11/27/15 18:02	1
Silver	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 18:02	1
<b>Zinc</b>	<b>0.053</b>	<b>J B</b>	0.10	0.020	mg/L		11/27/15 11:15	11/27/15 18:02	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.70</b>		0.025	0.010	mg/L		12/01/15 10:10	12/02/15 11:27	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/27/15 11:15	11/30/15 19:01	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L		11/27/15 11:15	11/30/15 19:01	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/27/15 13:15	11/30/15 09:08	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.030</b>		0.018	0.0063	mg/Kg	☼	11/25/15 06:45	11/25/15 10:34	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>6.99</b>		0.200	0.200	SU			11/24/15 18:10	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-1

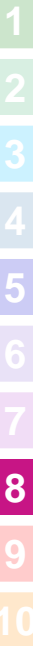
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: DT  
 Company: JS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104079  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: (3.9)(4.6)

Client		Client Project #		Preservative		Parameter		Matrix		Comments		
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix						
1		2993-71-B01 (0-0.75)	11-16-15	0915	2	S	Voc	Svoc	Total VOC	meth L	200/150/100 TAC meth L	P-H 0.5% Ad
2		2993-71-B02 (0-0.75)	11-16-15	0915	2	S	X	X	X	X	X	
<del>_____ 91-16-15</del>												



500-104079 COC

Turnaround Time Required (Business Days)  
 \_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other  
 Requested Due Date \_\_\_\_\_

Sample Disposal  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>EE</u> Date: <u>11-26-15</u> Time: <u>1431</u>	Received By: <u>Daniel Beckman</u> Company: <u>TA</u> Date: <u>11-16-15</u> Time: <u>14:30</u>	Lab Courier: <input checked="" type="checkbox"/>
Relinquished By: <u>Daniel Beckman</u> Company: <u>TA</u> Date: <u>11-16-15</u> Time: <u>15:20</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/16/15</u> Time: <u>1520</u>	Shipped: <input type="checkbox"/>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: <input type="checkbox"/>

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_  
 Lab Comments: \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104079-1

**Login Number: 104079**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.6)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.



## DETECTED ANALYTES

SITE	ISGS #2993-75 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-75-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-75-B01 (0-1)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	8.89						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.017 J	--	--	--	--	--	--
Acenaphthene	0.016 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.032 J	--	--	--	--	--	--
Anthracene	0.059	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.29	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.36 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.67 J	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.24	--	--	--	--	--	--
Benzo[k]fluoranthene	0.2	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.17 J	46	--	--	46	4,100	--
Butyl benzyl phthalate	0.12 J	930	--	--	930	930	--
Chrysene	0.39	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.066	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.63	3,100	--	--	3100	82000	--
Fluorene	0.016 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.23 J	0.9	1.6	0.9	1.6	170	--
Naphthalene	0.019 J	1.8	--	--	170	1.8	--
Phenanthrene	0.27	--	--	--	--	--	--
Pyrene	0.7 J	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Antimony	0.28 J	5	--	--	31	82	--
Arsenic	6.1	11.3	13	--	13	61	--
Barium	61	1,500	--	--	5,500	14,000	--
Beryllium	0.66	22	--	--	160	410	--
Boron	8.3	40	--	--	16,000	41,000	--
Cadmium	ND U	5.2	--	--	78	200	--
Calcium	71,000	--	--	--	--	--	--
Chromium	27 †	21	--	--	230	690	--
Cobalt	8.9	20	--	--	4,700	12,000	--
Copper	29	2,900	--	--	2,900	8,200	--
Iron	17,000 †m	15,000	15900	--	--	--	--
Lead	57	107	--	--	400	700	--
Magnesium	27,000	325,000	--	--	--	730,000	--
Manganese	400	630	636	--	1,600	4,100	--
Mercury	0.05	0.89	--	--	10	0.1	--
Nickel	21	100	--	--	1,600	4,100	--
Potassium	1,400	--	--	--	--	--	--
Selenium	0.31 J	1.3	--	--	390	1,000	--
Sodium	1,700	--	--	--	--	--	--
Vanadium	19	550	--	--	550	1,400	--
Zinc	130	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.42 J	--	--	--	--	--	2
Boron	0.47 J	--	--	--	--	--	2
Cadmium	0.0031 J	--	--	--	--	--	0.005
Chromium	ND U	--	--	--	--	--	0.1
Iron	ND U	--	--	--	--	--	5
Manganese	0.62 L	--	--	--	--	--	0.15
Zinc	0.88	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>							
Manganese	0.8 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-13

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:  
Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:41:48 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	5
Client Sample Results . . . . .	6
Definitions . . . . .	10
Certification Summary . . . . .	11
Chain of Custody . . . . .	12
Receipt Checklists . . . . .	13

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

**Job ID: 500-104045-13**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-13

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312958 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with batch 313199 had 1 analyte outside control limits: Indeno(1,2,3-cd)pyrene. These results have been reported and qualified. 2993-75-B01 (0-1) (500-104045-32)

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-75-B01 (0-1) (500-104045-32). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

**Client Sample ID: 2993-75-B01 (0-1)**

**Lab Sample ID: 500-104045-32**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.019	J	0.037	0.0058	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.017	J	0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.032	J	0.037	0.0049	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.016	J	0.037	0.0067	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.016	J	0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.27		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.059		0.037	0.0063	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.63		0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.70	F1	0.037	0.0074	mg/Kg	1	☼	8270D	Total/NA
Butyl benzyl phthalate	0.12	J F1	0.19	0.071	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.29		0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.39		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.17	J F1	0.19	0.068	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.67	F1	0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.20		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.36		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.23	*	0.037	0.0097	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.066		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.24		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.28	J	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.1		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	61		0.56	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.66		0.22	0.048	mg/Kg	1	☼	6010B	Total/NA
Boron	8.3		2.8	0.39	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.32		0.11	0.032	mg/Kg	1	☼	6010B	Total/NA
Calcium	71000	B	110	36	mg/Kg	10	☼	6010B	Total/NA
Chromium	27		0.56	0.096	mg/Kg	1	☼	6010B	Total/NA
Cobalt	8.9		0.28	0.063	mg/Kg	1	☼	6010B	Total/NA
Copper	29		0.56	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	17000		11	4.3	mg/Kg	1	☼	6010B	Total/NA
Lead	57		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	27000		5.6	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	400		0.56	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	21		0.56	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1400		28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.31	J	0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	1700		56	7.4	mg/Kg	1	☼	6010B	Total/NA
Vanadium	19		0.28	0.082	mg/Kg	1	☼	6010B	Total/NA
Zinc	130		1.1	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	0.42	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.47	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0031	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	0.62		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.88		0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.80		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.050		0.019	0.0067	mg/Kg	1	☼	7471B	Total/NA
pH	8.89		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-32	2993-75-B01 (0-1)	Solid	11/13/15 14:50	11/14/15 08:00

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

**Client Sample ID: 2993-75-B01 (0-1)**

**Lab Sample ID: 500-104045-32**

**Date Collected: 11/13/15 14:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 85.3**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.037		0.037	0.0071	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Benzene	<0.0092		0.0092	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Bromodichloromethane	<0.0092		0.0092	0.0016	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Bromoform	<0.0092		0.0092	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Bromomethane	<0.0092		0.0092	0.0034	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
2-Butanone (MEK)	<0.0092		0.0092	0.0033	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Carbon disulfide	<0.0092		0.0092	0.0034	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Carbon tetrachloride	<0.0092		0.0092	0.0020	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Chlorobenzene	<0.0092		0.0092	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Chloroethane	<0.0092	*	0.0092	0.0039	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Chloroform	<0.0092		0.0092	0.0018	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Chloromethane	<0.0092		0.0092	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
cis-1,2-Dichloroethene	<0.0092		0.0092	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
cis-1,3-Dichloropropene	<0.0092		0.0092	0.0021	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Dibromochloromethane	<0.0092		0.0092	0.0011	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,1-Dichloroethane	<0.0092		0.0092	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,2-Dichloroethane	<0.0092		0.0092	0.0014	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,1-Dichloroethene	<0.0092		0.0092	0.0034	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,2-Dichloropropane	<0.0092		0.0092	0.0024	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,3-Dichloropropane, Total	<0.0092		0.0092	0.0026	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Ethylbenzene	<0.0092		0.0092	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
2-Hexanone	<0.0092		0.0092	0.0029	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Methylene Chloride	<0.0092		0.0092	0.0070	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
4-Methyl-2-pentanone (MIBK)	<0.0092		0.0092	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Methyl tert-butyl ether	<0.0092		0.0092	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Styrene	<0.0092		0.0092	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,1,2,2-Tetrachloroethane	<0.0092		0.0092	0.0015	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Tetrachloroethene	<0.0092		0.0092	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Toluene	<0.0092		0.0092	0.0032	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
trans-1,2-Dichloroethene	<0.0092		0.0092	0.0023	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
trans-1,3-Dichloropropene	<0.0092		0.0092	0.0026	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,1,1-Trichloroethane	<0.0092		0.0092	0.0021	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
1,1,2-Trichloroethane	<0.0092		0.0092	0.0018	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Trichloroethene	<0.0092		0.0092	0.0025	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Vinyl acetate	<0.0092		0.0092	0.0025	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Vinyl chloride	<0.0092		0.0092	0.0022	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1
Xylenes, Total	<0.018		0.018	0.0034	mg/Kg	☼	11/14/15 14:10	11/17/15 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 122	11/14/15 14:10	11/17/15 14:34	1
Dibromofluoromethane	106		75 - 120	11/14/15 14:10	11/17/15 14:34	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 134	11/14/15 14:10	11/17/15 14:34	1
Toluene-d8 (Surr)	93		75 - 122	11/14/15 14:10	11/17/15 14:34	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.083	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

**Client Sample ID: 2993-75-B01 (0-1)**

**Lab Sample ID: 500-104045-32**

**Date Collected: 11/13/15 14:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 85.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Nitrobenzene	<0.037		0.037	0.0094	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Naphthalene</b>	<b>0.019</b>	<b>J</b>	0.037	0.0058	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,4,5-Trichlorophenol	<0.37		0.37	0.086	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Hexachlorocyclopentadiene	<0.76	F1	0.76	0.22	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>2-Methylnaphthalene</b>	<b>0.017</b>	<b>J</b>	0.037	0.0069	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2-Nitrophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,4-Dinitrophenol	<0.76	F1	0.76	0.66	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Acenaphthylene</b>	<b>0.032</b>	<b>J</b>	0.037	0.0049	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Acenaphthene</b>	<b>0.016</b>	<b>J</b>	0.037	0.0067	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Fluorene</b>	<b>0.016</b>	<b>J</b>	0.037	0.0053	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Pentachlorophenol	<0.76	F2	0.76	0.60	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
4,6-Dinitro-2-methylphenol	<0.76	F1	0.76	0.30	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Phenanthrene</b>	<b>0.27</b>		0.037	0.0052	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Anthracene</b>	<b>0.059</b>		0.037	0.0063	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Carbazole	<0.19		0.19	0.094	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Fluoranthene</b>	<b>0.63</b>		0.037	0.0069	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Pyrene</b>	<b>0.70</b>	<b>F1</b>	0.037	0.0074	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Butyl benzyl phthalate</b>	<b>0.12</b>	<b>J F1</b>	0.19	0.071	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Benzo[a]anthracene</b>	<b>0.29</b>		0.037	0.0050	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

**Client Sample ID: 2993-75-B01 (0-1)**

**Lab Sample ID: 500-104045-32**

Date Collected: 11/13/15 14:50

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 85.3

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.39</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
3,3'-Dichlorobenzidine	<0.19	F1	0.19	0.052	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.17</b>	<b>J F1</b>	0.19	0.068	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Benzo[b]fluoranthene</b>	<b>0.67</b>	<b>F1</b>	0.037	0.0081	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Benzo[k]fluoranthene</b>	<b>0.20</b>		0.037	0.011	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Benzo[a]pyrene</b>	<b>0.36</b>		0.037	0.0073	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.23</b>	*	0.037	0.0097	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Dibenz(a,h)anthracene</b>	<b>0.066</b>		0.037	0.0072	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
<b>Benzo[g,h,i]perylene</b>	<b>0.24</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:18	11/25/15 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	102		25 - 110	11/19/15 07:18	11/25/15 17:28	1
Phenol-d5	106		31 - 110	11/19/15 07:18	11/25/15 17:28	1
Nitrobenzene-d5	97		25 - 115	11/19/15 07:18	11/25/15 17:28	1
2-Fluorobiphenyl	103		25 - 119	11/19/15 07:18	11/25/15 17:28	1
2,4,6-Tribromophenol	99		35 - 137	11/19/15 07:18	11/25/15 17:28	1
Terphenyl-d14	138	X	36 - 134	11/19/15 07:18	11/25/15 17:28	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.28</b>	<b>J</b>	1.1	0.23	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Arsenic</b>	<b>6.1</b>		0.56	0.26	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Barium</b>	<b>61</b>		0.56	0.10	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Beryllium</b>	<b>0.66</b>		0.22	0.048	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Boron</b>	<b>8.3</b>		2.8	0.39	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Cadmium</b>	<b>0.32</b>		0.11	0.032	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Calcium</b>	<b>71000</b>	<b>B</b>	110	36	mg/Kg	☼	11/24/15 20:28	11/25/15 20:58	10
<b>Chromium</b>	<b>27</b>		0.56	0.096	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Cobalt</b>	<b>8.9</b>		0.28	0.063	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Copper</b>	<b>29</b>		0.56	0.12	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Iron</b>	<b>17000</b>		11	4.3	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Lead</b>	<b>57</b>		0.28	0.14	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Magnesium</b>	<b>27000</b>		5.6	2.3	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Manganese</b>	<b>400</b>		0.56	0.11	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Nickel</b>	<b>21</b>		0.56	0.15	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Potassium</b>	<b>1400</b>		28	4.6	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Selenium</b>	<b>0.31</b>	<b>J</b>	0.56	0.28	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
Silver	<0.28		0.28	0.065	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Sodium</b>	<b>1700</b>		56	7.4	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
Thallium	<0.56		0.56	0.27	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Vanadium</b>	<b>19</b>		0.28	0.082	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1
<b>Zinc</b>	<b>130</b>		1.1	0.35	mg/Kg	☼	11/24/15 20:28	11/25/15 17:06	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.42</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 14:21	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:07	11/26/15 14:21	1
<b>Boron</b>	<b>0.47</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 14:21	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

**Client Sample ID: 2993-75-B01 (0-1)**

**Lab Sample ID: 500-104045-32**

**Date Collected: 11/13/15 14:50**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 85.3**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0031</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
<b>Manganese</b>	<b>0.62</b>		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 14:21	1
<b>Zinc</b>	<b>0.88</b>		0.10	0.020	mg/L	-	11/25/15 14:07	11/26/15 14:21	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.80</b>		0.025	0.010	mg/L	-	12/01/15 10:10	12/01/15 22:43	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:07	11/30/15 18:29	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:07	11/30/15 18:29	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 10:25	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.050</b>		0.019	0.0067	mg/Kg	☼	11/25/15 06:45	11/25/15 13:30	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.89</b>		0.200	0.200	SU	-		11/21/15 13:47	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
X	Surrogate is outside control limits
E	Result exceeded calibration range.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-13

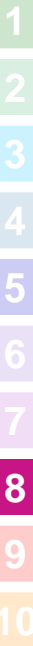
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Comments			
E+E		1009341.0003.01						Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other			
Project Name		Lab Project #		# of Containers	Matrix	VOC	SVOC	Total/TCCLP Metals	pH	Percent Solids	
EE9-W0003											
Project Location/State		Lab PM									
Chicago, IL		Dick Wright									
Lab ID	MS/MSD	Sample ID		Sampling							
		Date	Time								
32		2993-75-B0160-1	11/13/15 1450	2	S	X	X	X	X	X	
<hr/>											

Turnaround Time Required (Business Days)

1 Day
  2 Days
  5 Days
  7 Days
  10 Days
  15 Days
  Other

Sample Disposal

Return to Client
  Disposal by Lab
  Archive for \_\_\_\_\_ Months
 (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>V. Hughes</u>	Company: <u>E+E</u>	Date: <u>11/13/15</u>	Time: <u>1555</u>	Received By: <u>P. Neal</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1555</u>
Relinquished By: <u>P. Neal</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1720</u>	Received By: <u>Sam K</u>	Company: <u>TAL</u>	Date: <u>11/13/15</u>	Time: <u>0800</u>

Lab Courier:   
 Shipped:   
 Hand Delivered:

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-13

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-79 (IDOT ROW)			Comparison Criteria					
	2993-79-B01	2993-79-B02	2993-79-B03	MACs			TACO		
BORING	2993-79-B01 (0-1)	2993-79-B02 (0-1)	2993-79-B03 (0-1)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-79-B01 (0-1)	2993-79-B02 (0-1)	2993-79-B03 (0-1)						
MATRIX	Soil	Soil	Soil						
DEPTH (feet)	0-0.75	0-0.75	0-0.75						
pH	8.02	7.72	7.7						
<b>VOCs (None Detected)</b>									
<b>SVOCs (mg/kg)</b>									
Acenaphthene	ND U	0.012 J	0.042	570	--	--	4,700	120,000	--
Anthracene	0.017 J	0.032 J	0.13	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.16	0.16	0.63	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.2 †	0.2 †	0.68 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.35	0.34	1.2 †	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.12	0.14	0.41	--	--	--	--	--	--
Benzo[k]fluoranthene	0.11	0.11	0.46	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	ND U	ND U	0.25	46	--	--	46	4,100	--
Carbazole	ND U	ND U	0.099 J	0.6	--	--	32	6,200	--
Chrysene	0.23	0.22	0.79	88	--	--	88	17,000	--
Dibenz[a,h]anthracene	0.03 J	0.037 J	0.09	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.34 J	0.36	1.6	3,100	--	--	3100	82000	--
Fluorene	0.0079 J	0.012 J	0.043	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.12	0.15	0.47	0.9	1.6	0.9	1.6	170	--
Phenanthrene	0.15	0.17	0.69	--	--	--	--	--	--
Pyrene	0.28 J	0.25	1.2	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>									
Antimony	0.39 J	ND U	ND U	5	--	--	31	82	--
Arsenic	8	7.2	8.2	11.3	13	--	13	61	--
Barium	78	86	85	1,500	--	--	5,500	14,000	--
Beryllium	0.67	0.61	0.65	22	--	--	160	410	--
Boron	7	5.3	7.6	40	--	--	16,000	41,000	--
Cadmium	0.27	0.25	0.31	5.2	--	--	78	200	--
Calcium	13,000	6,800	19,000	--	--	--	--	--	--
Chromium	28 †	25 †	41 †	21	--	--	230	690	--
Cobalt	12	12	11	20	--	--	4,700	12,000	--
Copper	33	28	55	2,900	--	--	2,900	8,200	--
Iron	20,000 †m	20,000 †m	21,000 †m	15,000	15900	--	--	--	--
Lead	34	31	39	107	--	--	400	700	--
Magnesium	8,300	4,800	11,000	325,000	--	--	--	730,000	--
Manganese	520	570	520	630	636	--	1,600	4,100	--
Mercury	0.023	0.032	0.034	0.89	--	--	10	0.1	--
Nickel	26	23	28	100	--	--	1,600	4,100	--
Potassium	1,800	1,600	1,800	--	--	--	--	--	--
Selenium	0.39 J	0.73	0.89	1.3	--	--	390	1,000	--
Sodium	1,900	2,100	2,200	--	--	--	--	--	--
Thallium	ND U	0.36 J	0.35 J	2.6	--	--	6.3	160	--
Vanadium	23	24	24	550	--	--	550	1,400	--
Zinc	130	100	180	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>									
Antimony	ND U	ND U	0.058 L	--	--	--	--	--	0.006
Barium	0.33 J	0.34 J	0.29 J	--	--	--	--	--	2
Boron	0.35 J	0.35 J	0.42 J	--	--	--	--	--	2
Cadmium	ND U	ND U	0.0022 J	--	--	--	--	--	0.005
Chromium	ND U	ND U	ND U	--	--	--	--	--	0.1
Iron	0.31	0.29	ND U	--	--	--	--	--	5
Lead	ND U	ND U	0.15 L	--	--	--	--	--	0.0075
Manganese	1.1 L	0.45 L	1.3 L	--	--	--	--	--	0.15
Nickel	0.01 J	ND U	ND U	--	--	--	--	--	0.1
Zinc	ND U	ND U	0.4	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>									
Antimony	NA	NA	ND U	--	--	--	--	--	0.006
Lead	NA	NA	0.067 L	--	--	--	--	--	0.0075
Manganese	0.47 L	0.53 L	0.47 L	--	--	--	--	--	0.15



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-8

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:30:00 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	7
Client Sample Results . . . . .	8
Definitions . . . . .	20
Certification Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	23

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Job ID: 500-104045-8**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-8

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-79-B01 (0-1) (500-104045-12). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-79-B01 (0-1) (500-104045-12), 2993-79-B02 (0-1) (500-104045-13), 2993-79-B03 (0-1) (500-104045-14) and (500-104045-E-18-B) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analytes: 2993-79-B03 (0-1) (500-104045-14). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B01 (0-1)**

**Lab Sample ID: 500-104045-12**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluorene	0.0079	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.15		0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.017	J	0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.34	F1	0.038	0.0072	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.28	F1	0.038	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.16		0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.23		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.35		0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.11		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.20		0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.12		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.030	J	0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.12		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.39	J	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	8.0		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	78		0.57	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.67		0.23	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	7.0		2.8	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.27		0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	13000	B	11	3.6	mg/Kg	1	☼	6010B	Total/NA
Chromium	28	B	0.57	0.097	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.28	0.064	mg/Kg	1	☼	6010B	Total/NA
Copper	33		0.57	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	20000		11	4.4	mg/Kg	1	☼	6010B	Total/NA
Lead	34		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	8300	B	5.7	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	520		0.57	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1800	B	28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.39	J	0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	1900	B	57	7.5	mg/Kg	1	☼	6010B	Total/NA
Vanadium	23		0.28	0.083	mg/Kg	1	☼	6010B	Total/NA
Zinc	130		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.33	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.35	J	0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.31		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	1.1		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.010	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.18	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.47		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.023		0.019	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	8.02		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-79-B02 (0-1)**

**Lab Sample ID: 500-104045-13**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.012	J	0.039	0.0071	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.012	J	0.039	0.0056	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.17		0.039	0.0055	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.032	J	0.039	0.0066	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B02 (0-1) (Continued)**

**Lab Sample ID: 500-104045-13**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.36		0.039	0.0074	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.25		0.039	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.16		0.039	0.0053	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.22		0.039	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.34		0.039	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.11		0.039	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.20		0.039	0.0077	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.15		0.039	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.037	J	0.039	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.14		0.039	0.013	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.2		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA
Barium	86		0.57	0.10	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.61		0.23	0.049	mg/Kg	1	☼	6010B	Total/NA
Boron	5.3		2.8	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.25		0.11	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	6800	B	11	3.6	mg/Kg	1	☼	6010B	Total/NA
Chromium	25	B	0.57	0.097	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.28	0.064	mg/Kg	1	☼	6010B	Total/NA
Copper	28		0.57	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	20000		11	4.4	mg/Kg	1	☼	6010B	Total/NA
Lead	31		0.28	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	4800	B	5.7	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	570		0.57	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	23		0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1600	B	28	4.6	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.73		0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	2100	B	57	7.5	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.36	J	0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	24		0.28	0.083	mg/Kg	1	☼	6010B	Total/NA
Zinc	100		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.34	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.35	J	0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.29		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	0.45		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.082	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.53		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.032		0.018	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	7.72		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-79-B03 (0-1)**

**Lab Sample ID: 500-104045-14**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.042		0.037	0.0067	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.043		0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.69		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.13		0.037	0.0063	mg/Kg	1	☼	8270D	Total/NA
Carbazole	0.099	J	0.19	0.094	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	1.6		0.037	0.0070	mg/Kg	1	☼	8270D	Total/NA
Pyrene	1.2		0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.63		0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B03 (0-1) (Continued)**

**Lab Sample ID: 500-104045-14**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.79		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.25		0.19	0.069	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	1.2		0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.46		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.68		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.47		0.037	0.0097	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.090		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.41		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.2		0.59	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	85		0.59	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.65		0.24	0.051	mg/Kg	1	☼	6010B	Total/NA
Boron	7.6		2.9	0.41	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.31		0.12	0.034	mg/Kg	1	☼	6010B	Total/NA
Calcium	19000	B	12	3.8	mg/Kg	1	☼	6010B	Total/NA
Chromium	41	B	0.59	0.10	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.29	0.066	mg/Kg	1	☼	6010B	Total/NA
Copper	55		0.59	0.13	mg/Kg	1	☼	6010B	Total/NA
Iron	21000		12	4.5	mg/Kg	1	☼	6010B	Total/NA
Lead	39		0.29	0.15	mg/Kg	1	☼	6010B	Total/NA
Magnesium	11000	B	5.9	2.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	520		0.59	0.12	mg/Kg	1	☼	6010B	Total/NA
Nickel	28		0.59	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	1800	B	29	4.8	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.89		0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Sodium	2200	B	59	7.8	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.35	J	0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	24		0.29	0.086	mg/Kg	1	☼	6010B	Total/NA
Zinc	180		1.2	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	0.29	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.42	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0022	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Lead	0.15		0.0075	0.0075	mg/L	1		6010B	TCLP
Manganese	1.3		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.40	B	0.10	0.020	mg/L	1		6010B	TCLP
Lead	0.067		0.038	0.038	mg/L	5		6010B	SPLP East
Manganese	0.47		0.025	0.010	mg/L	1		6010B	SPLP East
Antimony	0.058		0.0060	0.0060	mg/L	1		6020A	TCLP
Mercury	0.034		0.019	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.70		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-12	2993-79-B01 (0-1)	Solid	11/13/15 11:00	11/14/15 08:00
500-104045-13	2993-79-B02 (0-1)	Solid	11/13/15 11:05	11/14/15 08:00
500-104045-14	2993-79-B03 (0-1)	Solid	11/13/15 11:10	11/14/15 08:00

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B01 (0-1)**

**Lab Sample ID: 500-104045-12**

**Date Collected: 11/13/15 11:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.019		0.019	0.0037	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Benzene	<0.0047		0.0047	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Bromodichloromethane	<0.0047		0.0047	0.00080	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Bromoform	<0.0047		0.0047	0.00096	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Bromomethane	<0.0047		0.0047	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
2-Butanone (MEK)	<0.0047		0.0047	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Carbon disulfide	<0.0047		0.0047	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Carbon tetrachloride	<0.0047		0.0047	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Chlorobenzene	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Chloroethane	<0.0047	*	0.0047	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Chloroform	<0.0047		0.0047	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Chloromethane	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
cis-1,2-Dichloroethene	<0.0047		0.0047	0.00096	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
cis-1,3-Dichloropropene	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Dibromochloromethane	<0.0047		0.0047	0.00054	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,1-Dichloroethane	<0.0047		0.0047	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,2-Dichloroethane	<0.0047		0.0047	0.00070	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,1-Dichloroethene	<0.0047		0.0047	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,2-Dichloropropane	<0.0047		0.0047	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,3-Dichloropropane, Total	<0.0047		0.0047	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Ethylbenzene	<0.0047		0.0047	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
2-Hexanone	<0.0047		0.0047	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Methylene Chloride	<0.0047		0.0047	0.0036	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
4-Methyl-2-pentanone (MIBK)	<0.0047		0.0047	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Methyl tert-butyl ether	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Styrene	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,1,2,2-Tetrachloroethane	<0.0047		0.0047	0.00075	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Tetrachloroethene	<0.0047		0.0047	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Toluene	<0.0047		0.0047	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
trans-1,2-Dichloroethene	<0.0047		0.0047	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
trans-1,3-Dichloropropene	<0.0047		0.0047	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,1,1-Trichloroethane	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
1,1,2-Trichloroethane	<0.0047		0.0047	0.00091	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Trichloroethene	<0.0047		0.0047	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Vinyl acetate	<0.0047		0.0047	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Vinyl chloride	<0.0047		0.0047	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1
Xylenes, Total	<0.0094		0.0094	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 122	11/14/15 14:10	11/16/15 16:07	1
Dibromofluoromethane	102		75 - 120	11/14/15 14:10	11/16/15 16:07	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 134	11/14/15 14:10	11/16/15 16:07	1
Toluene-d8 (Surr)	93		75 - 122	11/14/15 14:10	11/16/15 16:07	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.086	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B01 (0-1)**

**Lab Sample ID: 500-104045-12**

**Date Collected: 11/13/15 11:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2-Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
N-Nitrosodi-n-propylamine	<0.078		0.078	0.047	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Hexachloroethane	<0.19	F1	0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2-Chlorophenol	<0.19		0.19	0.066	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Hexachlorobutadiene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Naphthalene	<0.038		0.038	0.0059	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,4-Dichlorophenol	<0.38		0.38	0.092	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4-Chloroaniline	<0.78		0.78	0.18	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,4,5-Trichlorophenol	<0.38		0.38	0.088	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Hexachlorocyclopentadiene	<0.78	F1	0.78	0.22	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2-Methylnaphthalene	<0.038		0.038	0.0071	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2-Chloronaphthalene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,6-Dinitrotoluene	<0.19		0.19	0.076	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2-Nitrophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,4-Dinitrophenol	<0.78	F1	0.78	0.68	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Acenaphthylene	<0.038		0.038	0.0051	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Acenaphthene	<0.038		0.038	0.0069	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4-Nitrophenol	<0.78		0.78	0.37	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Fluorene</b>	<b>0.0079</b>	<b>J</b>	0.038	0.0054	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4-Bromophenyl phenyl ether	<0.19	F1	0.19	0.051	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Hexachlorobenzene	<0.078	F1	0.078	0.0089	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Pentachlorophenol	<0.78	F1	0.78	0.62	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
N-Nitrosodiphenylamine	<0.19	F1	0.19	0.046	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
4,6-Dinitro-2-methylphenol	<0.78	F1	0.78	0.31	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Phenanthrene</b>	<b>0.15</b>		0.038	0.0054	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Anthracene</b>	<b>0.017</b>	<b>J</b>	0.038	0.0064	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Carbazole	<0.19		0.19	0.096	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Di-n-butyl phthalate	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Fluoranthene</b>	<b>0.34</b>	<b>F1</b>	0.038	0.0072	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Pyrene</b>	<b>0.28</b>	<b>F1</b>	0.038	0.0077	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Butyl benzyl phthalate	<0.19	F1	0.19	0.073	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Benzo[a]anthracene</b>	<b>0.16</b>		0.038	0.0052	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B01 (0-1)**

**Lab Sample ID: 500-104045-12**

**Date Collected: 11/13/15 11:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.23</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Bis(2-ethylhexyl) phthalate	<0.19	F1	0.19	0.071	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
Di-n-octyl phthalate	<0.19	F1	0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Benzo[b]fluoranthene</b>	<b>0.35</b>		0.038	0.0083	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Benzo[k]fluoranthene</b>	<b>0.11</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Benzo[a]pyrene</b>	<b>0.20</b>		0.038	0.0075	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.12</b>		0.038	0.010	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Dibenz(a,h)anthracene</b>	<b>0.030</b>	J	0.038	0.0075	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
<b>Benzo[g,h,i]perylene</b>	<b>0.12</b>		0.038	0.012	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/24/15 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	89		25 - 110	11/19/15 07:08	11/24/15 16:53	1
Phenol-d5	94		31 - 110	11/19/15 07:08	11/24/15 16:53	1
Nitrobenzene-d5	100		25 - 115	11/19/15 07:08	11/24/15 16:53	1
2-Fluorobiphenyl	98		25 - 119	11/19/15 07:08	11/24/15 16:53	1
2,4,6-Tribromophenol	153	X	35 - 137	11/19/15 07:08	11/24/15 16:53	1
Terphenyl-d14	112		36 - 134	11/19/15 07:08	11/24/15 16:53	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.39</b>	J	1.1	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Arsenic</b>	<b>8.0</b>		0.57	0.26	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Barium</b>	<b>78</b>		0.57	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Beryllium</b>	<b>0.67</b>		0.23	0.049	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Boron</b>	<b>7.0</b>		2.8	0.40	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Cadmium</b>	<b>0.27</b>		0.11	0.033	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Calcium</b>	<b>13000</b>	B	11	3.6	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Chromium</b>	<b>28</b>	B	0.57	0.097	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Cobalt</b>	<b>12</b>		0.28	0.064	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Copper</b>	<b>33</b>		0.57	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Iron</b>	<b>20000</b>		11	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Lead</b>	<b>34</b>		0.28	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Magnesium</b>	<b>8300</b>	B	5.7	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Manganese</b>	<b>520</b>		0.57	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Nickel</b>	<b>26</b>		0.57	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Potassium</b>	<b>1800</b>	B	28	4.6	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Selenium</b>	<b>0.39</b>	J	0.57	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
Silver	<0.28		0.28	0.066	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Sodium</b>	<b>1900</b>	B	57	7.5	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
Thallium	<0.57		0.57	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Vanadium</b>	<b>23</b>		0.28	0.083	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1
<b>Zinc</b>	<b>130</b>		1.1	0.36	mg/Kg	☼	11/24/15 11:26	11/25/15 05:07	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.33</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:09	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 14:09	1
<b>Boron</b>	<b>0.35</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:09	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B01 (0-1)**

**Lab Sample ID: 500-104045-12**

**Date Collected: 11/13/15 11:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.7**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 14:09	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:09	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:09	1
<b>Iron</b>	<b>0.31</b>		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 14:09	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 14:09	1
<b>Manganese</b>	<b>1.1</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:09	1
<b>Nickel</b>	<b>0.010</b>	<b>J</b>	0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:09	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 14:09	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:09	1
<b>Zinc</b>	<b>0.18</b>	<b>B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 14:09	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.47</b>		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 18:21	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 15:36	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 15:36	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:23	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.023</b>		0.019	0.0065	mg/Kg	☼	11/25/15 06:45	11/25/15 12:11	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.02</b>		0.200	0.200	SU			11/21/15 13:04	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B02 (0-1)**

**Lab Sample ID: 500-104045-13**

**Date Collected: 11/13/15 11:05**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.026		0.026	0.0051	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Benzene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Bromodichloromethane	<0.0066		0.0066	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Bromoform	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Bromomethane	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
2-Butanone (MEK)	<0.0066		0.0066	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Carbon disulfide	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Carbon tetrachloride	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Chlorobenzene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Chloroethane	<0.0066	*	0.0066	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Chloroform	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Chloromethane	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
cis-1,2-Dichloroethene	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
cis-1,3-Dichloropropene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Dibromochloromethane	<0.0066		0.0066	0.00075	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,1-Dichloroethane	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,2-Dichloroethane	<0.0066		0.0066	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,1-Dichloroethene	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,2-Dichloropropane	<0.0066		0.0066	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,3-Dichloropropane, Total	<0.0066		0.0066	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Ethylbenzene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
2-Hexanone	<0.0066		0.0066	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Methylene Chloride	<0.0066		0.0066	0.0050	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
4-Methyl-2-pentanone (MIBK)	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Methyl tert-butyl ether	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Styrene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,1,2,2-Tetrachloroethane	<0.0066		0.0066	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Tetrachloroethene	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Toluene	<0.0066		0.0066	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
trans-1,2-Dichloroethene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
trans-1,3-Dichloropropene	<0.0066		0.0066	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,1,1-Trichloroethane	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
1,1,2-Trichloroethane	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Trichloroethene	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Vinyl acetate	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Vinyl chloride	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1
Xylenes, Total	<0.013		0.013	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 122	11/14/15 14:10	11/16/15 16:31	1
Dibromofluoromethane	105		75 - 120	11/14/15 14:10	11/16/15 16:31	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 134	11/14/15 14:10	11/16/15 16:31	1
Toluene-d8 (Surr)	91		75 - 122	11/14/15 14:10	11/16/15 16:31	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.088	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B02 (0-1)**

**Lab Sample ID: 500-104045-13**

**Date Collected: 11/13/15 11:05**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.1**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2-Methylphenol	<0.20		0.20	0.064	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
N-Nitrosodi-n-propylamine	<0.080		0.080	0.048	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Hexachloroethane	<0.20		0.20	0.060	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Nitrobenzene	<0.039		0.039	0.0099	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.040	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,4-Dimethylphenol	<0.39		0.39	0.15	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Hexachlorobutadiene	<0.20		0.20	0.062	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Naphthalene	<0.039		0.039	0.0061	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,4-Dichlorophenol	<0.39		0.39	0.094	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4-Chloroaniline	<0.80		0.80	0.19	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,4,6-Trichlorophenol	<0.39		0.39	0.14	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,4,5-Trichlorophenol	<0.39		0.39	0.090	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Hexachlorocyclopentadiene	<0.80		0.80	0.23	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2-Methylnaphthalene	<0.039		0.039	0.0073	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2-Nitroaniline	<0.20		0.20	0.053	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4-Chloro-3-methylphenol	<0.39		0.39	0.13	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,6-Dinitrotoluene	<0.20		0.20	0.078	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2-Nitrophenol	<0.39		0.39	0.094	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
3-Nitroaniline	<0.39		0.39	0.12	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,4-Dinitrophenol	<0.80		0.80	0.70	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Acenaphthylene	<0.039		0.039	0.0052	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
2,4-Dinitrotoluene	<0.20		0.20	0.063	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Acenaphthene</b>	<b>0.012</b>	<b>J</b>	0.039	0.0071	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Dibenzofuran	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4-Nitrophenol	<0.80		0.80	0.38	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Fluorene</b>	<b>0.012</b>	<b>J</b>	0.039	0.0056	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4-Nitroaniline	<0.39		0.39	0.17	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Hexachlorobenzene	<0.080		0.080	0.0092	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Diethyl phthalate	<0.20		0.20	0.067	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Pentachlorophenol	<0.80		0.80	0.64	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
4,6-Dinitro-2-methylphenol	<0.80		0.80	0.32	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Phenanthrene</b>	<b>0.17</b>		0.039	0.0055	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Anthracene</b>	<b>0.032</b>	<b>J</b>	0.039	0.0066	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Carbazole	<0.20		0.20	0.099	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Di-n-butyl phthalate	<0.20		0.20	0.060	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Fluoranthene</b>	<b>0.36</b>		0.039	0.0074	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Pyrene</b>	<b>0.25</b>		0.039	0.0079	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Butyl benzyl phthalate	<0.20		0.20	0.075	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Benzo[a]anthracene</b>	<b>0.16</b>		0.039	0.0053	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B02 (0-1)**

**Lab Sample ID: 500-104045-13**

Date Collected: 11/13/15 11:05

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 83.1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.22</b>		0.039	0.011	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.072	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Benzo[b]fluoranthene</b>	<b>0.34</b>		0.039	0.0086	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Benzo[k]fluoranthene</b>	<b>0.11</b>		0.039	0.012	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Benzo[a]pyrene</b>	<b>0.20</b>		0.039	0.0077	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.15</b>		0.039	0.010	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Dibenz(a,h)anthracene</b>	<b>0.037</b>	J	0.039	0.0077	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
<b>Benzo[g,h,i]perylene</b>	<b>0.14</b>		0.039	0.013	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1
3 & 4 Methylphenol	<0.20		0.20	0.066	mg/Kg	☼	11/19/15 07:08	11/25/15 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	87		25 - 110	11/19/15 07:08	11/25/15 21:43	1
Phenol-d5	83		31 - 110	11/19/15 07:08	11/25/15 21:43	1
Nitrobenzene-d5	92		25 - 115	11/19/15 07:08	11/25/15 21:43	1
2-Fluorobiphenyl	87		25 - 119	11/19/15 07:08	11/25/15 21:43	1
2,4,6-Tribromophenol	85		35 - 137	11/19/15 07:08	11/25/15 21:43	1
Terphenyl-d14	78		36 - 134	11/19/15 07:08	11/25/15 21:43	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Arsenic</b>	<b>7.2</b>		0.57	0.26	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Barium</b>	<b>86</b>		0.57	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Beryllium</b>	<b>0.61</b>		0.23	0.049	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Boron</b>	<b>5.3</b>		2.8	0.40	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Cadmium</b>	<b>0.25</b>		0.11	0.033	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Calcium</b>	<b>6800</b>	B	11	3.6	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Chromium</b>	<b>25</b>	B	0.57	0.097	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Cobalt</b>	<b>12</b>		0.28	0.064	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Copper</b>	<b>28</b>		0.57	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Iron</b>	<b>20000</b>		11	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Lead</b>	<b>31</b>		0.28	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Magnesium</b>	<b>4800</b>	B	5.7	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Manganese</b>	<b>570</b>		0.57	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Nickel</b>	<b>23</b>		0.57	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Potassium</b>	<b>1600</b>	B	28	4.6	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Selenium</b>	<b>0.73</b>		0.57	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
Silver	<0.28		0.28	0.066	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Sodium</b>	<b>2100</b>	B	57	7.5	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Thallium</b>	<b>0.36</b>	J	0.57	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Vanadium</b>	<b>24</b>		0.28	0.083	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1
<b>Zinc</b>	<b>100</b>		1.1	0.36	mg/Kg	☼	11/24/15 11:26	11/25/15 05:11	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.34</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:14	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 14:14	1
<b>Boron</b>	<b>0.35</b>	J	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:14	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B02 (0-1)**

**Lab Sample ID: 500-104045-13**

**Date Collected: 11/13/15 11:05**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.1**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 14:14	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:14	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:14	1
<b>Iron</b>	<b>0.29</b>		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 14:14	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 14:14	1
<b>Manganese</b>	<b>0.45</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:14	1
Nickel	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:14	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 14:14	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:14	1
<b>Zinc</b>	<b>0.082</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 14:14	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.53</b>		0.025	0.010	mg/L		12/01/15 09:45	12/02/15 11:22	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 15:40	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 15:40	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:25	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.032</b>		0.018	0.0062	mg/Kg	☼	11/25/15 06:45	11/25/15 12:12	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.72</b>		0.200	0.200	SU			11/21/15 13:06	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B03 (0-1)**

**Lab Sample ID: 500-104045-14**

**Date Collected: 11/13/15 11:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.5**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.028		0.028	0.0055	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Benzene	<0.0071		0.0071	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Bromodichloromethane	<0.0071		0.0071	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Bromoform	<0.0071		0.0071	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Bromomethane	<0.0071		0.0071	0.0026	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
2-Butanone (MEK)	<0.0071		0.0071	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Carbon disulfide	<0.0071		0.0071	0.0026	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Carbon tetrachloride	<0.0071		0.0071	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Chlorobenzene	<0.0071		0.0071	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Chloroethane	<0.0071	*	0.0071	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Chloroform	<0.0071		0.0071	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Chloromethane	<0.0071		0.0071	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
cis-1,2-Dichloroethene	<0.0071		0.0071	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
cis-1,3-Dichloropropene	<0.0071		0.0071	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Dibromochloromethane	<0.0071		0.0071	0.00082	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,1-Dichloroethane	<0.0071		0.0071	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,2-Dichloroethane	<0.0071		0.0071	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,1-Dichloroethene	<0.0071		0.0071	0.0026	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,2-Dichloropropane	<0.0071		0.0071	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,3-Dichloropropane, Total	<0.0071		0.0071	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Ethylbenzene	<0.0071		0.0071	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
2-Hexanone	<0.0071		0.0071	0.0022	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Methylene Chloride	<0.0071		0.0071	0.0054	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
4-Methyl-2-pentanone (MIBK)	<0.0071		0.0071	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Methyl tert-butyl ether	<0.0071		0.0071	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Styrene	<0.0071		0.0071	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,1,1,2-Tetrachloroethane	<0.0071		0.0071	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Tetrachloroethene	<0.0071		0.0071	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Toluene	<0.0071		0.0071	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
trans-1,2-Dichloroethene	<0.0071		0.0071	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
trans-1,3-Dichloropropene	<0.0071		0.0071	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,1,1-Trichloroethane	<0.0071		0.0071	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
1,1,2-Trichloroethane	<0.0071		0.0071	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Trichloroethene	<0.0071		0.0071	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Vinyl acetate	<0.0071		0.0071	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Vinyl chloride	<0.0071		0.0071	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1
Xylenes, Total	<0.014		0.014	0.0026	mg/Kg	☼	11/14/15 14:10	11/16/15 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 122	11/14/15 14:10	11/16/15 16:55	1
Dibromofluoromethane	106		75 - 120	11/14/15 14:10	11/16/15 16:55	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 134	11/14/15 14:10	11/16/15 16:55	1
Toluene-d8 (Surr)	92		75 - 122	11/14/15 14:10	11/16/15 16:55	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.083	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B03 (0-1)**

**Lab Sample ID: 500-104045-14**

**Date Collected: 11/13/15 11:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.5**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Nitrobenzene	<0.037		0.037	0.0094	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Naphthalene	<0.037		0.037	0.0058	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,4,5-Trichlorophenol	<0.37		0.37	0.086	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2-Methylnaphthalene	<0.037		0.037	0.0069	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2-Nitrophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,4-Dinitrophenol	<0.76		0.76	0.66	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Acenaphthene</b>	<b>0.042</b>		0.037	0.0067	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Fluorene</b>	<b>0.043</b>		0.037	0.0053	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Pentachlorophenol	<0.76		0.76	0.60	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Phenanthrene</b>	<b>0.69</b>		0.037	0.0052	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Anthracene</b>	<b>0.13</b>		0.037	0.0063	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Carbazole</b>	<b>0.099 J</b>		0.19	0.094	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Fluoranthene</b>	<b>1.6</b>		0.037	0.0070	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Pyrene</b>	<b>1.2</b>		0.037	0.0075	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Butyl benzyl phthalate	<0.19		0.19	0.071	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Benzo[a]anthracene</b>	<b>0.63</b>		0.037	0.0050	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B03 (0-1)**

**Lab Sample ID: 500-104045-14**

Date Collected: 11/13/15 11:10

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 84.5

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.79</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.25</b>		0.19	0.069	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Benzo[b]fluoranthene</b>	<b>1.2</b>		0.037	0.0081	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Benzo[k]fluoranthene</b>	<b>0.46</b>		0.037	0.011	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Benzo[a]pyrene</b>	<b>0.68</b>		0.037	0.0073	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.47</b>		0.037	0.0097	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Dibenz(a,h)anthracene</b>	<b>0.090</b>		0.037	0.0073	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
<b>Benzo[g,h,i]perylene</b>	<b>0.41</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/25/15 22:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	93		25 - 110	11/19/15 07:08	11/25/15 22:11	1
Phenol-d5	90		31 - 110	11/19/15 07:08	11/25/15 22:11	1
Nitrobenzene-d5	97		25 - 115	11/19/15 07:08	11/25/15 22:11	1
2-Fluorobiphenyl	93		25 - 119	11/19/15 07:08	11/25/15 22:11	1
2,4,6-Tribromophenol	103		35 - 137	11/19/15 07:08	11/25/15 22:11	1
Terphenyl-d14	105		36 - 134	11/19/15 07:08	11/25/15 22:11	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.24	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Arsenic</b>	<b>8.2</b>		0.59	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Barium</b>	<b>85</b>		0.59	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Beryllium</b>	<b>0.65</b>		0.24	0.051	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Boron</b>	<b>7.6</b>		2.9	0.41	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Cadmium</b>	<b>0.31</b>		0.12	0.034	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Calcium</b>	<b>19000</b>	<b>B</b>	12	3.8	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Chromium</b>	<b>41</b>	<b>B</b>	0.59	0.10	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Cobalt</b>	<b>11</b>		0.29	0.066	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Copper</b>	<b>55</b>		0.59	0.13	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Iron</b>	<b>21000</b>		12	4.5	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Lead</b>	<b>39</b>		0.29	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Magnesium</b>	<b>11000</b>	<b>B</b>	5.9	2.4	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Manganese</b>	<b>520</b>		0.59	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Nickel</b>	<b>28</b>		0.59	0.16	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Potassium</b>	<b>1800</b>	<b>B</b>	29	4.8	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Selenium</b>	<b>0.89</b>		0.59	0.29	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
Silver	<0.29		0.29	0.069	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Sodium</b>	<b>2200</b>	<b>B</b>	59	7.8	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Thallium</b>	<b>0.35</b>	<b>J</b>	0.59	0.29	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Vanadium</b>	<b>24</b>		0.29	0.086	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1
<b>Zinc</b>	<b>180</b>		1.2	0.37	mg/Kg	☼	11/24/15 11:26	11/25/15 05:24	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.29</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:20	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 14:20	1
<b>Boron</b>	<b>0.42</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:20	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

**Client Sample ID: 2993-79-B03 (0-1)**

**Lab Sample ID: 500-104045-14**

**Date Collected: 11/13/15 11:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 84.5**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0022</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
<b>Lead</b>	<b>0.15</b>		0.0075	0.0075	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
<b>Manganese</b>	<b>1.3</b>		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:05	11/26/15 14:20	1
<b>Zinc</b>	<b>0.40</b>	<b>B</b>	0.10	0.020	mg/L	-	11/25/15 14:05	11/26/15 14:20	1

**Method: 6010B - SPLP Metals - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lead</b>	<b>0.067</b>		0.038	0.038	mg/L	-	12/01/15 09:45	12/01/15 18:34	5
<b>Manganese</b>	<b>0.47</b>		0.025	0.010	mg/L	-	12/01/15 09:45	12/01/15 18:30	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.058</b>		0.0060	0.0060	mg/L	-	11/25/15 14:05	11/30/15 15:44	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:05	11/30/15 15:44	1

**Method: 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	12/01/15 09:45	12/01/15 15:52	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 09:27	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.034</b>		0.019	0.0066	mg/Kg	✱	11/25/15 06:45	11/25/15 12:15	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.70</b>		0.200	0.200	SU	-		11/21/15 13:08	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-8

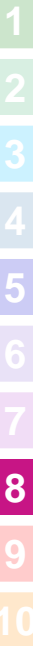
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter												Preservative Key	
E+E		1009341.0003.01																1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHCO4 7. Cool to 4° 8. None 9. Other	
Project Name		EE9-W0003		Parameter															
Project Location/State		Chicago, IL		Lab Project #															
Sampler		Dick Wright		Lab PM															
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	VOC	SVOC	Total/TCCLP Metals	pH	Percent Solids							Comments	
			Date	Time															
12		2993-79-B01(0-1)	11/13/15	1100	2	S	X	X	X	X	X								
13		2993-79-B02(0-1)	11/13/15	1105	2	S	X	X	X	X	X								
14		2993-79-B03(0-1)	11/13/15	1110	2	S	X	X	X	X	X								

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date \_\_\_\_\_

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>P. Hughes</u>	Company: <u>E+E</u>	Date: <u>11/13/15</u>	Time: <u>1555</u>	Received By: <u>Mead</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1555</u>
Relinquished By: <u>P. Mead</u>	Company: <u>TA</u>	Date: <u>11/13/15</u>	Time: <u>1720</u>	Received By: <u>Frank</u>	Company: <u>TAL</u>	Date: <u>11/14/15</u>	Time: <u>0800</u>
Relinquished By: _____	Company: _____	Date: _____	Time: _____	Received By: _____	Company: _____	Date: _____	Time: _____

Lab Courier:

Shipped: \_\_\_\_\_

Hand Delivered: \_\_\_\_\_

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments: \_\_\_\_\_

Lab Comments: \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-8

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.



PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A  
DETECTED ANALYTES

SITE	ISGS #2993-82 (IDOT ROW)						Comparison Criteria					
	2993-82-B01	2993-82-B02		2993-82-B03	2993-82-B04	2993-82-B05	MACs			TACO		
BORING	2993-82-B01 (0-1)	2993-82-B02 (0-1)	2993-82-B02 (0-1)D	2993-82-B03 (0-1)	2993-82-B04 (0-1)	2993-82-B05 (0-1)	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	Soil	Soil	Soil	Soil	Soil	Soil						
MATRIX	0-0.75	0-0.75	0-0.75	0-0.75	0-0.75	0-0.75						
DEPTH (feet)	7.62	7.88	7.77	8.76	8.83	8.15						
pH												
<b>VOCs (mg/kg)</b>												
Xylenes, Total	ND U	ND U	ND U	ND U	0.0078 J	ND U	5.6	--	--	320	5.6	--
<b>SVOCs (mg/kg)</b>												
2-Methylnaphthalene	ND U	0.04	0.03 J	ND U	ND U	0.015 J	--	--	--	--	--	--
Acenaphthene	ND U	0.047	0.038 J	ND U	ND U	ND U	570	--	--	4,700	120,000	--
Acenaphthylene	ND U	0.04	0.033 J	ND U	ND U	ND U	--	--	--	--	--	--
Anthracene	0.081	0.22	0.14	ND U	0.057	0.012 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.34	0.72	0.59	0.073	0.26	0.06	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.37 †	0.69 †	0.59 †	0.079	0.29 †	0.087	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.55	0.94 †	0.85	0.13	0.52	0.16	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.26	0.31	0.3	0.075	0.25	0.048	--	--	--	--	--	--
Benzo[k]fluoranthene	0.23	0.37	0.31	ND U	0.15	0.059	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.12 J	0.072 J	ND U	ND U	0.32	ND U	46	--	--	46	4,100	--
Chrysene	0.39	0.7	0.57	0.1	0.33	0.11	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.053	0.08	0.073	ND U	ND U	ND U	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.69	1.5	1.1	0.14	0.75	0.15	3,100	--	--	3,100	82,000	--
Fluorene	0.026 J	0.066	0.05	ND U	ND U	ND U	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.25	0.33	0.32	0.07	0.22	0.048	0.9	1.6	0.9	1.6	170	--
Naphthalene	ND U	0.029 J	ND U	ND U	ND U	ND U	1.8	--	--	170	1.8	--
Phenanthrene	0.3	0.63	0.43	0.12	0.29	0.11	--	--	--	--	--	--
Pyrene	0.93	1.9	1.4	0.19	0.7	0.15	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>												
Antimony	ND U	ND UJ	0.25 J	ND U	0.44 J	0.56 J	5	--	--	31	82	--
Arsenic	7.3	7.8 J	9.2	7.6	7.9	11 J	11.3	13	--	13	61	--
Barium	60	37 J	56	76	81	50	1,500	--	--	5,500	14,000	--
Beryllium	0.61	0.54 J	0.63	0.73	0.58	0.59	22	--	--	160	410	--
Boron	10	14 J	12	6.3	4.4	8.7 J	40	--	--	16,000	41,000	--
Cadmium	0.24	0.22 J	0.47	ND U	ND U	ND U	5.2	--	--	78	200	--
Calcium	55,000	100,000	57,000	21,000	9,400	22,000 J	--	--	--	--	--	--
Chromium	17	38 J †	15 J	17	22 †	16	21	--	--	230	690	--
Cobalt	11	9.9 J	11	13	13	15	20	--	--	4,700	12,000	--
Copper	27	25 J	26	23	23	33 J	2,900	--	--	2,900	8,200	--
Iron	17,000 †m	19,000 J †m	17,000 †m	19,000 †m	19,000 †m	20,000 †m	15,000	15900	--	--	--	--
Lead	28	21 J	26	23	29	34	107	--	--	400	700	--
Magnesium	24,000	38,000	28,000	14,000	6,600	15,000 J	325,000	--	--	--	730,000	--
Manganese	370	690 J †m	340	290	580	540	630	636	--	1,600	4,100	--
Mercury	0.025	0.017	0.032	0.024	0.034	0.03	0.89	--	--	10	0.1	--
Nickel	26	25 J	26	28	22	30 J	100	--	--	1,600	4,100	--
Potassium	1,900	2,100	2,100	1,800	1,500	1,800 J	--	--	--	--	--	--
Selenium	0.35 J	0.51 J	0.31 J	0.62	0.32 J	0.47 J	1.3	--	--	390	1,000	--
Sodium	550	220	200	2,100	1,200	1,400	--	--	--	--	--	--
Thallium	ND U	0.99 J	0.35 J	0.59	0.35 J	0.54	2.6	--	--	6.3	160	--
Vanadium	20	43 J	22	18	21	18	550	--	--	550	1,400	--
Zinc	80	64 J	160 J	72	96	84	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>												
Barium	0.38 J	0.32 J	0.38 J	0.43 J	0.4 J	0.33 J	--	--	--	--	--	2
Boron	0.5	0.087 J	0.092 J	0.062 J	0.082 J	0.41 J	--	--	--	--	--	2
Cadmium	ND U	ND U	ND U	0.0027 J	0.0028 J	0.0026 J	--	--	--	--	--	0.005
Chromium	ND U	ND U	ND U	ND U	ND U	ND U	--	--	--	--	--	0.1
Cobalt	ND U	0.016 J	ND U	ND U	ND U	ND U	--	--	--	--	--	1
Iron	0.21	ND U	ND U	0.22	0.25	ND U	--	--	--	--	--	5
Lead	ND U	0.012 L	ND U	ND U	ND U	ND U	--	--	--	--	--	0.0075
Manganese	1.6 L	1.8 L	1.4 L	1.2 L	1.1 L	1.3 L	--	--	--	--	--	0.15
Nickel	0.01 J	0.022 J	ND U	0.011 J	ND U	ND U	--	--	--	--	--	0.1
Zinc	0.38	ND U	ND U	ND U	0.38	ND U	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>												
Lead	NA	ND U	NA	NA	NA	NA	--	--	--	--	--	0.0075
Manganese	0.15	ND U	0.051	1 L	1.2 L	0.87 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-10

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:32:00 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	10
Client Sample Results . . . . .	11
Definitions . . . . .	35
Certification Summary . . . . .	36
Chain of Custody . . . . .	37
Receipt Checklists . . . . .	38

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Job ID: 500-104045-10**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-10

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for 500-312780 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCS/LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-82-B02 (0-1) (500-104045-18), 2993-82-B02 (0-1)D (500-104045-19), 2993-82-B01 (0-1) (500-104045-20) and 2993-82-B03 (0-1) (500-104045-23). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 500-313936 and analytical batch 500-314108 contained Calcium above the reporting limit (RL). Associated samples 2993-82-B02 (0-1) (500-104045-18), 2993-82-B02 (0-1)D (500-104045-19) and 2993-82-B01 (0-1) (500-104045-20) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)**

**Lab Sample ID: 500-104045-18**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Naphthalene	0.029	J	0.037	0.0058	mg/Kg	1	☼	☼	8270D	Total/NA
2-Methylnaphthalene	0.040		0.037	0.0069	mg/Kg	1	☼	☼	8270D	Total/NA
Acenaphthylene	0.040		0.037	0.0050	mg/Kg	1	☼	☼	8270D	Total/NA
Acenaphthene	0.047		0.037	0.0068	mg/Kg	1	☼	☼	8270D	Total/NA
Fluorene	0.066		0.037	0.0053	mg/Kg	1	☼	☼	8270D	Total/NA
Phenanthrene	0.63		0.037	0.0052	mg/Kg	1	☼	☼	8270D	Total/NA
Anthracene	0.22		0.037	0.0063	mg/Kg	1	☼	☼	8270D	Total/NA
Fluoranthene	1.5		0.037	0.0070	mg/Kg	1	☼	☼	8270D	Total/NA
Pyrene	1.9		0.037	0.0075	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[a]anthracene	0.72		0.037	0.0051	mg/Kg	1	☼	☼	8270D	Total/NA
Chrysene	0.70		0.037	0.010	mg/Kg	1	☼	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.072	J	0.19	0.069	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.94		0.037	0.0081	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.37		0.037	0.011	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[a]pyrene	0.69		0.037	0.0073	mg/Kg	1	☼	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.33		0.037	0.0097	mg/Kg	1	☼	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.080		0.037	0.0073	mg/Kg	1	☼	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.31		0.037	0.012	mg/Kg	1	☼	☼	8270D	Total/NA
Arsenic	7.8	F1	0.58	0.27	mg/Kg	1	☼	☼	6010B	Total/NA
Barium	37	F1	0.58	0.11	mg/Kg	1	☼	☼	6010B	Total/NA
Beryllium	0.54	F1	0.23	0.050	mg/Kg	1	☼	☼	6010B	Total/NA
Boron	14	F1	2.9	0.40	mg/Kg	1	☼	☼	6010B	Total/NA
Cadmium	0.22	F1	0.12	0.033	mg/Kg	1	☼	☼	6010B	Total/NA
Calcium	100000	B	120	37	mg/Kg	10	☼	☼	6010B	Total/NA
Chromium	38	B F1	0.58	0.099	mg/Kg	1	☼	☼	6010B	Total/NA
Cobalt	9.9	F1	0.29	0.065	mg/Kg	1	☼	☼	6010B	Total/NA
Copper	25	F1	0.58	0.12	mg/Kg	1	☼	☼	6010B	Total/NA
Iron	19000		12	4.4	mg/Kg	1	☼	☼	6010B	Total/NA
Lead	21	F1	0.29	0.14	mg/Kg	1	☼	☼	6010B	Total/NA
Magnesium	38000	B	5.8	2.3	mg/Kg	1	☼	☼	6010B	Total/NA
Manganese	690		0.58	0.11	mg/Kg	1	☼	☼	6010B	Total/NA
Nickel	25	F1	0.58	0.16	mg/Kg	1	☼	☼	6010B	Total/NA
Potassium	2100	B F1	29	4.7	mg/Kg	1	☼	☼	6010B	Total/NA
Selenium	0.51	J F1	0.58	0.28	mg/Kg	1	☼	☼	6010B	Total/NA
Sodium	220	B F1	58	7.6	mg/Kg	1	☼	☼	6010B	Total/NA
Thallium	0.99	F1	0.58	0.28	mg/Kg	1	☼	☼	6010B	Total/NA
Vanadium	43	F1	0.29	0.084	mg/Kg	1	☼	☼	6010B	Total/NA
Zinc	64	F1	1.2	0.36	mg/Kg	1	☼	☼	6010B	Total/NA
Barium	0.32	J	0.50	0.050	mg/L	1			6010B	TCLP
Boron	0.087	J	0.50	0.050	mg/L	1			6010B	TCLP
Cobalt	0.016	J	0.025	0.010	mg/L	1			6010B	TCLP
Lead	0.012		0.0075	0.0075	mg/L	1			6010B	TCLP
Manganese	1.8		0.025	0.010	mg/L	1			6010B	TCLP
Nickel	0.022	J	0.025	0.010	mg/L	1			6010B	TCLP
Zinc	0.084	J B	0.10	0.020	mg/L	1			6010B	TCLP
Mercury	0.017		0.017	0.0058	mg/Kg	1	☼	☼	7471B	Total/NA
pH	7.88		0.200	0.200	SU	1			9045D	Total/NA

**Client Sample ID: 2993-82-B02 (0-1)D**

**Lab Sample ID: 500-104045-19**

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)D (Continued)**

**Lab Sample ID: 500-104045-19**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.030	J	0.040	0.0075	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.033	J	0.040	0.0053	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.038	J	0.040	0.0073	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.050		0.040	0.0057	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.43		0.040	0.0057	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.14		0.040	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	1.1		0.040	0.0075	mg/Kg	1	☼	8270D	Total/NA
Pyrene	1.4		0.040	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.59		0.040	0.0055	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.57		0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.85		0.040	0.0088	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.31		0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.59		0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.32		0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.073		0.040	0.0078	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.30		0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.25	J	1.2	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	9.2		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	56		0.58	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.63		0.23	0.050	mg/Kg	1	☼	6010B	Total/NA
Boron	12		2.9	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.47		0.12	0.033	mg/Kg	1	☼	6010B	Total/NA
Calcium	57000	B	120	37	mg/Kg	10	☼	6010B	Total/NA
Chromium	15	B	0.58	0.099	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.29	0.065	mg/Kg	1	☼	6010B	Total/NA
Copper	26		0.58	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	17000		12	4.4	mg/Kg	1	☼	6010B	Total/NA
Lead	26		0.29	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	28000	B	5.8	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	340		0.58	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	2100	B	29	4.7	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.31	J	0.58	0.28	mg/Kg	1	☼	6010B	Total/NA
Sodium	200	B	58	7.6	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.35	J	0.58	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.29	0.084	mg/Kg	1	☼	6010B	Total/NA
Zinc	160		1.2	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	0.38	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.092	J	0.50	0.050	mg/L	1		6010B	TCLP
Manganese	1.4		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.035	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.051		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.032		0.021	0.0072	mg/Kg	1	☼	7471B	Total/NA
pH	7.77		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-82-B01 (0-1)**

**Lab Sample ID: 500-104045-20**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluorene	0.026	J	0.039	0.0056	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.30		0.039	0.0055	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B01 (0-1) (Continued)**

**Lab Sample ID: 500-104045-20**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.081		0.039	0.0066	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.69		0.039	0.0074	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.93		0.039	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.34		0.039	0.0053	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.39		0.039	0.011	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.12	J	0.20	0.073	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.55		0.039	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.23		0.039	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.37		0.039	0.0077	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.25		0.039	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.053		0.039	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.26		0.039	0.013	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.3		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	60		0.54	0.099	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.61		0.22	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	10		2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.24		0.11	0.031	mg/Kg	1	☼	6010B	Total/NA
Calcium	55000	B	110	35	mg/Kg	10	☼	6010B	Total/NA
Chromium	17	B	0.54	0.093	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.27	0.061	mg/Kg	1	☼	6010B	Total/NA
Copper	27		0.54	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	17000		11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	28		0.27	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	24000	B	5.4	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	370		0.54	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1900	B	27	4.4	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.35	J	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	550	B	54	7.2	mg/Kg	1	☼	6010B	Total/NA
Vanadium	20		0.27	0.079	mg/Kg	1	☼	6010B	Total/NA
Zinc	80		1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.38	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.50		0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.21		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	1.6		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.010	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.38	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.15		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.025		0.019	0.0067	mg/Kg	1	☼	7471B	Total/NA
pH	7.62		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-82-B05 (0-1)**

**Lab Sample ID: 500-104045-21**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.015	J	0.038	0.0070	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.11		0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.012	J	0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.15		0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.15		0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.060		0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B05 (0-1) (Continued)**

**Lab Sample ID: 500-104045-21**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.11		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.16		0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.059		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.087		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.048		0.038	0.0099	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.048		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.56	J F1	1.1	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	11	F1	0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	50		0.54	0.099	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.59		0.22	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	8.7	F1	2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.22	B	0.11	0.031	mg/Kg	1	☼	6010B	Total/NA
Calcium	22000	B	11	3.5	mg/Kg	1	☼	6010B	Total/NA
Chromium	16	B	0.54	0.093	mg/Kg	1	☼	6010B	Total/NA
Cobalt	15		0.27	0.061	mg/Kg	1	☼	6010B	Total/NA
Copper	33	F1	0.54	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	20000	B	11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	34		0.27	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	15000		5.4	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	540		0.54	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1800	F1	27	4.4	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.47	J F1	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	1400		54	7.2	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.54		0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Vanadium	18		0.27	0.079	mg/Kg	1	☼	6010B	Total/NA
Zinc	84	B	1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.33	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.41	J F1	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0026	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	1.3		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.085	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.87		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.030		0.017	0.0058	mg/Kg	1	☼	7471B	Total/NA
pH	8.15		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-82-B04 (0-1)**

**Lab Sample ID: 500-104045-22**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.0078	J	0.0092	0.0017	mg/Kg	1	☼	8260B	Total/NA
Phenanthrene	0.29		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.057		0.037	0.0062	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.75		0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.70		0.037	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.26		0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.33		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.32		0.19	0.068	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.52		0.037	0.0080	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.15		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.29		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

## Client Sample ID: 2993-82-B04 (0-1) (Continued)

## Lab Sample ID: 500-104045-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Indeno[1,2,3-cd]pyrene	0.22		0.037	0.0096	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.25		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.44	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.9		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	81		0.54	0.099	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.58		0.22	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	4.4		2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.21	B	0.11	0.031	mg/Kg	1	☼	6010B	Total/NA
Calcium	9400	B	11	3.5	mg/Kg	1	☼	6010B	Total/NA
Chromium	22	B	0.54	0.093	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.27	0.061	mg/Kg	1	☼	6010B	Total/NA
Copper	23		0.54	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	19000	B	11	4.2	mg/Kg	1	☼	6010B	Total/NA
Lead	29		0.27	0.13	mg/Kg	1	☼	6010B	Total/NA
Magnesium	6600		5.4	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	580		0.54	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	22		0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	1500		27	4.4	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.32	J	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	1200		54	7.1	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.35	J	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Vanadium	21		0.27	0.079	mg/Kg	1	☼	6010B	Total/NA
Zinc	96	B	1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.40	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.082	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0028	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Iron	0.25		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	1.1		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.38	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	1.2		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.034		0.018	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.83		0.200	0.200	SU	1		9045D	Total/NA

## Client Sample ID: 2993-82-B03 (0-1)

## Lab Sample ID: 500-104045-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	0.12		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.14		0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.19		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.073		0.037	0.0049	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.10		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.13		0.037	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.079		0.037	0.0071	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.070		0.037	0.0095	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.075		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.6		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	76		0.58	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.73		0.23	0.050	mg/Kg	1	☼	6010B	Total/NA
Boron	6.3		2.9	0.40	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.18	B	0.12	0.033	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B03 (0-1) (Continued)**

**Lab Sample ID: 500-104045-23**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	21000	B	12	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	17	B	0.58	0.099	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.29	0.065	mg/Kg	1	☼	6010B	Total/NA
Copper	23		0.58	0.13	mg/Kg	1	☼	6010B	Total/NA
Iron	19000	B	12	4.5	mg/Kg	1	☼	6010B	Total/NA
Lead	23		0.29	0.14	mg/Kg	1	☼	6010B	Total/NA
Magnesium	14000		5.8	2.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	290		0.58	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	28		0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	1800		29	4.7	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.62		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Sodium	2100		58	7.6	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.59		0.58	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	18		0.29	0.084	mg/Kg	1	☼	6010B	Total/NA
Zinc	72	B	1.2	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	0.43	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.062	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0027	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Iron	0.22		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	1.2		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.011	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.041	J B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	1.0		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.024		0.018	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	8.76		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-18	2993-82-B02 (0-1)	Solid	11/13/15 12:45	11/14/15 08:00
500-104045-19	2993-82-B02 (0-1)D	Solid	11/13/15 12:45	11/14/15 08:00
500-104045-20	2993-82-B01 (0-1)	Solid	11/13/15 13:25	11/14/15 08:00
500-104045-21	2993-82-B05 (0-1)	Solid	11/13/15 13:45	11/14/15 08:00
500-104045-22	2993-82-B04 (0-1)	Solid	11/13/15 14:00	11/14/15 08:00
500-104045-23	2993-82-B03 (0-1)	Solid	11/13/15 14:10	11/14/15 08:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)**

**Lab Sample ID: 500-104045-18**

**Date Collected: 11/13/15 12:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.5**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.032		0.032	0.0062	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Benzene	<0.0080		0.0080	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Bromodichloromethane	<0.0080		0.0080	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Bromoform	<0.0080		0.0080	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Bromomethane	<0.0080		0.0080	0.0029	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
2-Butanone (MEK)	<0.0080		0.0080	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Carbon disulfide	<0.0080		0.0080	0.0029	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Carbon tetrachloride	<0.0080		0.0080	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Chlorobenzene	<0.0080		0.0080	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Chloroethane	<0.0080	*	0.0080	0.0033	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Chloroform	<0.0080		0.0080	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Chloromethane	<0.0080		0.0080	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
cis-1,2-Dichloroethene	<0.0080		0.0080	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
cis-1,3-Dichloropropene	<0.0080		0.0080	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Dibromochloromethane	<0.0080		0.0080	0.00092	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,1-Dichloroethane	<0.0080		0.0080	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,2-Dichloroethane	<0.0080		0.0080	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,1-Dichloroethene	<0.0080		0.0080	0.0029	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,2-Dichloropropane	<0.0080		0.0080	0.0021	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,3-Dichloropropane, Total	<0.0080		0.0080	0.0022	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Ethylbenzene	<0.0080		0.0080	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
2-Hexanone	<0.0080		0.0080	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Methylene Chloride	<0.0080		0.0080	0.0060	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
4-Methyl-2-pentanone (MIBK)	<0.0080		0.0080	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Methyl tert-butyl ether	<0.0080		0.0080	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Styrene	<0.0080		0.0080	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,1,2,2-Tetrachloroethane	<0.0080		0.0080	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Tetrachloroethene	<0.0080		0.0080	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Toluene	<0.0080		0.0080	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
trans-1,2-Dichloroethene	<0.0080		0.0080	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
trans-1,3-Dichloropropene	<0.0080		0.0080	0.0022	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,1,1-Trichloroethane	<0.0080		0.0080	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
1,1,2-Trichloroethane	<0.0080		0.0080	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Trichloroethene	<0.0080		0.0080	0.0022	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Vinyl acetate	<0.0080		0.0080	0.0021	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Vinyl chloride	<0.0080		0.0080	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1
Xylenes, Total	<0.016		0.016	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 18:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 122	11/14/15 14:10	11/16/15 18:32	1
Dibromofluoromethane	107		75 - 120	11/14/15 14:10	11/16/15 18:32	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 134	11/14/15 14:10	11/16/15 18:32	1
Toluene-d8 (Surr)	96		75 - 122	11/14/15 14:10	11/16/15 18:32	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.083	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)**

**Lab Sample ID: 500-104045-18**

**Date Collected: 11/13/15 12:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.5**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Nitrobenzene	<0.037		0.037	0.0094	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Naphthalene</b>	<b>0.029</b>	<b>J</b>	0.037	0.0058	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,4,5-Trichlorophenol	<0.37		0.37	0.086	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>2-Methylnaphthalene</b>	<b>0.040</b>		0.037	0.0069	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2-Nitrophenol	<0.37		0.37	0.089	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,4-Dinitrophenol	<0.76		0.76	0.66	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Acenaphthylene</b>	<b>0.040</b>		0.037	0.0050	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Acenaphthene</b>	<b>0.047</b>		0.037	0.0068	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Fluorene</b>	<b>0.066</b>		0.037	0.0053	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Pentachlorophenol	<0.76		0.76	0.60	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Phenanthrene</b>	<b>0.63</b>		0.037	0.0052	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Anthracene</b>	<b>0.22</b>		0.037	0.0063	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Carbazole	<0.19		0.19	0.094	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Fluoranthene</b>	<b>1.5</b>		0.037	0.0070	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Pyrene</b>	<b>1.9</b>		0.037	0.0075	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Benzo[a]anthracene</b>	<b>0.72</b>		0.037	0.0051	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)**

**Lab Sample ID: 500-104045-18**

Date Collected: 11/13/15 12:45

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 86.5

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.70</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.072</b>	<b>J</b>	0.19	0.069	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Benzo[b]fluoranthene</b>	<b>0.94</b>		0.037	0.0081	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Benzo[k]fluoranthene</b>	<b>0.37</b>		0.037	0.011	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Benzo[a]pyrene</b>	<b>0.69</b>		0.037	0.0073	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.33</b>		0.037	0.0097	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Dibenz(a,h)anthracene</b>	<b>0.080</b>		0.037	0.0073	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
<b>Benzo[g,h,i]perylene</b>	<b>0.31</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/26/15 00:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	100		25 - 110	11/19/15 07:08	11/26/15 00:04	1
Phenol-d5	94		31 - 110	11/19/15 07:08	11/26/15 00:04	1
Nitrobenzene-d5	107		25 - 115	11/19/15 07:08	11/26/15 00:04	1
2-Fluorobiphenyl	94		25 - 119	11/19/15 07:08	11/26/15 00:04	1
2,4,6-Tribromophenol	86		35 - 137	11/19/15 07:08	11/26/15 00:04	1
Terphenyl-d14	148	X	36 - 134	11/19/15 07:08	11/26/15 00:04	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2	F1	1.2	0.24	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Arsenic</b>	<b>7.8</b>	<b>F1</b>	0.58	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Barium</b>	<b>37</b>	<b>F1</b>	0.58	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Beryllium</b>	<b>0.54</b>	<b>F1</b>	0.23	0.050	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Boron</b>	<b>14</b>	<b>F1</b>	2.9	0.40	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Cadmium</b>	<b>0.22</b>	<b>F1</b>	0.12	0.033	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Calcium</b>	<b>100000</b>	<b>B</b>	120	37	mg/Kg	☼	11/24/15 11:26	11/25/15 13:57	10
<b>Chromium</b>	<b>38</b>	<b>B F1</b>	0.58	0.099	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Cobalt</b>	<b>9.9</b>	<b>F1</b>	0.29	0.065	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Copper</b>	<b>25</b>	<b>F1</b>	0.58	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Iron</b>	<b>19000</b>		12	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Lead</b>	<b>21</b>	<b>F1</b>	0.29	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Magnesium</b>	<b>38000</b>	<b>B</b>	5.8	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Manganese</b>	<b>690</b>		0.58	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Nickel</b>	<b>25</b>	<b>F1</b>	0.58	0.16	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Potassium</b>	<b>2100</b>	<b>B F1</b>	29	4.7	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Selenium</b>	<b>0.51</b>	<b>J F1</b>	0.58	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
Silver	<0.29	F1	0.29	0.067	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Sodium</b>	<b>220</b>	<b>B F1</b>	58	7.6	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Thallium</b>	<b>0.99</b>	<b>F1</b>	0.58	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Vanadium</b>	<b>43</b>	<b>F1</b>	0.29	0.084	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1
<b>Zinc</b>	<b>64</b>	<b>F1</b>	1.2	0.36	mg/Kg	☼	11/24/15 11:26	11/25/15 05:43	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.32</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:49	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 14:49	1
<b>Boron</b>	<b>0.087</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:49	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)**

**Lab Sample ID: 500-104045-18**

**Date Collected: 11/13/15 12:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.5**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 14:49	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:49	1
<b>Cobalt</b>	<b>0.016</b>	<b>J</b>	0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:49	1
Iron	<0.20		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 14:49	1
<b>Lead</b>	<b>0.012</b>		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 14:49	1
<b>Manganese</b>	<b>1.8</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:49	1
<b>Nickel</b>	<b>0.022</b>	<b>J</b>	0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:49	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 14:49	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:49	1
<b>Zinc</b>	<b>0.084</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 14:49	1

**Method: 6010B - SPLP Metals - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		12/01/15 09:45	12/01/15 19:02	1
Manganese	<0.025		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 19:02	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 16:07	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 16:07	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:39	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.017</b>		0.017	0.0058	mg/Kg	☼	11/25/15 06:45	11/25/15 12:44	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.88</b>		0.200	0.200	SU			11/21/15 13:16	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)D**

**Lab Sample ID: 500-104045-19**

**Date Collected: 11/13/15 12:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 80.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.033		0.033	0.0063	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Benzene	<0.0082		0.0082	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Bromodichloromethane	<0.0082		0.0082	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Bromoform	<0.0082		0.0082	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Bromomethane	<0.0082		0.0082	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
2-Butanone (MEK)	<0.0082		0.0082	0.0029	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Carbon disulfide	<0.0082		0.0082	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Carbon tetrachloride	<0.0082		0.0082	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Chlorobenzene	<0.0082		0.0082	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Chloroethane	<0.0082	*	0.0082	0.0034	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Chloroform	<0.0082		0.0082	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Chloromethane	<0.0082		0.0082	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
cis-1,2-Dichloroethene	<0.0082		0.0082	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
cis-1,3-Dichloropropene	<0.0082		0.0082	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Dibromochloromethane	<0.0082		0.0082	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,1-Dichloroethane	<0.0082		0.0082	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,2-Dichloroethane	<0.0082		0.0082	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,1-Dichloroethene	<0.0082		0.0082	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,2-Dichloropropane	<0.0082		0.0082	0.0021	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,3-Dichloropropane, Total	<0.0082		0.0082	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Ethylbenzene	<0.0082		0.0082	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
2-Hexanone	<0.0082		0.0082	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Methylene Chloride	<0.0082		0.0082	0.0062	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
4-Methyl-2-pentanone (MIBK)	<0.0082		0.0082	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Methyl tert-butyl ether	<0.0082		0.0082	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Styrene	<0.0082		0.0082	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,1,2,2-Tetrachloroethane	<0.0082		0.0082	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Tetrachloroethene	<0.0082		0.0082	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Toluene	<0.0082		0.0082	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
trans-1,2-Dichloroethene	<0.0082		0.0082	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
trans-1,3-Dichloropropene	<0.0082		0.0082	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,1,1-Trichloroethane	<0.0082		0.0082	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
1,1,2-Trichloroethane	<0.0082		0.0082	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Trichloroethene	<0.0082		0.0082	0.0022	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Vinyl acetate	<0.0082		0.0082	0.0022	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Vinyl chloride	<0.0082		0.0082	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1
Xylenes, Total	<0.016		0.016	0.0030	mg/Kg	☼	11/14/15 14:10	11/16/15 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 122	11/14/15 14:10	11/16/15 18:56	1
Dibromofluoromethane	106		75 - 120	11/14/15 14:10	11/16/15 18:56	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 134	11/14/15 14:10	11/16/15 18:56	1
Toluene-d8 (Surr)	92		75 - 122	11/14/15 14:10	11/16/15 18:56	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.090	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.061	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
1,3-Dichlorobenzene	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
1,4-Dichlorobenzene	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)D**

**Lab Sample ID: 500-104045-19**

**Date Collected: 11/13/15 12:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 80.0**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2-Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
N-Nitrosodi-n-propylamine	<0.082		0.082	0.050	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Hexachloroethane	<0.20		0.20	0.062	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2-Chlorophenol	<0.20		0.20	0.069	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Isophorone	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Hexachlorobutadiene	<0.20		0.20	0.064	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Naphthalene	<0.040		0.040	0.0062	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,4-Dichlorophenol	<0.40		0.40	0.096	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4-Chloroaniline	<0.82		0.82	0.19	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,4,5-Trichlorophenol	<0.40		0.40	0.093	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Hexachlorocyclopentadiene	<0.82		0.82	0.23	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>2-Methylnaphthalene</b>	<b>0.030</b>	<b>J</b>	0.040	0.0075	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2-Nitroaniline	<0.20		0.20	0.055	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2-Chloronaphthalene	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,6-Dinitrotoluene	<0.20		0.20	0.080	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2-Nitrophenol	<0.40		0.40	0.096	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
3-Nitroaniline	<0.40		0.40	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Dimethyl phthalate	<0.20		0.20	0.053	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,4-Dinitrophenol	<0.82		0.82	0.71	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Acenaphthylene</b>	<b>0.033</b>	<b>J</b>	0.040	0.0053	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
2,4-Dinitrotoluene	<0.20		0.20	0.064	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Acenaphthene</b>	<b>0.038</b>	<b>J</b>	0.040	0.0073	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Dibenzofuran	<0.20		0.20	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4-Nitrophenol	<0.82		0.82	0.39	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Fluorene</b>	<b>0.050</b>		0.040	0.0057	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Hexachlorobenzene	<0.082		0.082	0.0094	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Diethyl phthalate	<0.20		0.20	0.069	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Pentachlorophenol	<0.82		0.82	0.65	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
N-Nitrosodiphenylamine	<0.20		0.20	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
4,6-Dinitro-2-methylphenol	<0.82		0.82	0.33	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Phenanthrene</b>	<b>0.43</b>		0.040	0.0057	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Anthracene</b>	<b>0.14</b>		0.040	0.0068	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Di-n-butyl phthalate	<0.20		0.20	0.062	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Fluoranthene</b>	<b>1.1</b>		0.040	0.0075	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Pyrene</b>	<b>1.4</b>		0.040	0.0081	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Butyl benzyl phthalate	<0.20		0.20	0.077	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Benzo[a]anthracene</b>	<b>0.59</b>		0.040	0.0055	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)D**

**Lab Sample ID: 500-104045-19**

Date Collected: 11/13/15 12:45

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 80.0

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.57</b>		0.040	0.011	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.057	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.074	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
Di-n-octyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Benzo[b]fluoranthene</b>	<b>0.85</b>		0.040	0.0088	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Benzo[k]fluoranthene</b>	<b>0.31</b>		0.040	0.012	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Benzo[a]pyrene</b>	<b>0.59</b>		0.040	0.0079	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.32</b>		0.040	0.011	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Dibenz(a,h)anthracene</b>	<b>0.073</b>		0.040	0.0078	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
<b>Benzo[g,h,i]perylene</b>	<b>0.30</b>		0.040	0.013	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1
3 & 4 Methylphenol	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 07:08	11/26/15 00:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	105		25 - 110	11/19/15 07:08	11/26/15 00:32	1
Phenol-d5	99		31 - 110	11/19/15 07:08	11/26/15 00:32	1
Nitrobenzene-d5	110		25 - 115	11/19/15 07:08	11/26/15 00:32	1
2-Fluorobiphenyl	100		25 - 119	11/19/15 07:08	11/26/15 00:32	1
2,4,6-Tribromophenol	84		35 - 137	11/19/15 07:08	11/26/15 00:32	1
Terphenyl-d14	150	X	36 - 134	11/19/15 07:08	11/26/15 00:32	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.25</b>	<b>J</b>	1.2	0.24	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Arsenic</b>	<b>9.2</b>		0.58	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Barium</b>	<b>56</b>		0.58	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Beryllium</b>	<b>0.63</b>		0.23	0.050	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Boron</b>	<b>12</b>		2.9	0.40	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Cadmium</b>	<b>0.47</b>		0.12	0.033	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Calcium</b>	<b>57000</b>	<b>B</b>	120	37	mg/Kg	☼	11/24/15 11:26	11/25/15 14:17	10
<b>Chromium</b>	<b>15</b>	<b>B</b>	0.58	0.099	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Cobalt</b>	<b>11</b>		0.29	0.065	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Copper</b>	<b>26</b>		0.58	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Iron</b>	<b>17000</b>		12	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Lead</b>	<b>26</b>		0.29	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Magnesium</b>	<b>28000</b>	<b>B</b>	5.8	2.3	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Manganese</b>	<b>340</b>		0.58	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Nickel</b>	<b>26</b>		0.58	0.16	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Potassium</b>	<b>2100</b>	<b>B</b>	29	4.7	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Selenium</b>	<b>0.31</b>	<b>J</b>	0.58	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
Silver	<0.29		0.29	0.067	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Sodium</b>	<b>200</b>	<b>B</b>	58	7.6	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Thallium</b>	<b>0.35</b>	<b>J</b>	0.58	0.28	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Vanadium</b>	<b>22</b>		0.29	0.084	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1
<b>Zinc</b>	<b>160</b>		1.2	0.36	mg/Kg	☼	11/24/15 11:26	11/25/15 06:08	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.38</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:54	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 14:54	1
<b>Boron</b>	<b>0.092</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:54	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B02 (0-1)D**

**Lab Sample ID: 500-104045-19**

**Date Collected: 11/13/15 12:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 80.0**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 14:54	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:54	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:54	1
Iron	<0.20		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 14:54	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 14:54	1
<b>Manganese</b>	<b>1.4</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:54	1
Nickel	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:54	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 14:54	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:54	1
<b>Zinc</b>	<b>0.035</b>	<b>J B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 14:54	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.051</b>		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 19:11	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 16:11	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 16:11	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:40	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.032</b>		0.021	0.0072	mg/Kg	☼	11/25/15 06:45	11/25/15 12:46	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.77</b>		0.200	0.200	SU			11/21/15 13:18	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B01 (0-1)**

**Lab Sample ID: 500-104045-20**

**Date Collected: 11/13/15 13:25**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.0**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.027		0.027	0.0051	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Benzene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Bromodichloromethane	<0.0066		0.0066	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Bromoform	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Bromomethane	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
2-Butanone (MEK)	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Carbon disulfide	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Carbon tetrachloride	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Chlorobenzene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Chloroethane	<0.0066	*	0.0066	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Chloroform	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Chloromethane	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
cis-1,2-Dichloroethene	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
cis-1,3-Dichloropropene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Dibromochloromethane	<0.0066		0.0066	0.00076	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,1-Dichloroethane	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,2-Dichloroethane	<0.0066		0.0066	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,1-Dichloroethene	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,2-Dichloropropane	<0.0066		0.0066	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,3-Dichloropropane, Total	<0.0066		0.0066	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Ethylbenzene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
2-Hexanone	<0.0066		0.0066	0.0021	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Methylene Chloride	<0.0066		0.0066	0.0050	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
4-Methyl-2-pentanone (MIBK)	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Methyl tert-butyl ether	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Styrene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,1,1,2-Tetrachloroethane	<0.0066		0.0066	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Tetrachloroethene	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Toluene	<0.0066		0.0066	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
trans-1,2-Dichloroethene	<0.0066		0.0066	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
trans-1,3-Dichloropropene	<0.0066		0.0066	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,1,1-Trichloroethane	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
1,1,2-Trichloroethane	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Trichloroethene	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Vinyl acetate	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Vinyl chloride	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1
Xylenes, Total	<0.013		0.013	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 122	11/14/15 14:10	11/16/15 19:20	1
Dibromofluoromethane	104		75 - 120	11/14/15 14:10	11/16/15 19:20	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 134	11/14/15 14:10	11/16/15 19:20	1
Toluene-d8 (Surr)	93		75 - 122	11/14/15 14:10	11/16/15 19:20	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.20		0.20	0.088	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.060	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B01 (0-1)**

**Lab Sample ID: 500-104045-20**

**Date Collected: 11/13/15 13:25**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.0**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2-Methylphenol	<0.20		0.20	0.064	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
N-Nitrosodi-n-propylamine	<0.080		0.080	0.049	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Hexachloroethane	<0.20		0.20	0.060	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Nitrobenzene	<0.039		0.039	0.0099	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,4-Dimethylphenol	<0.39		0.39	0.15	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Hexachlorobutadiene	<0.20		0.20	0.062	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Naphthalene	<0.039		0.039	0.0061	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,4-Dichlorophenol	<0.39		0.39	0.094	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4-Chloroaniline	<0.80		0.80	0.19	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,4,6-Trichlorophenol	<0.39		0.39	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,4,5-Trichlorophenol	<0.39		0.39	0.091	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Hexachlorocyclopentadiene	<0.80		0.80	0.23	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2-Methylnaphthalene	<0.039		0.039	0.0073	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2-Nitroaniline	<0.20		0.20	0.053	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4-Chloro-3-methylphenol	<0.39		0.39	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,6-Dinitrotoluene	<0.20		0.20	0.078	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2-Nitrophenol	<0.39		0.39	0.094	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
3-Nitroaniline	<0.39		0.39	0.12	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,4-Dinitrophenol	<0.80		0.80	0.70	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Acenaphthylene	<0.039		0.039	0.0052	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
2,4-Dinitrotoluene	<0.20		0.20	0.063	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Acenaphthene	<0.039		0.039	0.0071	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4-Nitrophenol	<0.80		0.80	0.38	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Fluorene</b>	<b>0.026</b>	<b>J</b>	0.039	0.0056	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4-Nitroaniline	<0.39		0.39	0.17	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.052	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Hexachlorobenzene	<0.080		0.080	0.0092	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Diethyl phthalate	<0.20		0.20	0.067	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Pentachlorophenol	<0.80		0.80	0.64	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
4,6-Dinitro-2-methylphenol	<0.80		0.80	0.32	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Phenanthrene</b>	<b>0.30</b>		0.039	0.0055	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Anthracene</b>	<b>0.081</b>		0.039	0.0066	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Carbazole	<0.20		0.20	0.099	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Di-n-butyl phthalate	<0.20		0.20	0.061	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Fluoranthene</b>	<b>0.69</b>		0.039	0.0074	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Pyrene</b>	<b>0.93</b>		0.039	0.0079	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Butyl benzyl phthalate	<0.20		0.20	0.076	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Benzo[a]anthracene</b>	<b>0.34</b>		0.039	0.0053	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B01 (0-1)**

**Lab Sample ID: 500-104045-20**

Date Collected: 11/13/15 13:25

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 83.0

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.39</b>		0.039	0.011	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.12</b>	<b>J</b>	0.20	0.073	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Benzo[b]fluoranthene</b>	<b>0.55</b>		0.039	0.0086	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Benzo[k]fluoranthene</b>	<b>0.23</b>		0.039	0.012	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Benzo[a]pyrene</b>	<b>0.37</b>		0.039	0.0077	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.25</b>		0.039	0.010	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Dibenz(a,h)anthracene</b>	<b>0.053</b>		0.039	0.0077	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
<b>Benzo[g,h,i]perylene</b>	<b>0.26</b>		0.039	0.013	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1
3 & 4 Methylphenol	<0.20		0.20	0.066	mg/Kg	☼	11/19/15 07:08	11/26/15 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	92		25 - 110	11/19/15 07:08	11/26/15 01:00	1
Phenol-d5	87		31 - 110	11/19/15 07:08	11/26/15 01:00	1
Nitrobenzene-d5	94		25 - 115	11/19/15 07:08	11/26/15 01:00	1
2-Fluorobiphenyl	90		25 - 119	11/19/15 07:08	11/26/15 01:00	1
2,4,6-Tribromophenol	99		35 - 137	11/19/15 07:08	11/26/15 01:00	1
Terphenyl-d14	161	X	36 - 134	11/19/15 07:08	11/26/15 01:00	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.23	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Arsenic</b>	<b>7.3</b>		0.54	0.25	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Barium</b>	<b>60</b>		0.54	0.099	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Beryllium</b>	<b>0.61</b>		0.22	0.047	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Boron</b>	<b>10</b>		2.7	0.38	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Cadmium</b>	<b>0.24</b>		0.11	0.031	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Calcium</b>	<b>55000</b>	<b>B</b>	110	35	mg/Kg	☼	11/24/15 11:26	11/25/15 14:21	10
<b>Chromium</b>	<b>17</b>	<b>B</b>	0.54	0.093	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Cobalt</b>	<b>11</b>		0.27	0.061	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Copper</b>	<b>27</b>		0.54	0.12	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Iron</b>	<b>17000</b>		11	4.2	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Lead</b>	<b>28</b>		0.27	0.14	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Magnesium</b>	<b>24000</b>	<b>B</b>	5.4	2.2	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Manganese</b>	<b>370</b>		0.54	0.11	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Nickel</b>	<b>26</b>		0.54	0.15	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Potassium</b>	<b>1900</b>	<b>B</b>	27	4.4	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Selenium</b>	<b>0.35</b>	<b>J</b>	0.54	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
Silver	<0.27		0.27	0.064	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Sodium</b>	<b>550</b>	<b>B</b>	54	7.2	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
Thallium	<0.54		0.54	0.27	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Vanadium</b>	<b>20</b>		0.27	0.079	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1
<b>Zinc</b>	<b>80</b>		1.1	0.34	mg/Kg	☼	11/24/15 11:26	11/25/15 06:20	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.38</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:59	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:05	11/26/15 14:59	1
<b>Boron</b>	<b>0.50</b>		0.50	0.050	mg/L		11/25/15 14:05	11/26/15 14:59	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B01 (0-1)**

**Lab Sample ID: 500-104045-20**

**Date Collected: 11/13/15 13:25**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.0**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/25/15 14:05	11/26/15 14:59	1
Chromium	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:59	1
Cobalt	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:59	1
<b>Iron</b>	<b>0.21</b>		0.20	0.20	mg/L		11/25/15 14:05	11/26/15 14:59	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/25/15 14:05	11/26/15 14:59	1
<b>Manganese</b>	<b>1.6</b>		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:59	1
<b>Nickel</b>	<b>0.010</b>	<b>J</b>	0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:59	1
Selenium	<0.050		0.050	0.020	mg/L		11/25/15 14:05	11/26/15 14:59	1
Silver	<0.025		0.025	0.010	mg/L		11/25/15 14:05	11/26/15 14:59	1
<b>Zinc</b>	<b>0.38</b>	<b>B</b>	0.10	0.020	mg/L		11/25/15 14:05	11/26/15 14:59	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.15</b>		0.025	0.010	mg/L		12/01/15 09:45	12/01/15 19:15	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/25/15 14:05	11/30/15 16:15	1
Thallium	<0.0020		0.0020	0.0020	mg/L		11/25/15 14:05	11/30/15 16:15	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/25/15 16:20	11/27/15 09:42	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.025</b>		0.019	0.0067	mg/Kg	☼	11/25/15 06:45	11/25/15 12:47	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.62</b>		0.200	0.200	SU			11/21/15 13:22	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B05 (0-1)**

**Lab Sample ID: 500-104045-21**

**Date Collected: 11/13/15 13:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.7**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.027		0.027	0.0052	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Benzene	<0.0068		0.0068	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Bromodichloromethane	<0.0068		0.0068	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Bromoform	<0.0068		0.0068	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Bromomethane	<0.0068		0.0068	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
2-Butanone (MEK)	<0.0068		0.0068	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Carbon disulfide	<0.0068		0.0068	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Carbon tetrachloride	<0.0068		0.0068	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Chlorobenzene	<0.0068		0.0068	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Chloroethane	<0.0068	*	0.0068	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Chloroform	<0.0068		0.0068	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Chloromethane	<0.0068		0.0068	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
cis-1,2-Dichloroethene	<0.0068		0.0068	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
cis-1,3-Dichloropropene	<0.0068		0.0068	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Dibromochloromethane	<0.0068		0.0068	0.00078	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,1-Dichloroethane	<0.0068		0.0068	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,2-Dichloroethane	<0.0068		0.0068	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,1-Dichloroethene	<0.0068		0.0068	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,2-Dichloropropane	<0.0068		0.0068	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,3-Dichloropropane, Total	<0.0068		0.0068	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Ethylbenzene	<0.0068		0.0068	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
2-Hexanone	<0.0068		0.0068	0.0021	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Methylene Chloride	<0.0068		0.0068	0.0051	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
4-Methyl-2-pentanone (MIBK)	<0.0068		0.0068	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Methyl tert-butyl ether	<0.0068		0.0068	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Styrene	<0.0068		0.0068	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,1,2,2-Tetrachloroethane	<0.0068		0.0068	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Tetrachloroethene	<0.0068		0.0068	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Toluene	<0.0068		0.0068	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
trans-1,2-Dichloroethene	<0.0068		0.0068	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
trans-1,3-Dichloropropene	<0.0068		0.0068	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,1,1-Trichloroethane	<0.0068		0.0068	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
1,1,2-Trichloroethane	<0.0068		0.0068	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Trichloroethene	<0.0068		0.0068	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Vinyl acetate	<0.0068		0.0068	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Vinyl chloride	<0.0068		0.0068	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1
Xylenes, Total	<0.014		0.014	0.0025	mg/Kg	☼	11/14/15 14:10	11/16/15 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 122	11/14/15 14:10	11/16/15 19:44	1
Dibromofluoromethane	105		75 - 120	11/14/15 14:10	11/16/15 19:44	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 134	11/14/15 14:10	11/16/15 19:44	1
Toluene-d8 (Surr)	94		75 - 122	11/14/15 14:10	11/16/15 19:44	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.085	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B05 (0-1)**

**Lab Sample ID: 500-104045-21**

**Date Collected: 11/13/15 13:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.7**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
N-Nitrosodi-n-propylamine	<0.077		0.077	0.047	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Naphthalene	<0.038		0.038	0.0059	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,4-Dichlorophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4-Chloroaniline	<0.77		0.77	0.18	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,4,5-Trichlorophenol	<0.38		0.38	0.087	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Hexachlorocyclopentadiene	<0.77		0.77	0.22	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>2-Methylnaphthalene</b>	<b>0.015</b>	<b>J</b>	0.038	0.0070	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,6-Dinitrotoluene	<0.19		0.19	0.075	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2-Nitrophenol	<0.38		0.38	0.090	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,4-Dinitrophenol	<0.77		0.77	0.67	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Acenaphthylene	<0.038		0.038	0.0050	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Acenaphthene	<0.038		0.038	0.0069	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4-Nitrophenol	<0.77		0.77	0.36	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Fluorene	<0.038		0.038	0.0054	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Hexachlorobenzene	<0.077		0.077	0.0089	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Pentachlorophenol	<0.77		0.77	0.61	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
4,6-Dinitro-2-methylphenol	<0.77		0.77	0.31	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Phenanthrene</b>	<b>0.11</b>		0.038	0.0053	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Anthracene</b>	<b>0.012</b>	<b>J</b>	0.038	0.0064	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Carbazole	<0.19		0.19	0.096	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Fluoranthene</b>	<b>0.15</b>		0.038	0.0071	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Pyrene</b>	<b>0.15</b>		0.038	0.0076	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Butyl benzyl phthalate	<0.19		0.19	0.073	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Benzo[a]anthracene</b>	<b>0.060</b>		0.038	0.0052	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B05 (0-1)**

**Lab Sample ID: 500-104045-21**

Date Collected: 11/13/15 13:45

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 86.7

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.11</b>		0.038	0.010	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.070	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Benzo[b]fluoranthene</b>	<b>0.16</b>		0.038	0.0083	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Benzo[k]fluoranthene</b>	<b>0.059</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Benzo[a]pyrene</b>	<b>0.087</b>		0.038	0.0074	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.048</b>		0.038	0.0099	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0074	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
<b>Benzo[g,h,i]perylene</b>	<b>0.048</b>		0.038	0.012	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/24/15 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	84		25 - 110	11/19/15 07:08	11/24/15 17:44	1
Phenol-d5	84		31 - 110	11/19/15 07:08	11/24/15 17:44	1
Nitrobenzene-d5	88		25 - 115	11/19/15 07:08	11/24/15 17:44	1
2-Fluorobiphenyl	89		25 - 119	11/19/15 07:08	11/24/15 17:44	1
2,4,6-Tribromophenol	127		35 - 137	11/19/15 07:08	11/24/15 17:44	1
Terphenyl-d14	127		36 - 134	11/19/15 07:08	11/24/15 17:44	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.56</b>	<b>J F1</b>	1.1	0.23	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Arsenic</b>	<b>11</b>	<b>F1</b>	0.54	0.25	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Barium</b>	<b>50</b>		0.54	0.099	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Beryllium</b>	<b>0.59</b>		0.22	0.047	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Boron</b>	<b>8.7</b>	<b>F1</b>	2.7	0.38	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Cadmium</b>	<b>0.22</b>	<b>B</b>	0.11	0.031	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Calcium</b>	<b>22000</b>	<b>B</b>	11	3.5	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Chromium</b>	<b>16</b>	<b>B</b>	0.54	0.093	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Cobalt</b>	<b>15</b>		0.27	0.061	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Copper</b>	<b>33</b>	<b>F1</b>	0.54	0.12	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Iron</b>	<b>20000</b>	<b>B</b>	11	4.2	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Lead</b>	<b>34</b>		0.27	0.14	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Magnesium</b>	<b>15000</b>		5.4	2.2	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Manganese</b>	<b>540</b>		0.54	0.11	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Nickel</b>	<b>30</b>		0.54	0.15	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Potassium</b>	<b>1800</b>	<b>F1</b>	27	4.4	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Selenium</b>	<b>0.47</b>	<b>J F1</b>	0.54	0.27	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
Silver	<0.27		0.27	0.063	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Sodium</b>	<b>1400</b>		54	7.2	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Thallium</b>	<b>0.54</b>		0.54	0.27	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Vanadium</b>	<b>18</b>		0.27	0.079	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1
<b>Zinc</b>	<b>84</b>	<b>B</b>	1.1	0.34	mg/Kg	☼	11/24/15 20:03	11/25/15 17:37	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.33</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 12:54	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:07	11/26/15 12:54	1
<b>Boron</b>	<b>0.41</b>	<b>J F1</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 12:54	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B05 (0-1)**

**Lab Sample ID: 500-104045-21**

**Date Collected: 11/13/15 13:45**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.7**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0026</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
<b>Manganese</b>	<b>1.3</b>		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 12:54	1
<b>Zinc</b>	<b>0.085</b>	<b>J B</b>	0.10	0.020	mg/L	-	11/25/15 14:07	11/26/15 12:54	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.87</b>		0.025	0.010	mg/L	-	12/01/15 09:45	12/01/15 19:19	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:07	11/30/15 17:19	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:07	11/30/15 17:19	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 09:52	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.030</b>		0.017	0.0058	mg/Kg	☼	11/25/15 06:45	11/25/15 12:54	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.15</b>		0.200	0.200	SU	-		11/21/15 13:24	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B04 (0-1)**

**Lab Sample ID: 500-104045-22**

**Date Collected: 11/13/15 14:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 85.6**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.018		0.018	0.0035	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Benzene	<0.0046		0.0046	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Bromodichloromethane	<0.0046		0.0046	0.00077	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Bromoform	<0.0046		0.0046	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Bromomethane	<0.0046		0.0046	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
2-Butanone (MEK)	<0.0046		0.0046	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Carbon disulfide	<0.0046		0.0046	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Carbon tetrachloride	<0.0046		0.0046	0.00098	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Chlorobenzene	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Chloroethane	<0.0046	*	0.0046	0.0019	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Chloroform	<0.0046		0.0046	0.00089	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Chloromethane	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
cis-1,2-Dichloroethene	<0.0046		0.0046	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
cis-1,3-Dichloropropene	<0.0046		0.0046	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Dibromochloromethane	<0.0046		0.0046	0.00053	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,1-Dichloroethane	<0.0046		0.0046	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,2-Dichloroethane	<0.0046		0.0046	0.00068	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,1-Dichloroethene	<0.0046		0.0046	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,2-Dichloropropane	<0.0046		0.0046	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,3-Dichloropropane, Total	<0.0046		0.0046	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Ethylbenzene	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
2-Hexanone	<0.0046		0.0046	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Methylene Chloride	<0.0046		0.0046	0.0035	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
4-Methyl-2-pentanone (MIBK)	<0.0046		0.0046	0.00094	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Methyl tert-butyl ether	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Styrene	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,1,2,2-Tetrachloroethane	<0.0046		0.0046	0.00073	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Tetrachloroethene	<0.0046		0.0046	0.00095	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Toluene	<0.0046		0.0046	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
trans-1,2-Dichloroethene	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
trans-1,3-Dichloropropene	<0.0046		0.0046	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,1,1-Trichloroethane	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
1,1,2-Trichloroethane	<0.0046		0.0046	0.00089	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Trichloroethene	<0.0046		0.0046	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Vinyl acetate	<0.0046		0.0046	0.0012	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
Vinyl chloride	<0.0046		0.0046	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1
<b>Xylenes, Total</b>	<b>0.0078</b>	<b>J</b>	0.0092	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 122	11/14/15 14:10	11/16/15 20:09	1
Dibromofluoromethane	107		75 - 120	11/14/15 14:10	11/16/15 20:09	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 134	11/14/15 14:10	11/16/15 20:09	1
Toluene-d8 (Surr)	92		75 - 122	11/14/15 14:10	11/16/15 20:09	1

**Method: 8270D - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.082	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.055	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
1,4-Dichlorobenzene	<0.19		0.19	0.047	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B04 (0-1)**

**Lab Sample ID: 500-104045-22**

**Date Collected: 11/13/15 14:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 85.6**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2-Methylphenol	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
N-Nitrosodi-n-propylamine	<0.075		0.075	0.045	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Hexachloroethane	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2-Chlorophenol	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Nitrobenzene	<0.037		0.037	0.0092	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Hexachlorobutadiene	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Naphthalene	<0.037		0.037	0.0057	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,4-Dichlorophenol	<0.37		0.37	0.088	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4-Chloroaniline	<0.75		0.75	0.17	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,4,5-Trichlorophenol	<0.37		0.37	0.084	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Hexachlorocyclopentadiene	<0.75		0.75	0.21	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2-Methylnaphthalene	<0.037		0.037	0.0068	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2-Nitrophenol	<0.37		0.37	0.087	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
3-Nitroaniline	<0.37		0.37	0.11	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Dimethyl phthalate	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,4-Dinitrophenol	<0.75		0.75	0.65	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Acenaphthene	<0.037		0.037	0.0067	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Dibenzofuran	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4-Nitrophenol	<0.75		0.75	0.35	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Fluorene	<0.037		0.037	0.0052	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4-Nitroaniline	<0.37		0.37	0.15	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Hexachlorobenzene	<0.075		0.075	0.0086	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Pentachlorophenol	<0.75		0.75	0.59	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
4,6-Dinitro-2-methylphenol	<0.75		0.75	0.30	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Phenanthrene</b>	<b>0.29</b>		0.037	0.0052	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Anthracene</b>	<b>0.057</b>		0.037	0.0062	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Carbazole	<0.19		0.19	0.092	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Di-n-butyl phthalate	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Fluoranthene</b>	<b>0.75</b>		0.037	0.0069	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Pyrene</b>	<b>0.70</b>		0.037	0.0074	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Butyl benzyl phthalate	<0.19		0.19	0.070	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Benzo[a]anthracene</b>	<b>0.26</b>		0.037	0.0050	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B04 (0-1)**

**Lab Sample ID: 500-104045-22**

Date Collected: 11/13/15 14:00

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 85.6

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.33</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.32</b>		0.19	0.068	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Di-n-octyl phthalate	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Benzo[b]fluoranthene</b>	<b>0.52</b>		0.037	0.0080	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Benzo[k]fluoranthene</b>	<b>0.15</b>		0.037	0.011	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Benzo[a]pyrene</b>	<b>0.29</b>		0.037	0.0072	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.22</b>		0.037	0.0096	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0072	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
<b>Benzo[g,h,i]perylene</b>	<b>0.25</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:08	11/26/15 01:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	88		25 - 110	11/19/15 07:08	11/26/15 01:56	1
Phenol-d5	82		31 - 110	11/19/15 07:08	11/26/15 01:56	1
Nitrobenzene-d5	92		25 - 115	11/19/15 07:08	11/26/15 01:56	1
2-Fluorobiphenyl	85		25 - 119	11/19/15 07:08	11/26/15 01:56	1
2,4,6-Tribromophenol	72		35 - 137	11/19/15 07:08	11/26/15 01:56	1
Terphenyl-d14	130		36 - 134	11/19/15 07:08	11/26/15 01:56	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.44</b>	<b>J</b>	1.1	0.22	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Arsenic</b>	<b>7.9</b>		0.54	0.25	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Barium</b>	<b>81</b>		0.54	0.099	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Beryllium</b>	<b>0.58</b>		0.22	0.047	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Boron</b>	<b>4.4</b>		2.7	0.38	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Cadmium</b>	<b>0.21</b>	<b>B</b>	0.11	0.031	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Calcium</b>	<b>9400</b>	<b>B</b>	11	3.5	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Chromium</b>	<b>22</b>	<b>B</b>	0.54	0.093	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Cobalt</b>	<b>13</b>		0.27	0.061	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Copper</b>	<b>23</b>		0.54	0.12	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Iron</b>	<b>19000</b>	<b>B</b>	11	4.2	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Lead</b>	<b>29</b>		0.27	0.13	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Magnesium</b>	<b>6600</b>		5.4	2.2	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Manganese</b>	<b>580</b>		0.54	0.11	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Nickel</b>	<b>22</b>		0.54	0.15	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Potassium</b>	<b>1500</b>		27	4.4	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Selenium</b>	<b>0.32</b>	<b>J</b>	0.54	0.27	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
Silver	<0.27		0.27	0.063	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Sodium</b>	<b>1200</b>		54	7.1	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Thallium</b>	<b>0.35</b>	<b>J</b>	0.54	0.27	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Vanadium</b>	<b>21</b>		0.27	0.079	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1
<b>Zinc</b>	<b>96</b>	<b>B</b>	1.1	0.34	mg/Kg	☼	11/24/15 20:03	11/25/15 18:01	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.40</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 13:15	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:07	11/26/15 13:15	1
<b>Boron</b>	<b>0.082</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 13:15	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B04 (0-1)**

**Lab Sample ID: 500-104045-22**

**Date Collected: 11/13/15 14:00**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 85.6**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0028</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
<b>Iron</b>	<b>0.25</b>		0.20	0.20	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
<b>Manganese</b>	<b>1.1</b>		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:15	1
<b>Zinc</b>	<b>0.38</b>	<b>B</b>	0.10	0.020	mg/L	-	11/25/15 14:07	11/26/15 13:15	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>1.2</b>		0.025	0.010	mg/L	-	12/01/15 09:45	12/01/15 19:24	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:07	11/30/15 17:34	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:07	11/30/15 17:34	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 09:58	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.034</b>		0.018	0.0064	mg/Kg	☼	11/25/15 06:45	11/25/15 13:06	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.83</b>		0.200	0.200	SU	-		11/21/15 13:26	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B03 (0-1)**

**Lab Sample ID: 500-104045-23**

**Date Collected: 11/13/15 14:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.4**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.026		0.026	0.0051	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Benzene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Bromodichloromethane	<0.0066		0.0066	0.0011	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Bromoform	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Bromomethane	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
2-Butanone (MEK)	<0.0066		0.0066	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Carbon disulfide	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Carbon tetrachloride	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Chlorobenzene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Chloroethane	<0.0066	*	0.0066	0.0028	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Chloroform	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Chloromethane	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
cis-1,2-Dichloroethene	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
cis-1,3-Dichloropropene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Dibromochloromethane	<0.0066		0.0066	0.00075	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,1-Dichloroethane	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,2-Dichloroethane	<0.0066		0.0066	0.00097	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,1-Dichloroethene	<0.0066		0.0066	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,2-Dichloropropane	<0.0066		0.0066	0.0017	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,3-Dichloropropane, Total	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Ethylbenzene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
2-Hexanone	<0.0066		0.0066	0.0020	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Methylene Chloride	<0.0066		0.0066	0.0050	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
4-Methyl-2-pentanone (MIBK)	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Methyl tert-butyl ether	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Styrene	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,1,2,2-Tetrachloroethane	<0.0066		0.0066	0.0010	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Tetrachloroethene	<0.0066		0.0066	0.0014	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Toluene	<0.0066		0.0066	0.0023	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
trans-1,2-Dichloroethene	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
trans-1,3-Dichloropropene	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,1,1-Trichloroethane	<0.0066		0.0066	0.0015	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
1,1,2-Trichloroethane	<0.0066		0.0066	0.0013	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Trichloroethene	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Vinyl acetate	<0.0066		0.0066	0.0018	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Vinyl chloride	<0.0066		0.0066	0.0016	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1
Xylenes, Total	<0.013		0.013	0.0024	mg/Kg	☼	11/14/15 14:10	11/16/15 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 122	11/14/15 14:10	11/16/15 20:33	1
Dibromofluoromethane	105		75 - 120	11/14/15 14:10	11/16/15 20:33	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 134	11/14/15 14:10	11/16/15 20:33	1
Toluene-d8 (Surr)	97		75 - 122	11/14/15 14:10	11/16/15 20:33	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.082	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.055	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
1,3-Dichlorobenzene	<0.18		0.18	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
1,4-Dichlorobenzene	<0.18		0.18	0.047	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B03 (0-1)**

**Lab Sample ID: 500-104045-23**

**Date Collected: 11/13/15 14:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.4**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.044	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2-Methylphenol	<0.18		0.18	0.059	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
N-Nitrosodi-n-propylamine	<0.074		0.074	0.045	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Hexachloroethane	<0.18		0.18	0.056	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2-Chlorophenol	<0.18		0.18	0.063	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Nitrobenzene	<0.037		0.037	0.0092	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.038	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.040	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Isophorone	<0.18		0.18	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Hexachlorobutadiene	<0.18		0.18	0.058	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Naphthalene	<0.037		0.037	0.0057	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,4-Dichlorophenol	<0.37		0.37	0.087	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,4,5-Trichlorophenol	<0.37		0.37	0.084	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2-Methylnaphthalene	<0.037		0.037	0.0068	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2-Nitroaniline	<0.18		0.18	0.049	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2-Chloronaphthalene	<0.18		0.18	0.041	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,6-Dinitrotoluene	<0.18		0.18	0.072	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2-Nitrophenol	<0.37		0.37	0.087	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
3-Nitroaniline	<0.37		0.37	0.11	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Dimethyl phthalate	<0.18		0.18	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,4-Dinitrophenol	<0.74		0.74	0.65	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Acenaphthylene	<0.037		0.037	0.0048	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
2,4-Dinitrotoluene	<0.18		0.18	0.058	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Acenaphthene	<0.037		0.037	0.0066	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Dibenzofuran	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Fluorene	<0.037		0.037	0.0052	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4-Nitroaniline	<0.37		0.37	0.15	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.048	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Hexachlorobenzene	<0.074		0.074	0.0085	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Diethyl phthalate	<0.18		0.18	0.062	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Pentachlorophenol	<0.74		0.74	0.59	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
N-Nitrosodiphenylamine	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.30	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Phenanthrene</b>	<b>0.12</b>		0.037	0.0051	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Anthracene	<0.037		0.037	0.0061	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Carbazole	<0.18		0.18	0.092	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Di-n-butyl phthalate	<0.18		0.18	0.056	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Fluoranthene</b>	<b>0.14</b>		0.037	0.0068	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Pyrene</b>	<b>0.19</b>		0.037	0.0073	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Butyl benzyl phthalate	<0.18		0.18	0.070	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Benzo[a]anthracene</b>	<b>0.073</b>		0.037	0.0049	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B03 (0-1)**

**Lab Sample ID: 500-104045-23**

**Date Collected: 11/13/15 14:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.4**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.10</b>		0.037	0.010	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.051	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Bis(2-ethylhexyl) phthalate	<0.18		0.18	0.067	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Di-n-octyl phthalate	<0.18		0.18	0.060	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Benzo[b]fluoranthene</b>	<b>0.13</b>		0.037	0.0079	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Benzo[k]fluoranthene	<0.037		0.037	0.011	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Benzo[a]pyrene</b>	<b>0.079</b>		0.037	0.0071	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.070</b>		0.037	0.0095	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0071	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
<b>Benzo[g,h,i]perylene</b>	<b>0.075</b>		0.037	0.012	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1
3 & 4 Methylphenol	<0.18		0.18	0.061	mg/Kg	☼	11/19/15 07:08	11/26/15 02:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	93		25 - 110	11/19/15 07:08	11/26/15 02:25	1
Phenol-d5	88		31 - 110	11/19/15 07:08	11/26/15 02:25	1
Nitrobenzene-d5	96		25 - 115	11/19/15 07:08	11/26/15 02:25	1
2-Fluorobiphenyl	89		25 - 119	11/19/15 07:08	11/26/15 02:25	1
2,4,6-Tribromophenol	91		35 - 137	11/19/15 07:08	11/26/15 02:25	1
Terphenyl-d14	160	X	36 - 134	11/19/15 07:08	11/26/15 02:25	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.24	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Arsenic</b>	<b>7.6</b>		0.58	0.27	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Barium</b>	<b>76</b>		0.58	0.11	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Beryllium</b>	<b>0.73</b>		0.23	0.050	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Boron</b>	<b>6.3</b>		2.9	0.40	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Cadmium</b>	<b>0.18</b>	<b>B</b>	0.12	0.033	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Calcium</b>	<b>21000</b>	<b>B</b>	12	3.7	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Chromium</b>	<b>17</b>	<b>B</b>	0.58	0.099	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Cobalt</b>	<b>13</b>		0.29	0.065	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Copper</b>	<b>23</b>		0.58	0.13	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Iron</b>	<b>19000</b>	<b>B</b>	12	4.5	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Lead</b>	<b>23</b>		0.29	0.14	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Magnesium</b>	<b>14000</b>		5.8	2.3	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Manganese</b>	<b>290</b>		0.58	0.11	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Nickel</b>	<b>28</b>		0.58	0.16	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Potassium</b>	<b>1800</b>		29	4.7	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Selenium</b>	<b>0.62</b>		0.58	0.29	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
Silver	<0.29		0.29	0.068	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Sodium</b>	<b>2100</b>		58	7.6	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Thallium</b>	<b>0.59</b>		0.58	0.28	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Vanadium</b>	<b>18</b>		0.29	0.084	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1
<b>Zinc</b>	<b>72</b>	<b>B</b>	1.2	0.37	mg/Kg	☼	11/24/15 20:03	11/25/15 18:06	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.43</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 13:33	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:07	11/26/15 13:33	1
<b>Boron</b>	<b>0.062</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 13:33	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

**Client Sample ID: 2993-82-B03 (0-1)**

**Lab Sample ID: 500-104045-23**

**Date Collected: 11/13/15 14:10**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 86.4**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0027</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
<b>Iron</b>	<b>0.22</b>		0.20	0.20	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
<b>Manganese</b>	<b>1.2</b>		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
<b>Nickel</b>	<b>0.011</b>	<b>J</b>	0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:33	1
<b>Zinc</b>	<b>0.041</b>	<b>J B</b>	0.10	0.020	mg/L	-	11/25/15 14:07	11/26/15 13:33	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>1.0</b>		0.025	0.010	mg/L	-	12/01/15 10:10	12/01/15 21:38	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:07	11/30/15 17:38	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:07	11/30/15 17:38	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 10:04	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.024</b>		0.018	0.0062	mg/Kg	☼	11/25/15 06:45	11/25/15 13:08	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.76</b>		0.200	0.200	SU	-		11/21/15 13:28	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
F3	Duplicate RPD exceeds the control limit
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-10

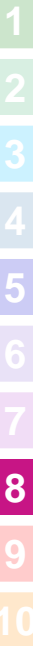
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)

Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To (optional)

Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference# \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative		Parameter		Matrix		Comments	
E+E		1009341.0003.01									
Project Name		Lab Project #		Sampling		# of Containers		Matrix		Preservative Key	
E9-W0003				Date Time		Matrix				1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Project Location/State		Lab PM									
Chicago, IL		Dick Wright									
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix					
18		2993-82-B02(CO-1)	11/13/15	1245	2	S	X	X	X	X	X
19		2993-82-B02(CO-2)	11/13/15	1245	2	S	X	X	X	X	X
20		2993-82-B01(CO-1)	11/13/15	1325	2	S	X	X	X	X	X
21		2993-82-B05(CO-1)	11/13/15	1345	2	S	X	X	X	X	X
22		2993-82-B04(CO-1)	11/13/15	1400	2	S	X	X	X	X	X
23		2993-82-B03(CO-1)	11/13/15	1410	2	S	X	X	X	X	X

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date \_\_\_\_\_

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>J. Hughes</u> Company: <u>E+E</u> Date: <u>11/13/15</u> Time: <u>1555</u>	Received By: <u>R. Neal</u> Company: <u>TA</u> Date: <u>11/13/15</u> Time: <u>1255</u>
Relinquished By: <u>R. Neal</u> Company: <u>TA</u> Date: <u>11/13/15</u> Time: <u>1720</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/14/15</u> Time: <u>0800</u>

Lab Courier: \_\_\_\_\_  
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

Matrix Key

- WW - Wastewater
- W - Water
- S - Soil
- SL - Sludge
- MS - Miscellaneous
- OL - Oil
- A - Air
- SE - Sediment
- SO - Soil
- L - Leachate
- WI - Wipe
- DW - Drinking Water
- O - Other

Client Comments

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-10

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.



## DETECTED ANALYTES

SITE	ISGS #2993-89 (IDOT ROW)				Comparison Criteria					
	2993-89-B01		2993-89-B02	2993-89-B03	MACs			TACO		
BORING	2993-89-B01		2993-89-B02	2993-89-B03	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-89-B01(0-1)	2993-89-B01(0-1)D	2993-89-B02(0-1)	2993-89-B03(0-1)						
MATRIX	Soil	Soil	Soil	Soil						
DEPTH (feet)	0-0.75	0-0.75	0-0.75	0-0.75						
pH	8.49	8.44	8.45	8.55						
<b>VOCs (mg/kg)</b>										
Chloroform	ND U	ND U	ND U	0.087	0.3	--	--	0.3	0.76	--
<b>SVOCs (mg/kg)</b>										
2-Methylnaphthalene	ND U	ND U	0.0092 J	ND U	--	--	--	--	--	--
Acenaphthene	ND U	ND U	0.013 J	ND U	570	--	--	4,700	120,000	--
Acenaphthylene	ND U	0.0083 J	0.01 J	0.011 J	--	--	--	--	--	--
Anthracene	0.01 J	0.0071 J	0.039	0.0088 J	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.052	0.045	0.16	0.063	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.056	0.049	0.15 †	0.072	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.11	0.095	0.27	0.14	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.022 J	0.023 J	0.097	0.03 J	--	--	--	--	--	--
Benzo[k]fluoranthene	0.046	0.039	0.097	0.053	9	--	--	9	1,700	--
Chrysene	0.074	0.066	0.19	0.092	88	--	--	88	17,000	--
Dibenz[a,h]anthracene	ND U	ND U	0.022 J	ND U	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.12	0.1	0.34	0.14	3,100	--	--	3100	82000	--
Fluorene	ND U	ND U	0.018 J	ND U	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.027 J	0.026 J	0.1	0.033 J	0.9	1.6	0.9	1.6	170	--
Naphthalene	ND U	ND U	0.011 J	ND U	1.8	--	--	170	1.8	--
Phenanthrene	0.042	0.036 J	0.21	0.055	--	--	--	--	--	--
Pyrene	0.1	0.085	0.44	0.13	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>										
Antimony	ND U	ND U	0.46 J	0.23 J	5	--	--	31	82	--
Arsenic	6	4.9	7.7	6.2	11.3	13	--	13	61	--
Barium	88	79	61	64	1,500	--	--	5,500	14,000	--
Beryllium	0.77	0.7	0.65	0.63	22	--	--	160	410	--
Boron	8.1	5.2	10	9.2	40	--	--	16,000	41,000	--
Cadmium	0.24	0.23	0.32	0.26	5.2	--	--	78	200	--
Calcium	5,100	5,400	25,000	26,000	--	--	--	--	--	--
Chromium	20	18	19	17	21	--	--	230	690	--
Cobalt	13	9.4	12	10	20	--	--	4,700	12,000	--
Copper	17	16	27	21	2,900	--	--	2,900	8,200	--
Iron	19,000 †m	17,000 †m	19,000 †m	16,000 †m	15,000	15900	--	--	--	--
Lead	27	24	48	38	107	--	--	400	700	--
Magnesium	4,800	4,500	15,000	15,000	325,000	--	--	--	730,000	--
Manganese	390	270	380	340	630	636	--	1,600	4,100	--
Mercury	0.026	0.029	0.026	0.025	0.89	--	--	10	0.1	--
Nickel	26	23	30	24	100	--	--	1,600	4,100	--
Potassium	2,300	1,900	2,200	2,100	--	--	--	--	--	--
Selenium	0.75	0.56	0.28 J	0.72	1.3	--	--	390	1,000	--
Silver	ND U	ND U	ND U	ND U	4.4	--	--	390	1,000	--
Sodium	1,500	1,300	730	680	--	--	--	--	--	--
Thallium	ND U	ND U	0.55	0.38 J	2.6	--	--	6.3	160	--
Vanadium	27	23	20	21	550	--	--	550	1,400	--
Zinc	78	71	86	76	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>										
Antimony	ND U	ND U	ND U	ND U	--	--	--	--	--	0.006
Barium	0.26 J	0.3 J	0.45 J	0.4 J	--	--	--	--	--	2
Boron	ND U	ND U	0.095 J	0.49 J	--	--	--	--	--	2
Cadmium	ND U	ND U	0.0028 J	0.0028 J	--	--	--	--	--	0.005
Iron	0.43	0.67	0.36	ND U	--	--	--	--	--	5
Manganese	0.23 L	0.31 L	0.13	0.25 L	--	--	--	--	--	0.15
Zinc	ND U	0.22	ND U	0.12	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>										
Manganese	0.42 L	0.7 L	NA	0.51 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104079-8

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 4:27:39 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	8
Client Sample Results . . . . .	9
Definitions . . . . .	25
Certification Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	28

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Job ID: 500-104079-8**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104079-8

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/16/2015 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.9° C and 4.6° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 313208 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 313208 recovered outside control limits for the following analytes: Chloroethane.

Method(s) 8260B: The concentration of 2-Butanone associated with the following sample exceeded the instrument calibration range in the low level soil analysis: 2993-89-B03(0-1) (500-104079-22). The sample was re-analyzed at a dilution utilizing the high level soil method, with 2-Butanone not detected. As the 5035 method does not allow a lower dilution than a 1:50, the 2-Butanone detect could not be confirmed. Results have been reported from the high level soil analysis. Elevated reporting limits are provided. 2993-89-B03(0-1) (500-104079-22)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with batch 313322 had 1 analyte outside control limits: 2,4-Dinitrophenol. These results have been reported and qualified. 2993-89-B01(0-1) (500-104079-19), 2993-89-B01(0-1)D (500-104079-20), 2993-89-B02(0-1) (500-104079-21) and 2993-89-B03(0-1) (500-104079-22)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6020A: The continuing calibration verification (CCV) associated with AD batch 500-314626 recovered above the upper control limit for Thallium (TI). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 500-314626/122) and (CCV 500-314626/92).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)**

**Lab Sample ID: 500-104079-19**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	0.042		0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.010	J	0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.12		0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.10		0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.052		0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.074		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.11		0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.046		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.056		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.027	J	0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.022	J	0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.0		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	88		0.58	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.77		0.23	0.050	mg/Kg	1	☼	6010B	Total/NA
Boron	8.1		2.9	0.41	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.24		0.12	0.034	mg/Kg	1	☼	6010B	Total/NA
Calcium	5100		12	3.8	mg/Kg	1	☼	6010B	Total/NA
Chromium	20		0.58	0.10	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.29	0.066	mg/Kg	1	☼	6010B	Total/NA
Copper	17		0.58	0.13	mg/Kg	1	☼	6010B	Total/NA
Iron	19000		12	4.5	mg/Kg	1	☼	6010B	Total/NA
Lead	27		0.29	0.15	mg/Kg	1	☼	6010B	Total/NA
Magnesium	4800		5.8	2.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	390		0.58	0.12	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	2300		29	4.8	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.75		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Sodium	1500		58	7.7	mg/Kg	1	☼	6010B	Total/NA
Vanadium	27		0.29	0.085	mg/Kg	1	☼	6010B	Total/NA
Zinc	78		1.2	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	0.26	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.48	J B	0.50	0.050	mg/L	1		6010B	TCLP
Iron	0.43		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	0.23		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.11	B	0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.42		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.026		0.017	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	8.49		0.200	0.200	SU	1		9045D	Total/NA

**Client Sample ID: 2993-89-B01(0-1)D**

**Lab Sample ID: 500-104079-20**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthylene	0.0083	J	0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.036	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.0071	J	0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.10		0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.085		0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.045		0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.066		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.095		0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)D (Continued)**

**Lab Sample ID: 500-104079-20**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzo[k]fluoranthene	0.039		0.038	0.011	mg/Kg	1		☼	8270D	Total/NA
Benzo[a]pyrene	0.049		0.038	0.0074	mg/Kg	1		☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.026	J	0.038	0.010	mg/Kg	1		☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.023	J	0.038	0.012	mg/Kg	1		☼	8270D	Total/NA
Arsenic	4.9		0.52	0.24	mg/Kg	1		☼	6010B	Total/NA
Barium	79		0.52	0.095	mg/Kg	1		☼	6010B	Total/NA
Beryllium	0.70		0.21	0.045	mg/Kg	1		☼	6010B	Total/NA
Boron	5.2		2.6	0.36	mg/Kg	1		☼	6010B	Total/NA
Cadmium	0.23		0.10	0.030	mg/Kg	1		☼	6010B	Total/NA
Calcium	5400		10	3.4	mg/Kg	1		☼	6010B	Total/NA
Chromium	18	B	0.52	0.090	mg/Kg	1		☼	6010B	Total/NA
Cobalt	9.4		0.26	0.059	mg/Kg	1		☼	6010B	Total/NA
Copper	16		0.52	0.11	mg/Kg	1		☼	6010B	Total/NA
Iron	17000	B	10	4.0	mg/Kg	1		☼	6010B	Total/NA
Lead	24		0.26	0.13	mg/Kg	1		☼	6010B	Total/NA
Magnesium	4500		5.2	2.1	mg/Kg	1		☼	6010B	Total/NA
Manganese	270		0.52	0.10	mg/Kg	1		☼	6010B	Total/NA
Nickel	23		0.52	0.14	mg/Kg	1		☼	6010B	Total/NA
Potassium	1900		26	4.3	mg/Kg	1		☼	6010B	Total/NA
Selenium	0.56		0.52	0.26	mg/Kg	1		☼	6010B	Total/NA
Sodium	1300		52	6.9	mg/Kg	1		☼	6010B	Total/NA
Vanadium	23		0.26	0.076	mg/Kg	1		☼	6010B	Total/NA
Zinc	71	B	1.0	0.33	mg/Kg	1		☼	6010B	Total/NA
Barium	0.30	J	0.50	0.050	mg/L	1			6010B	TCLP
Boron	0.096	J B	0.50	0.050	mg/L	1			6010B	TCLP
Iron	0.67		0.20	0.20	mg/L	1			6010B	TCLP
Manganese	0.31		0.025	0.010	mg/L	1			6010B	TCLP
Zinc	0.22	B	0.10	0.020	mg/L	1			6010B	TCLP
Manganese	0.70		0.025	0.010	mg/L	1			6010B	SPLP East
Mercury	0.029		0.018	0.0064	mg/Kg	1		☼	7471B	Total/NA
pH	8.44		0.200	0.200	SU	1			9045D	Total/NA

**Client Sample ID: 2993-89-B02(0-1)**

**Lab Sample ID: 500-104079-21**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Naphthalene	0.011	J	0.037	0.0057	mg/Kg	1		☼	8270D	Total/NA
2-Methylnaphthalene	0.0092	J	0.037	0.0068	mg/Kg	1		☼	8270D	Total/NA
Acenaphthylene	0.010	J	0.037	0.0049	mg/Kg	1		☼	8270D	Total/NA
Acenaphthene	0.013	J	0.037	0.0066	mg/Kg	1		☼	8270D	Total/NA
Fluorene	0.018	J	0.037	0.0052	mg/Kg	1		☼	8270D	Total/NA
Phenanthrene	0.21		0.037	0.0051	mg/Kg	1		☼	8270D	Total/NA
Anthracene	0.039		0.037	0.0062	mg/Kg	1		☼	8270D	Total/NA
Fluoranthene	0.34		0.037	0.0069	mg/Kg	1		☼	8270D	Total/NA
Pyrene	0.44		0.037	0.0073	mg/Kg	1		☼	8270D	Total/NA
Benzo[a]anthracene	0.16		0.037	0.0050	mg/Kg	1		☼	8270D	Total/NA
Chrysene	0.19		0.037	0.010	mg/Kg	1		☼	8270D	Total/NA
Benzo[b]fluoranthene	0.27		0.037	0.0080	mg/Kg	1		☼	8270D	Total/NA
Benzo[k]fluoranthene	0.097		0.037	0.011	mg/Kg	1		☼	8270D	Total/NA
Benzo[a]pyrene	0.15		0.037	0.0072	mg/Kg	1		☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.10		0.037	0.0096	mg/Kg	1		☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

## Client Sample ID: 2993-89-B02(0-1) (Continued)

## Lab Sample ID: 500-104079-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene	0.022	J	0.037	0.0071	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.097		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.46	J	1.0	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.7		0.52	0.24	mg/Kg	1	☼	6010B	Total/NA
Barium	61		0.52	0.096	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.65		0.21	0.045	mg/Kg	1	☼	6010B	Total/NA
Boron	10		2.6	0.36	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.32		0.10	0.030	mg/Kg	1	☼	6010B	Total/NA
Calcium	25000		10	3.4	mg/Kg	1	☼	6010B	Total/NA
Chromium	19	B	0.52	0.090	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.26	0.059	mg/Kg	1	☼	6010B	Total/NA
Copper	27		0.52	0.11	mg/Kg	1	☼	6010B	Total/NA
Iron	19000	B	10	4.0	mg/Kg	1	☼	6010B	Total/NA
Lead	48		0.26	0.13	mg/Kg	1	☼	6010B	Total/NA
Magnesium	15000		5.2	2.1	mg/Kg	1	☼	6010B	Total/NA
Manganese	380		0.52	0.10	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		0.52	0.14	mg/Kg	1	☼	6010B	Total/NA
Potassium	2200		26	4.3	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.28	J	0.52	0.26	mg/Kg	1	☼	6010B	Total/NA
Sodium	730		52	6.9	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.55		0.52	0.26	mg/Kg	1	☼	6010B	Total/NA
Vanadium	20		0.26	0.076	mg/Kg	1	☼	6010B	Total/NA
Zinc	86	B	1.0	0.33	mg/Kg	1	☼	6010B	Total/NA
Barium	0.45	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.095	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0028	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Iron	0.36		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	0.13		0.025	0.010	mg/L	1		6010B	TCLP
Mercury	0.026		0.016	0.0057	mg/Kg	1	☼	7471B	Total/NA
pH	8.45		0.200	0.200	SU	1		9045D	Total/NA

## Client Sample ID: 2993-89-B03(0-1)

## Lab Sample ID: 500-104079-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.087		0.058	0.022	mg/Kg	50	☼	8260B	Total/NA
Acenaphthylene	0.011	J	0.036	0.0048	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.055		0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.0088	J	0.036	0.0061	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.14		0.036	0.0068	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.13		0.036	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.063		0.036	0.0049	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.092		0.036	0.0099	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.14		0.036	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.053		0.036	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.072		0.036	0.0071	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.033	J	0.036	0.0095	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.030	J	0.036	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.23	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.2		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Barium	64		0.54	0.098	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B03(0-1) (Continued)**

**Lab Sample ID: 500-104079-22**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	0.63		0.21	0.047	mg/Kg	1	☼	6010B	Total/NA
Boron	9.2		2.7	0.38	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.26		0.11	0.031	mg/Kg	1	☼	6010B	Total/NA
Calcium	26000		11	3.5	mg/Kg	1	☼	6010B	Total/NA
Chromium	17	B	0.54	0.092	mg/Kg	1	☼	6010B	Total/NA
Cobalt	10		0.27	0.061	mg/Kg	1	☼	6010B	Total/NA
Copper	21		0.54	0.12	mg/Kg	1	☼	6010B	Total/NA
Iron	16000	B	11	4.1	mg/Kg	1	☼	6010B	Total/NA
Lead	38		0.27	0.13	mg/Kg	1	☼	6010B	Total/NA
Magnesium	15000		5.4	2.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	340		0.54	0.11	mg/Kg	1	☼	6010B	Total/NA
Nickel	24		0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Potassium	2100		27	4.4	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.72		0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Sodium	680		54	7.1	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.38	J	0.54	0.26	mg/Kg	1	☼	6010B	Total/NA
Vanadium	21		0.27	0.078	mg/Kg	1	☼	6010B	Total/NA
Zinc	76	B	1.1	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	0.40	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.49	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0028	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	0.25		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.12		0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.51		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.025		0.018	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	8.55		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago



# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104079-19	2993-89-B01(0-1)	Solid	11/16/15 13:10	11/16/15 15:20
500-104079-20	2993-89-B01(0-1)D	Solid	11/16/15 13:10	11/16/15 15:20
500-104079-21	2993-89-B02(0-1)	Solid	11/16/15 13:20	11/16/15 15:20
500-104079-22	2993-89-B03(0-1)	Solid	11/16/15 13:30	11/16/15 15:20

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)**

**Lab Sample ID: 500-104079-19**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.019		0.019	0.0037	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Benzene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Bromodichloromethane	<0.0048		0.0048	0.00081	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Bromoform	<0.0048		0.0048	0.00098	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Bromomethane	<0.0048		0.0048	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
2-Butanone (MEK)	<0.0048		0.0048	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Carbon disulfide	<0.0048		0.0048	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Carbon tetrachloride	<0.0048		0.0048	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Chlorobenzene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Chloroethane	<0.0048	*	0.0048	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Chloroform	<0.0048		0.0048	0.00093	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Chloromethane	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
cis-1,2-Dichloroethene	<0.0048		0.0048	0.00098	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
cis-1,3-Dichloropropene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Dibromochloromethane	<0.0048		0.0048	0.00055	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,1-Dichloroethane	<0.0048		0.0048	0.00099	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,2-Dichloroethane	<0.0048		0.0048	0.00071	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,1-Dichloroethene	<0.0048		0.0048	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,2-Dichloropropane	<0.0048		0.0048	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,3-Dichloropropane, Total	<0.0048		0.0048	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Ethylbenzene	<0.0048		0.0048	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
2-Hexanone	<0.0048		0.0048	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Methylene Chloride	<0.0048		0.0048	0.0036	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
4-Methyl-2-pentanone (MIBK)	<0.0048		0.0048	0.00099	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Methyl tert-butyl ether	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Styrene	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,1,2,2-Tetrachloroethane	<0.0048		0.0048	0.00076	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Tetrachloroethene	<0.0048		0.0048	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Toluene	<0.0048		0.0048	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
trans-1,2-Dichloroethene	<0.0048		0.0048	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
trans-1,3-Dichloropropene	<0.0048		0.0048	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,1,1-Trichloroethane	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
1,1,2-Trichloroethane	<0.0048		0.0048	0.00093	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Trichloroethene	<0.0048		0.0048	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Vinyl acetate	<0.0048		0.0048	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Vinyl chloride	<0.0048		0.0048	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1
Xylenes, Total	<0.0096		0.0096	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 18:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 122	11/16/15 16:10	11/19/15 18:53	1
Dibromofluoromethane	108		75 - 120	11/16/15 16:10	11/19/15 18:53	1
1,2-Dichloroethane-d4 (Surr)	119		70 - 134	11/16/15 16:10	11/19/15 18:53	1
Toluene-d8 (Surr)	97		75 - 122	11/16/15 16:10	11/19/15 18:53	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.085	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)**

**Lab Sample ID: 500-104079-19**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2-Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
N-Nitrosodi-n-propylamine	<0.19		0.19	0.047	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2-Chlorophenol	<0.19		0.19	0.066	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Naphthalene	<0.038		0.038	0.0059	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,4-Dichlorophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4-Chloroaniline	<0.78		0.78	0.18	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,4,5-Trichlorophenol	<0.38		0.38	0.088	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Hexachlorocyclopentadiene	<0.78		0.78	0.22	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2-Methylnaphthalene	<0.038		0.038	0.0071	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2-Chloronaphthalene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,6-Dinitrotoluene	<0.19		0.19	0.076	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2-Nitrophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,4-Dinitrophenol	<0.78	*	0.78	0.68	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Acenaphthylene	<0.038		0.038	0.0051	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Acenaphthene	<0.038		0.038	0.0069	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4-Nitrophenol	<0.78		0.78	0.37	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Fluorene	<0.038		0.038	0.0054	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Hexachlorobenzene	<0.078		0.078	0.0089	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Pentachlorophenol	<0.78		0.78	0.62	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
4,6-Dinitro-2-methylphenol	<0.78		0.78	0.31	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Phenanthrene</b>	<b>0.042</b>		0.038	0.0054	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Anthracene</b>	<b>0.010</b>	<b>J</b>	0.038	0.0064	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Carbazole	<0.19		0.19	0.096	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Di-n-butyl phthalate	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Fluoranthene</b>	<b>0.12</b>		0.038	0.0071	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Pyrene</b>	<b>0.10</b>		0.038	0.0076	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Butyl benzyl phthalate	<0.19		0.19	0.073	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Benzo[a]anthracene</b>	<b>0.052</b>		0.038	0.0052	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)**

**Lab Sample ID: 500-104079-19**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.074</b>		0.038	0.010	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.070	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Di-n-octyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Benzo[b]fluoranthene</b>	<b>0.11</b>		0.038	0.0083	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Benzo[k]fluoranthene</b>	<b>0.046</b>		0.038	0.011	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Benzo[a]pyrene</b>	<b>0.056</b>		0.038	0.0074	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.027</b>	<b>J</b>	0.038	0.010	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0074	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
<b>Benzo[g,h,i]perylene</b>	<b>0.022</b>	<b>J</b>	0.038	0.012	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 17:05	11/23/15 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	73		25 - 110	11/19/15 17:05	11/23/15 19:16	1
Phenol-d5	80		31 - 110	11/19/15 17:05	11/23/15 19:16	1
Nitrobenzene-d5	77		25 - 115	11/19/15 17:05	11/23/15 19:16	1
2-Fluorobiphenyl	86		25 - 119	11/19/15 17:05	11/23/15 19:16	1
2,4,6-Tribromophenol	119		35 - 137	11/19/15 17:05	11/23/15 19:16	1
Terphenyl-d14	117		36 - 134	11/19/15 17:05	11/23/15 19:16	1

**Method: 6010B - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.24	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Arsenic</b>	<b>6.0</b>		0.58	0.27	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Barium</b>	<b>88</b>		0.58	0.11	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Beryllium</b>	<b>0.77</b>		0.23	0.050	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Boron</b>	<b>8.1</b>		2.9	0.41	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Cadmium</b>	<b>0.24</b>		0.12	0.034	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Calcium</b>	<b>5100</b>		12	3.8	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Chromium</b>	<b>20</b>		0.58	0.10	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Cobalt</b>	<b>13</b>		0.29	0.066	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Copper</b>	<b>17</b>		0.58	0.13	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Iron</b>	<b>19000</b>		12	4.5	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Lead</b>	<b>27</b>		0.29	0.15	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Magnesium</b>	<b>4800</b>		5.8	2.4	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Manganese</b>	<b>390</b>		0.58	0.12	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Nickel</b>	<b>26</b>		0.58	0.16	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Potassium</b>	<b>2300</b>		29	4.8	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Selenium</b>	<b>0.75</b>		0.58	0.29	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
Silver	<0.29		0.29	0.068	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Sodium</b>	<b>1500</b>		58	7.7	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
Thallium	<0.58		0.58	0.29	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Vanadium</b>	<b>27</b>		0.29	0.085	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1
<b>Zinc</b>	<b>78</b>		1.2	0.37	mg/Kg	☼	11/25/15 10:46	11/25/15 19:22	1

**Method: 6010B - Metals (ICP) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.26</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 20:08	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 20:08	1
<b>Boron</b>	<b>0.48</b>	<b>J B</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 20:08	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)**

**Lab Sample ID: 500-104079-19**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.3**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 20:08	1
Chromium	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:08	1
Cobalt	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:08	1
<b>Iron</b>	<b>0.43</b>		0.20	0.20	mg/L		11/27/15 11:15	11/27/15 20:08	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/27/15 11:15	11/27/15 20:08	1
<b>Manganese</b>	<b>0.23</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:08	1
Nickel	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:08	1
Selenium	<0.050		0.050	0.020	mg/L		11/27/15 11:15	11/27/15 20:08	1
Silver	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:08	1
<b>Zinc</b>	<b>0.11</b>	<b>B</b>	0.10	0.020	mg/L		11/27/15 11:15	11/27/15 20:08	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.42</b>		0.025	0.010	mg/L		12/01/15 10:10	12/01/15 20:32	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/27/15 11:15	11/30/15 20:38	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L		11/27/15 11:15	11/30/15 20:38	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/27/15 13:15	11/30/15 09:54	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.026</b>		0.017	0.0061	mg/Kg	☼	11/25/15 06:45	11/25/15 11:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.49</b>		0.200	0.200	SU			11/24/15 20:00	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)D**

**Lab Sample ID: 500-104079-20**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.018		0.018	0.0035	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Benzene	<0.0045		0.0045	0.00099	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Bromodichloromethane	<0.0045		0.0045	0.00076	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Bromoform	<0.0045		0.0045	0.00091	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Bromomethane	<0.0045		0.0045	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
2-Butanone (MEK)	<0.0045		0.0045	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Carbon disulfide	<0.0045		0.0045	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Carbon tetrachloride	<0.0045		0.0045	0.00096	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Chlorobenzene	<0.0045		0.0045	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Chloroethane	<0.0045	*	0.0045	0.0019	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Chloroform	<0.0045		0.0045	0.00087	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Chloromethane	<0.0045		0.0045	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
cis-1,2-Dichloroethene	<0.0045		0.0045	0.00091	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
cis-1,3-Dichloropropene	<0.0045		0.0045	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Dibromochloromethane	<0.0045		0.0045	0.00051	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,1-Dichloroethane	<0.0045		0.0045	0.00092	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,2-Dichloroethane	<0.0045		0.0045	0.00066	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,1-Dichloroethene	<0.0045		0.0045	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,2-Dichloropropane	<0.0045		0.0045	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,3-Dichloropropane, Total	<0.0045		0.0045	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Ethylbenzene	<0.0045		0.0045	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
2-Hexanone	<0.0045		0.0045	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Methylene Chloride	<0.0045		0.0045	0.0034	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
4-Methyl-2-pentanone (MIBK)	<0.0045		0.0045	0.00092	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Methyl tert-butyl ether	<0.0045		0.0045	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Styrene	<0.0045		0.0045	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,1,1,2-Tetrachloroethane	<0.0045		0.0045	0.00071	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Tetrachloroethene	<0.0045		0.0045	0.00093	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Toluene	<0.0045		0.0045	0.0016	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
trans-1,2-Dichloroethene	<0.0045		0.0045	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
trans-1,3-Dichloropropene	<0.0045		0.0045	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,1,1-Trichloroethane	<0.0045		0.0045	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
1,1,2-Trichloroethane	<0.0045		0.0045	0.00087	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Trichloroethene	<0.0045		0.0045	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Vinyl acetate	<0.0045		0.0045	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Vinyl chloride	<0.0045		0.0045	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1
Xylenes, Total	<0.0090		0.0090	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 122	11/16/15 16:10	11/19/15 19:16	1
Dibromofluoromethane	115		75 - 120	11/16/15 16:10	11/19/15 19:16	1
1,2-Dichloroethane-d4 (Surr)	120		70 - 134	11/16/15 16:10	11/19/15 19:16	1
Toluene-d8 (Surr)	94		75 - 122	11/16/15 16:10	11/19/15 19:16	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.085	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)D**

**Lab Sample ID: 500-104079-20**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2-Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
N-Nitrosodi-n-propylamine	<0.19		0.19	0.047	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2-Chlorophenol	<0.19		0.19	0.066	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Naphthalene	<0.038		0.038	0.0059	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,4-Dichlorophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4-Chloroaniline	<0.78		0.78	0.18	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,4,5-Trichlorophenol	<0.38		0.38	0.088	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Hexachlorocyclopentadiene	<0.78		0.78	0.22	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2-Methylnaphthalene	<0.038		0.038	0.0071	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,6-Dinitrotoluene	<0.19		0.19	0.076	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2-Nitrophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,4-Dinitrophenol	<0.78	*	0.78	0.68	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Acenaphthylene</b>	<b>0.0083</b>	<b>J</b>	0.038	0.0051	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Acenaphthene	<0.038		0.038	0.0069	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4-Nitrophenol	<0.78		0.78	0.37	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Fluorene	<0.038		0.038	0.0054	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Hexachlorobenzene	<0.078		0.078	0.0089	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Pentachlorophenol	<0.78		0.78	0.62	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
4,6-Dinitro-2-methylphenol	<0.78		0.78	0.31	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Phenanthrene</b>	<b>0.036</b>	<b>J</b>	0.038	0.0054	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Anthracene</b>	<b>0.0071</b>	<b>J</b>	0.038	0.0064	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Carbazole	<0.19		0.19	0.096	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Di-n-butyl phthalate	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Fluoranthene</b>	<b>0.10</b>		0.038	0.0071	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Pyrene</b>	<b>0.085</b>		0.038	0.0076	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Butyl benzyl phthalate	<0.19		0.19	0.073	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Benzo[a]anthracene</b>	<b>0.045</b>		0.038	0.0052	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)D**

**Lab Sample ID: 500-104079-20**

Date Collected: 11/16/15 13:10

Matrix: Solid

Date Received: 11/16/15 15:20

Percent Solids: 83.1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.066</b>		0.038	0.010	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.070	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Di-n-octyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Benzo[b]fluoranthene</b>	<b>0.095</b>		0.038	0.0083	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Benzo[k]fluoranthene</b>	<b>0.039</b>		0.038	0.011	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Benzo[a]pyrene</b>	<b>0.049</b>		0.038	0.0074	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.026</b>	<b>J</b>	0.038	0.010	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0074	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
<b>Benzo[g,h,i]perylene</b>	<b>0.023</b>	<b>J</b>	0.038	0.012	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 17:05	11/23/15 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	71		25 - 110	11/19/15 17:05	11/23/15 19:40	1
Phenol-d5	77		31 - 110	11/19/15 17:05	11/23/15 19:40	1
Nitrobenzene-d5	75		25 - 115	11/19/15 17:05	11/23/15 19:40	1
2-Fluorobiphenyl	87		25 - 119	11/19/15 17:05	11/23/15 19:40	1
2,4,6-Tribromophenol	127		35 - 137	11/19/15 17:05	11/23/15 19:40	1
Terphenyl-d14	105		36 - 134	11/19/15 17:05	11/23/15 19:40	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	0.22	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Arsenic</b>	<b>4.9</b>		0.52	0.24	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Barium</b>	<b>79</b>		0.52	0.095	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Beryllium</b>	<b>0.70</b>		0.21	0.045	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Boron</b>	<b>5.2</b>		2.6	0.36	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Cadmium</b>	<b>0.23</b>		0.10	0.030	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Calcium</b>	<b>5400</b>		10	3.4	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Chromium</b>	<b>18</b>	<b>B</b>	0.52	0.090	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Cobalt</b>	<b>9.4</b>		0.26	0.059	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Copper</b>	<b>16</b>		0.52	0.11	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Iron</b>	<b>17000</b>	<b>B</b>	10	4.0	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Lead</b>	<b>24</b>		0.26	0.13	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Magnesium</b>	<b>4500</b>		5.2	2.1	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Manganese</b>	<b>270</b>		0.52	0.10	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Nickel</b>	<b>23</b>		0.52	0.14	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Potassium</b>	<b>1900</b>		26	4.3	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Selenium</b>	<b>0.56</b>		0.52	0.26	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
Silver	<0.26		0.26	0.061	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Sodium</b>	<b>1300</b>		52	6.9	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
Thallium	<0.52		0.52	0.26	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Vanadium</b>	<b>23</b>		0.26	0.076	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1
<b>Zinc</b>	<b>71</b>	<b>B</b>	1.0	0.33	mg/Kg	☼	11/25/15 10:46	11/25/15 19:27	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.30</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 20:14	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 20:14	1
<b>Boron</b>	<b>0.096</b>	<b>J B</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 20:14	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B01(0-1)D**

**Lab Sample ID: 500-104079-20**

**Date Collected: 11/16/15 13:10**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 83.1**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.0050		0.0050	0.0020	mg/L		11/27/15 11:15	11/27/15 20:14	1
Chromium	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:14	1
Cobalt	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:14	1
<b>Iron</b>	<b>0.67</b>		0.20	0.20	mg/L		11/27/15 11:15	11/27/15 20:14	1
Lead	<0.0075		0.0075	0.0075	mg/L		11/27/15 11:15	11/27/15 20:14	1
<b>Manganese</b>	<b>0.31</b>		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:14	1
Nickel	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:14	1
Selenium	<0.050		0.050	0.020	mg/L		11/27/15 11:15	11/27/15 20:14	1
Silver	<0.025		0.025	0.010	mg/L		11/27/15 11:15	11/27/15 20:14	1
<b>Zinc</b>	<b>0.22</b>	<b>B</b>	0.10	0.020	mg/L		11/27/15 11:15	11/27/15 20:14	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.70</b>		0.025	0.010	mg/L		12/01/15 10:10	12/01/15 20:36	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		11/27/15 11:15	11/30/15 20:42	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L		11/27/15 11:15	11/30/15 20:42	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		11/27/15 13:15	11/30/15 09:56	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.029</b>		0.018	0.0064	mg/Kg	☼	11/25/15 06:45	11/25/15 11:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.44</b>		0.200	0.200	SU			11/24/15 20:06	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B02(0-1)**

**Lab Sample ID: 500-104079-21**

**Date Collected: 11/16/15 13:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 87.5**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.019		0.019	0.0038	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Benzene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Bromodichloromethane	<0.0049		0.0049	0.00082	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Bromoform	<0.0049		0.0049	0.00099	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Bromomethane	<0.0049		0.0049	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
2-Butanone (MEK)	<0.0049		0.0049	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Carbon disulfide	<0.0049		0.0049	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Carbon tetrachloride	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Chlorobenzene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Chloroethane	<0.0049	*	0.0049	0.0020	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Chloroform	<0.0049		0.0049	0.00095	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Chloromethane	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
cis-1,2-Dichloroethene	<0.0049		0.0049	0.00099	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
cis-1,3-Dichloropropene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Dibromochloromethane	<0.0049		0.0049	0.00056	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,1-Dichloroethane	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,2-Dichloroethane	<0.0049		0.0049	0.00072	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,1-Dichloroethene	<0.0049		0.0049	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,2-Dichloropropane	<0.0049		0.0049	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,3-Dichloropropane, Total	<0.0049		0.0049	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Ethylbenzene	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
2-Hexanone	<0.0049		0.0049	0.0015	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Methylene Chloride	<0.0049		0.0049	0.0037	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
4-Methyl-2-pentanone (MIBK)	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Methyl tert-butyl ether	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Styrene	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,1,1,2-Tetrachloroethane	<0.0049		0.0049	0.00077	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Tetrachloroethene	<0.0049		0.0049	0.0010	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Toluene	<0.0049		0.0049	0.0017	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
trans-1,2-Dichloroethene	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
trans-1,3-Dichloropropene	<0.0049		0.0049	0.0014	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,1,1-Trichloroethane	<0.0049		0.0049	0.0011	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
1,1,2-Trichloroethane	<0.0049		0.0049	0.00094	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Trichloroethene	<0.0049		0.0049	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Vinyl acetate	<0.0049		0.0049	0.0013	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Vinyl chloride	<0.0049		0.0049	0.0012	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1
Xylenes, Total	<0.0097		0.0097	0.0018	mg/Kg	☼	11/16/15 16:10	11/19/15 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 122	11/16/15 16:10	11/19/15 19:40	1
Dibromofluoromethane	107		75 - 120	11/16/15 16:10	11/19/15 19:40	1
1,2-Dichloroethane-d4 (Surr)	118		70 - 134	11/16/15 16:10	11/19/15 19:40	1
Toluene-d8 (Surr)	104		75 - 122	11/16/15 16:10	11/19/15 19:40	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.082	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.055	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
1,4-Dichlorobenzene	<0.19		0.19	0.047	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B02(0-1)**

**Lab Sample ID: 500-104079-21**

**Date Collected: 11/16/15 13:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 87.5**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2-Methylphenol	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
N-Nitrosodi-n-propylamine	<0.075		0.075	0.045	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Hexachloroethane	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2-Chlorophenol	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Nitrobenzene	<0.037		0.037	0.0092	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Isophorone	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Hexachlorobutadiene	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Naphthalene</b>	<b>0.011</b>	<b>J</b>	0.037	0.0057	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,4-Dichlorophenol	<0.37		0.37	0.088	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4-Chloroaniline	<0.75		0.75	0.17	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,4,5-Trichlorophenol	<0.37		0.37	0.084	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Hexachlorocyclopentadiene	<0.75		0.75	0.21	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>2-Methylnaphthalene</b>	<b>0.0092</b>	<b>J</b>	0.037	0.0068	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2-Nitrophenol	<0.37		0.37	0.087	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
3-Nitroaniline	<0.37		0.37	0.11	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Dimethyl phthalate	<0.19		0.19	0.048	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,4-Dinitrophenol	<0.75	*	0.75	0.65	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Acenaphthylene</b>	<b>0.010</b>	<b>J</b>	0.037	0.0049	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Acenaphthene</b>	<b>0.013</b>	<b>J</b>	0.037	0.0066	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Dibenzofuran	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4-Nitrophenol	<0.75		0.75	0.35	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Fluorene</b>	<b>0.018</b>	<b>J</b>	0.037	0.0052	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4-Nitroaniline	<0.37		0.37	0.15	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Hexachlorobenzene	<0.075		0.075	0.0086	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Pentachlorophenol	<0.75		0.75	0.59	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
4,6-Dinitro-2-methylphenol	<0.75		0.75	0.30	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Phenanthrene</b>	<b>0.21</b>		0.037	0.0051	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Anthracene</b>	<b>0.039</b>		0.037	0.0062	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Carbazole	<0.19		0.19	0.092	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Di-n-butyl phthalate	<0.19		0.19	0.056	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Fluoranthene</b>	<b>0.34</b>		0.037	0.0069	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Pyrene</b>	<b>0.44</b>		0.037	0.0073	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Butyl benzyl phthalate	<0.19		0.19	0.070	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Benzo[a]anthracene</b>	<b>0.16</b>		0.037	0.0050	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B02(0-1)**

**Lab Sample ID: 500-104079-21**

Date Collected: 11/16/15 13:20

Matrix: Solid

Date Received: 11/16/15 15:20

Percent Solids: 87.5

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.19</b>		0.037	0.010	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.068	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
Di-n-octyl phthalate	<0.19		0.19	0.060	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Benzo[b]fluoranthene</b>	<b>0.27</b>		0.037	0.0080	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Benzo[k]fluoranthene</b>	<b>0.097</b>		0.037	0.011	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Benzo[a]pyrene</b>	<b>0.15</b>		0.037	0.0072	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.10</b>		0.037	0.0096	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Dibenz(a,h)anthracene</b>	<b>0.022</b>	J	0.037	0.0071	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
<b>Benzo[g,h,i]perylene</b>	<b>0.097</b>		0.037	0.012	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 17:05	11/25/15 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	68		25 - 110	11/19/15 17:05	11/25/15 20:20	1
Phenol-d5	69		31 - 110	11/19/15 17:05	11/25/15 20:20	1
Nitrobenzene-d5	67		25 - 115	11/19/15 17:05	11/25/15 20:20	1
2-Fluorobiphenyl	67		25 - 119	11/19/15 17:05	11/25/15 20:20	1
2,4,6-Tribromophenol	48		35 - 137	11/19/15 17:05	11/25/15 20:20	1
Terphenyl-d14	108		36 - 134	11/19/15 17:05	11/25/15 20:20	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.46</b>	J	1.0	0.22	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Arsenic</b>	<b>7.7</b>		0.52	0.24	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Barium</b>	<b>61</b>		0.52	0.096	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Beryllium</b>	<b>0.65</b>		0.21	0.045	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Boron</b>	<b>10</b>		2.6	0.36	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Cadmium</b>	<b>0.32</b>		0.10	0.030	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Calcium</b>	<b>25000</b>		10	3.4	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Chromium</b>	<b>19</b>	B	0.52	0.090	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Cobalt</b>	<b>12</b>		0.26	0.059	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Copper</b>	<b>27</b>		0.52	0.11	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Iron</b>	<b>19000</b>	B	10	4.0	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Lead</b>	<b>48</b>		0.26	0.13	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Magnesium</b>	<b>15000</b>		5.2	2.1	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Manganese</b>	<b>380</b>		0.52	0.10	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Nickel</b>	<b>30</b>		0.52	0.14	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Potassium</b>	<b>2200</b>		26	4.3	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Selenium</b>	<b>0.28</b>	J	0.52	0.26	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
Silver	<0.26		0.26	0.061	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Sodium</b>	<b>730</b>		52	6.9	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Thallium</b>	<b>0.55</b>		0.52	0.26	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Vanadium</b>	<b>20</b>		0.26	0.076	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1
<b>Zinc</b>	<b>86</b>	B	1.0	0.33	mg/Kg	☼	11/25/15 10:46	11/25/15 19:32	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.45</b>	J	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:30	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 18:30	1
<b>Boron</b>	<b>0.095</b>	J	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:30	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B02(0-1)**

**Lab Sample ID: 500-104079-21**

**Date Collected: 11/16/15 13:20**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 87.5**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0028</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
<b>Iron</b>	<b>0.36</b>		0.20	0.20	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
<b>Manganese</b>	<b>0.13</b>		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Silver	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:30	1
Zinc	<0.10		0.10	0.020	mg/L	-	11/27/15 11:15	11/27/15 18:30	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/27/15 11:15	11/30/15 20:54	1
Thallium	<0.0020	<b>^</b>	0.0020	0.0020	mg/L	-	11/27/15 11:15	11/30/15 20:54	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/27/15 13:15	11/30/15 10:04	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.026</b>		0.016	0.0057	mg/Kg	☼	11/25/15 06:45	11/25/15 13:37	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.45</b>		0.200	0.200	SU	-		11/24/15 20:11	1

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B03(0-1)**

**Lab Sample ID: 500-104079-22**

**Date Collected: 11/16/15 13:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 87.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.29		0.29	0.10	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Benzene	<0.015		0.015	0.0085	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Bromodichloromethane	<0.058		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Bromoform	<0.058		0.058	0.028	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Bromomethane	<0.12		0.12	0.046	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
2-Butanone (MEK)	<0.29		0.29	0.12	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Carbon disulfide	<0.12		0.12	0.047	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Carbon tetrachloride	<0.058		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Chlorobenzene	<0.058		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Chloroethane	<0.058		0.058	0.029	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
<b>Chloroform</b>	<b>0.087</b>		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Chloromethane	<0.058		0.058	0.019	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
cis-1,2-Dichloroethene	<0.058		0.058	0.024	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
cis-1,3-Dichloropropene	<0.058		0.058	0.024	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Dibromochloromethane	<0.058		0.058	0.028	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,1-Dichloroethane	<0.058		0.058	0.024	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,2-Dichloroethane	<0.058		0.058	0.023	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,1-Dichloroethene	<0.058		0.058	0.023	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,2-Dichloropropane	<0.058		0.058	0.025	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,3-Dichloropropene, Total	<0.058		0.058	0.024	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Ethylbenzene	<0.015		0.015	0.011	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
2-Hexanone	<0.29		0.29	0.091	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Methylene Chloride	<0.29		0.29	0.095	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
4-Methyl-2-pentanone (MIBK)	<0.29		0.29	0.13	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Methyl tert-butyl ether	<0.058		0.058	0.023	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Styrene	<0.058		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,1,2,2-Tetrachloroethane	<0.058		0.058	0.023	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Tetrachloroethene	<0.058		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Toluene	<0.015		0.015	0.0086	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
trans-1,2-Dichloroethene	<0.058		0.058	0.020	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
trans-1,3-Dichloropropene	<0.058		0.058	0.021	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,1,1-Trichloroethane	<0.058		0.058	0.022	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
1,1,2-Trichloroethane	<0.058		0.058	0.020	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Trichloroethene	<0.029		0.029	0.0095	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Vinyl acetate	<0.12		0.12	0.053	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Vinyl chloride	<0.029		0.029	0.015	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50
Xylenes, Total	<0.029		0.029	0.013	mg/Kg	☼	11/16/15 13:30	11/27/15 14:41	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		75 - 120	11/16/15 13:30	11/27/15 14:41	50
Dibromofluoromethane	103		75 - 120	11/16/15 13:30	11/27/15 14:41	50
1,2-Dichloroethane-d4 (Surr)	98		75 - 125	11/16/15 13:30	11/27/15 14:41	50
Toluene-d8 (Surr)	92		75 - 120	11/16/15 13:30	11/27/15 14:41	50

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.18		0.18	0.081	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.055	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
1,3-Dichlorobenzene	<0.18		0.18	0.041	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
1,4-Dichlorobenzene	<0.18		0.18	0.047	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B03(0-1)**

**Lab Sample ID: 500-104079-22**

**Date Collected: 11/16/15 13:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 87.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.18		0.18	0.044	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2-Methylphenol	<0.18		0.18	0.059	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.042	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
N-Nitrosodi-n-propylamine	<0.18		0.18	0.045	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Hexachloroethane	<0.18		0.18	0.055	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2-Chlorophenol	<0.18		0.18	0.062	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Nitrobenzene	<0.036		0.036	0.0091	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.037	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.039	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Isophorone	<0.18		0.18	0.041	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,4-Dimethylphenol	<0.36		0.36	0.14	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Hexachlorobutadiene	<0.18		0.18	0.057	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Naphthalene	<0.036		0.036	0.0056	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,4-Dichlorophenol	<0.36		0.36	0.087	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,4,6-Trichlorophenol	<0.36		0.36	0.13	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,4,5-Trichlorophenol	<0.36		0.36	0.083	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2-Methylnaphthalene	<0.036		0.036	0.0067	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2-Nitroaniline	<0.18		0.18	0.049	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2-Chloronaphthalene	<0.18		0.18	0.040	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4-Chloro-3-methylphenol	<0.36		0.36	0.12	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,6-Dinitrotoluene	<0.18		0.18	0.072	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2-Nitrophenol	<0.36		0.36	0.086	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
3-Nitroaniline	<0.36		0.36	0.11	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Dimethyl phthalate	<0.18		0.18	0.048	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,4-Dinitrophenol	<0.74	*	0.74	0.64	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Acenaphthylene</b>	<b>0.011</b>	<b>J</b>	0.036	0.0048	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
2,4-Dinitrotoluene	<0.18		0.18	0.058	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Acenaphthene	<0.036		0.036	0.0066	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Dibenzofuran	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Fluorene	<0.036		0.036	0.0051	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4-Nitroaniline	<0.36		0.36	0.15	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.048	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Hexachlorobenzene	<0.074		0.074	0.0085	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Diethyl phthalate	<0.18		0.18	0.062	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Pentachlorophenol	<0.74		0.74	0.59	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
N-Nitrosodiphenylamine	<0.18		0.18	0.043	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.29	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Phenanthrene</b>	<b>0.055</b>		0.036	0.0051	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Anthracene</b>	<b>0.0088</b>	<b>J</b>	0.036	0.0061	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Carbazole	<0.18		0.18	0.091	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Di-n-butyl phthalate	<0.18		0.18	0.056	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Fluoranthene</b>	<b>0.14</b>		0.036	0.0068	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Pyrene</b>	<b>0.13</b>		0.036	0.0072	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Butyl benzyl phthalate	<0.18		0.18	0.069	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Benzo[a]anthracene</b>	<b>0.063</b>		0.036	0.0049	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B03(0-1)**

**Lab Sample ID: 500-104079-22**

Date Collected: 11/16/15 13:30

Matrix: Solid

Date Received: 11/16/15 15:20

Percent Solids: 87.3

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.092</b>		0.036	0.0099	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.051	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Bis(2-ethylhexyl) phthalate	<0.18		0.18	0.067	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Di-n-octyl phthalate	<0.18		0.18	0.060	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Benzo[b]fluoranthene</b>	<b>0.14</b>		0.036	0.0079	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Benzo[k]fluoranthene</b>	<b>0.053</b>		0.036	0.011	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Benzo[a]pyrene</b>	<b>0.072</b>		0.036	0.0071	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.033</b>	<b>J</b>	0.036	0.0095	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
Dibenz(a,h)anthracene	<0.036		0.036	0.0070	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
<b>Benzo[g,h,i]perylene</b>	<b>0.030</b>	<b>J</b>	0.036	0.012	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1
3 & 4 Methylphenol	<0.18		0.18	0.061	mg/Kg	☼	11/19/15 17:05	11/23/15 20:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	77		25 - 110	11/19/15 17:05	11/23/15 20:29	1
Phenol-d5	80		31 - 110	11/19/15 17:05	11/23/15 20:29	1
Nitrobenzene-d5	67		25 - 115	11/19/15 17:05	11/23/15 20:29	1
2-Fluorobiphenyl	77		25 - 119	11/19/15 17:05	11/23/15 20:29	1
2,4,6-Tribromophenol	121		35 - 137	11/19/15 17:05	11/23/15 20:29	1
Terphenyl-d14	114		36 - 134	11/19/15 17:05	11/23/15 20:29	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.23</b>	<b>J</b>	1.1	0.22	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Arsenic</b>	<b>6.2</b>		0.54	0.25	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Barium</b>	<b>64</b>		0.54	0.098	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Beryllium</b>	<b>0.63</b>		0.21	0.047	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Boron</b>	<b>9.2</b>		2.7	0.38	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Cadmium</b>	<b>0.26</b>		0.11	0.031	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Calcium</b>	<b>26000</b>		11	3.5	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Chromium</b>	<b>17</b>	<b>B</b>	0.54	0.092	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Cobalt</b>	<b>10</b>		0.27	0.061	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Copper</b>	<b>21</b>		0.54	0.12	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Iron</b>	<b>16000</b>	<b>B</b>	11	4.1	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Lead</b>	<b>38</b>		0.27	0.13	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Magnesium</b>	<b>15000</b>		5.4	2.2	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Manganese</b>	<b>340</b>		0.54	0.11	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Nickel</b>	<b>24</b>		0.54	0.15	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Potassium</b>	<b>2100</b>		27	4.4	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Selenium</b>	<b>0.72</b>		0.54	0.27	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
Silver	<0.27		0.27	0.063	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Sodium</b>	<b>680</b>		54	7.1	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Thallium</b>	<b>0.38</b>	<b>J</b>	0.54	0.26	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Vanadium</b>	<b>21</b>		0.27	0.078	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1
<b>Zinc</b>	<b>76</b>	<b>B</b>	1.1	0.34	mg/Kg	☼	11/25/15 10:46	11/25/15 19:37	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.40</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:59	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/27/15 11:15	11/27/15 18:59	1
<b>Boron</b>	<b>0.49</b>	<b>J</b>	0.50	0.050	mg/L		11/27/15 11:15	11/27/15 18:59	1

TestAmerica Chicago



# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

**Client Sample ID: 2993-89-B03(0-1)**

**Lab Sample ID: 500-104079-22**

**Date Collected: 11/16/15 13:30**

**Matrix: Solid**

**Date Received: 11/16/15 15:20**

**Percent Solids: 87.3**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0028</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Iron	<0.20		0.20	0.20	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
<b>Manganese</b>	<b>0.25</b>		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
Silver	<0.025		0.025	0.010	mg/L	-	11/27/15 11:15	11/27/15 18:59	1
<b>Zinc</b>	<b>0.12</b>		0.10	0.020	mg/L	-	11/27/15 11:15	11/27/15 18:59	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.51</b>		0.025	0.010	mg/L	-	12/01/15 10:10	12/01/15 20:41	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/27/15 11:15	11/30/15 21:22	1
Thallium	<0.0020	^	0.0020	0.0020	mg/L	-	11/27/15 11:15	11/30/15 21:22	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/27/15 13:15	11/30/15 10:06	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.025</b>		0.018	0.0062	mg/Kg	☼	11/25/15 06:45	11/25/15 13:39	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.55</b>		0.200	0.200	SU	-		11/24/15 20:17	1

# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104079-8

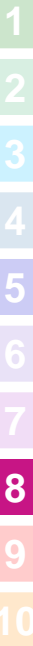
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
 Phone: 708.534.5200 Fax: 708.534.5211

Report To: _____ (optional)	Bill To: _____ (optional)
Contact: <u>DT</u>	Contact: _____
Company: <u>SJ</u>	Company: _____
Address: _____	Address: _____
Address: _____	Address: _____
Phone: _____	Phone: _____
Fax: _____	Fax: _____
E-Mail: _____	PO#/Reference#: _____

## Chain of Custody Record

Lab Job #: 500-104079

Chain of Custody Number: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative							Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other	
Project Name		Lab Project #		Parameter								
Project Location/State		Lab PM										
Sampler												
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix						Comments
			Date	Time								
19		2993-89-B01 (0-1)	11-16-11	1310	2 S	S	X	X	X	X	X	
20		2993-89-B01 (0-1)D	11-16-11	1310	2 S	S	X	X	X	X	X	
21		2993-89-B02 (0-1)	11-16-11	1320	2 S	S	X	X	X	X	X	
22		2993-89-B03 (0-1)	11-16-11	1330	2 S	S	X	X	X	X	X	
<del>_____ 11-16-11</del>												

Turnaround Time Required (Business Days):  
 \_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date: \_\_\_\_\_

Sample Disposal:  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: <u>[Signature]</u> Company: <u>VE</u> Date: <u>11-16-11</u> Time: <u>14:30</u>	Received By: <u>David Becken</u> Company: <u>TA</u> Date: <u>11-16-15</u> Time: <u>14:30</u>	Lab Courier: <input checked="" type="checkbox"/>
Relinquished By: <u>David Becken</u> Company: <u>TA</u> Date: <u>11-16-15</u> Time: <u>15:20</u>	Received By: <u>[Signature]</u> Company: <u>TAL</u> Date: <u>11/16/15</u> Time: <u>1520</u>	Shipped: <input type="checkbox"/>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____	Hand Delivered: <input type="checkbox"/>

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments: \_\_\_\_\_

Lab Comments: \_\_\_\_\_



## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104079-8

**Login Number: 104079**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.6)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Analytical Data Summary

PTB #176-01; IDOT Job #D-91-339-15; Project #P-91-110-15; WorkOrder #03A

### Key to Data Tables

MAC = Maximum Allowable Concentration of Chemical Constituent in  
Uncontaminated Soil Used as Fill Material At Regulated Fill Operations

mg/kg = Milligrams per kilogram.

mg/L = Milligrams per liter.

MSA = Metropolitan Statistical Area

TACO = Tiered Approach to Corrective Action Objectives

TCLP = Toxicity Characteristic Leaching Procedure.

SCGIER = Soil Component of the Groundwater Ingestion Exposure Route

SPLP = Synthetic Precipitation Leaching Procedure.

ND = Not detected.

NA = Not analyzed.

J = Estimated value.

U = Analyte was analyzed for but not detected.

### Criteria Qualifiers and Shading

# = pH is less than 6.25 or greater than 9.0 standard units.

† = Concentration exceeds the most stringent MAC.


m = Concentration exceeds the MAC for an MSA.

\* = Concentration exceeds the MAC for Chicago corporate limits.


c = Concentration exceeds a TACO Tier 1 RO for the construction worker exposure route.

L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the SCGIER.

r = Concentration exceeds a TACO Tier 1 RO for the residential soil exposure route.

 = Concentration exceeds the most stringent MAC, but is below the MAC for an MSA.

 = Concentration exceeds the most stringent MAC and the MAC for Chicago corporate limits.

 = Concentration exceeds applicable comparison criteria.

## DETECTED ANALYTES

SITE	ISGS #2993-92 (IDOT ROW)	Comparison Criteria					
		MACs			TACO		
BORING	2993-92-B01	Most Stringent	Within an MSA	Within Chicago	Residential	Construction Worker	SCGIER
SAMPLE	2993-92-B01 (0-0.75)						
MATRIX	Soil						
DEPTH (feet)	0-0.75						
pH	8.36						
<b>VOCs (None Detected)</b>							
<b>SVOCs (mg/kg)</b>							
2-Methylnaphthalene	0.012 J	--	--	--	--	--	--
Acenaphthene	0.02 J	570	--	--	4,700	120,000	--
Acenaphthylene	0.0095 J	--	--	--	--	--	--
Anthracene	0.06	12,000	--	--	23,000	610,000	--
Benzo[a]anthracene	0.3	0.9	1.8	1.1	1.8	170	--
Benzo[a]pyrene	0.37 †	0.09	2.1	1.3	2.1	17	--
Benzo[b]fluoranthene	0.6	0.9	2.1	1.5	2.1	170	--
Benzo[g,h,i]perylene	0.16	--	--	--	--	--	--
Benzo[k]fluoranthene	0.21	9	--	--	9	1,700	--
Bis(2-ethylhexyl) phthalate	0.073 J	46	--	--	46	4,100	--
Chrysene	0.42	88	--	--	88	17,000	--
Dibenz(a,h)anthracene	0.046	0.09	0.42	0.2	0.42	17	--
Fluoranthene	0.81	3,100	--	--	3100	82000	--
Fluorene	0.029 J	560	--	--	3,100	82,000	--
Indeno[1,2,3-cd]pyrene	0.18	0.9	1.6	0.9	1.6	170	--
Naphthalene	ND U	1.8	--	--	170	1.8	--
Phenanthrene	0.4	--	--	--	--	--	--
Pyrene	0.79	2,300	--	--	2,300	61,000	--
<b>Inorganics (mg/kg)</b>							
Antimony	0.39 J	5	--	--	31	82	--
Arsenic	7.7	11.3	13	--	13	61	--
Barium	59	1,500	--	--	5,500	14,000	--
Beryllium	0.82	22	--	--	160	410	--
Boron	11	40	--	--	16,000	41,000	--
Calcium	29,000	--	--	--	--	--	--
Chromium	25 †	21	--	--	230	690	--
Cobalt	12	20	--	--	4,700	12,000	--
Copper	30	2,900	--	--	2,900	8,200	--
Iron	20,000 †m	15,000	15900	--	--	--	--
Lead	36	107	--	--	400	700	--
Magnesium	16,000	325,000	--	--	--	730,000	--
Manganese	530	630	636	--	1,600	4,100	--
Mercury	0.029	0.89	--	--	10	0.1	--
Nickel	33	100	--	--	1,600	4,100	--
Potassium	2,100	--	--	--	--	--	--
Selenium	0.49 J	1.3	--	--	390	1,000	--
Sodium	880	--	--	--	--	--	--
Thallium	0.54 J	2.6	--	--	6.3	160	--
Vanadium	20	550	--	--	550	1,400	--
Zinc	220	5,100	--	--	23,000	61,000	--
<b>TCLP Metals (mg/L)</b>							
Barium	0.38 J	--	--	--	--	--	2
Boron	0.066 J	--	--	--	--	--	2
Cadmium	0.0026 J	--	--	--	--	--	0.005
Chromium	ND U	--	--	--	--	--	0.1
Iron	ND U	--	--	--	--	--	5
Manganese	0.49 L	--	--	--	--	--	0.15
Zinc	ND U	--	--	--	--	--	5
<b>SPLP Metals (mg/L)</b>							
Manganese	0.91 L	--	--	--	--	--	0.15

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Chicago  
2417 Bond Street  
University Park, IL 60484  
Tel: (708)534-5200

TestAmerica Job ID: 500-104045-11

Client Project/Site: IDOT - Dan Ryan Expressway - WO 003

For:

Ecology and Environment, Inc.  
33 West Monroe St.  
Suite 1410  
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

*Jodie Bracken*

Authorized for release by:  
12/2/2015 3:33:08 PM

Jodie Bracken, Project Management Assistant II  
[jodie.bracken@testamericainc.com](mailto:jodie.bracken@testamericainc.com)

Designee for

Richard Wright, Senior Project Manager  
(708)534-5200  
[richard.wright@testamericainc.com](mailto:richard.wright@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Detection Summary . . . . .	4
Sample Summary . . . . .	8
Client Sample Results . . . . .	9
Definitions . . . . .	25
Certification Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	28

# Case Narrative

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

**Job ID: 500-104045-11**

**Laboratory: TestAmerica Chicago**

## Narrative

### Job Narrative 500-104045-11

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/14/2015 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.6° C, 4.3° C, 4.4° C and 4.7° C.

#### GC/MS VOA

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for batch 500-312958 recovered outside control limits for the following analyte: Chloroethane. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The following samples contained one base and or / acid surrogate outside acceptance limits: 2993-92-B02 (0-0.75) (500-104045-25), 2993-92-B03 (0-0.75) (500-104045-26) and 2993-92-B04 (0-0.75) (500-104045-27). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Note that sample -16 DL had two acid surrogates outside the QC limits. No acid analytes were reported in the sample -16 DL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analytes: 2993-92-B04 (0-0.75) (500-104045-27). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

**Client Sample ID: 2993-92-B01 (0-0.75)**

**Lab Sample ID: 500-104045-24**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.012	J	0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.0095	J	0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.020	J	0.038	0.0069	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.029	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.40		0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.060		0.038	0.0065	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.81		0.038	0.0072	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.79		0.038	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.30		0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.42		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.073	J	0.19	0.071	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.60		0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.21		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.37		0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.18		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.046		0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.16		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.39	J	1.2	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.7		0.59	0.27	mg/Kg	1	☼	6010B	Total/NA
Barium	59		0.59	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.82		0.24	0.051	mg/Kg	1	☼	6010B	Total/NA
Boron	11		2.9	0.41	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.20		0.12	0.034	mg/Kg	1	☼	6010B	Total/NA
Calcium	29000		12	3.8	mg/Kg	1	☼	6010B	Total/NA
Chromium	25		0.59	0.10	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.29	0.066	mg/Kg	1	☼	6010B	Total/NA
Copper	30		0.59	0.13	mg/Kg	1	☼	6010B	Total/NA
Iron	20000		12	4.5	mg/Kg	1	☼	6010B	Total/NA
Lead	36		0.29	0.15	mg/Kg	1	☼	6010B	Total/NA
Magnesium	16000		5.9	2.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	530		0.59	0.12	mg/Kg	1	☼	6010B	Total/NA
Nickel	33		0.59	0.16	mg/Kg	1	☼	6010B	Total/NA
Potassium	2100		29	4.8	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.49	J	0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Sodium	880		59	7.8	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.54	J	0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	20		0.29	0.086	mg/Kg	1	☼	6010B	Total/NA
Zinc	220		1.2	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	0.38	J	0.50	0.050	mg/L	1		6010B	TCLP
Boron	0.066	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0026	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Manganese	0.49		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.14		0.10	0.020	mg/L	1		6010B	TCLP
Manganese	0.91		0.025	0.010	mg/L	1		6010B	SPLP East
Mercury	0.029		0.018	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	8.36		0.200	0.200	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Sample Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104045-24	2993-92-B01 (0-0.75)	Solid	11/13/15 13:20	11/14/15 08:00

---

1

2

3

4

5

6

7

8

9

10

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

**Client Sample ID: 2993-92-B01 (0-0.75)**

**Lab Sample ID: 500-104045-24**

**Date Collected: 11/13/15 13:20**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.020		0.020	0.0039	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Benzene	<0.0050		0.0050	0.0011	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Bromodichloromethane	<0.0050		0.0050	0.00085	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Bromoform	<0.0050		0.0050	0.0010	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Bromomethane	<0.0050		0.0050	0.0018	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
2-Butanone (MEK)	<0.0050		0.0050	0.0018	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Carbon disulfide	<0.0050		0.0050	0.0018	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Carbon tetrachloride	<0.0050		0.0050	0.0011	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Chlorobenzene	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Chloroethane	<0.0050	*	0.0050	0.0021	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Chloroform	<0.0050		0.0050	0.00098	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Chloromethane	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
cis-1,2-Dichloroethene	<0.0050		0.0050	0.0010	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
cis-1,3-Dichloropropene	<0.0050		0.0050	0.0011	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Dibromochloromethane	<0.0050		0.0050	0.00058	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,1-Dichloroethane	<0.0050		0.0050	0.0010	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,2-Dichloroethane	<0.0050		0.0050	0.00074	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,1-Dichloroethene	<0.0050		0.0050	0.0018	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,2-Dichloropropane	<0.0050		0.0050	0.0013	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,3-Dichloropropane, Total	<0.0050		0.0050	0.0014	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Ethylbenzene	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Methylene Chloride	<0.0050		0.0050	0.0038	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.0010	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Methyl tert-butyl ether	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Styrene	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,1,2,2-Tetrachloroethane	<0.0050		0.0050	0.00080	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Tetrachloroethene	<0.0050		0.0050	0.0010	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Toluene	<0.0050		0.0050	0.0017	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
trans-1,2-Dichloroethene	<0.0050		0.0050	0.0013	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
trans-1,3-Dichloropropene	<0.0050		0.0050	0.0014	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,1,1-Trichloroethane	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
1,1,2-Trichloroethane	<0.0050		0.0050	0.00097	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Trichloroethene	<0.0050		0.0050	0.0014	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Vinyl acetate	<0.0050		0.0050	0.0013	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Vinyl chloride	<0.0050		0.0050	0.0012	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1
Xylenes, Total	<0.010		0.010	0.0019	mg/Kg	☼	11/14/15 14:10	11/17/15 11:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 122	11/14/15 14:10	11/17/15 11:17	1
Dibromofluoromethane	108		75 - 120	11/14/15 14:10	11/17/15 11:17	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 134	11/14/15 14:10	11/17/15 11:17	1
Toluene-d8 (Surr)	98		75 - 122	11/14/15 14:10	11/17/15 11:17	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<0.19		0.19	0.086	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.058	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
1,3-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
1,4-Dichlorobenzene	<0.19		0.19	0.050	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

**Client Sample ID: 2993-92-B01 (0-0.75)**

**Lab Sample ID: 500-104045-24**

**Date Collected: 11/13/15 13:20**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.3**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2-Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
N-Nitrosodi-n-propylamine	<0.078		0.078	0.047	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Hexachloroethane	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2-Chlorophenol	<0.19		0.19	0.066	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Hexachlorobutadiene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Naphthalene	<0.038		0.038	0.0059	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,4-Dichlorophenol	<0.38		0.38	0.092	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4-Chloroaniline	<0.78		0.78	0.18	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,4,5-Trichlorophenol	<0.38		0.38	0.088	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Hexachlorocyclopentadiene	<0.78		0.78	0.22	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>2-Methylnaphthalene</b>	<b>0.012</b>	<b>J</b>	0.038	0.0071	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2-Chloronaphthalene	<0.19		0.19	0.043	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,6-Dinitrotoluene	<0.19		0.19	0.076	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2-Nitrophenol	<0.38		0.38	0.091	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Dimethyl phthalate	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,4-Dinitrophenol	<0.78		0.78	0.68	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Acenaphthylene</b>	<b>0.0095</b>	<b>J</b>	0.038	0.0051	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Acenaphthene</b>	<b>0.020</b>	<b>J</b>	0.038	0.0069	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4-Nitrophenol	<0.78		0.78	0.37	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Fluorene</b>	<b>0.029</b>	<b>J</b>	0.038	0.0054	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.051	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Hexachlorobenzene	<0.078		0.078	0.0090	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Diethyl phthalate	<0.19		0.19	0.066	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Pentachlorophenol	<0.78		0.78	0.62	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
N-Nitrosodiphenylamine	<0.19		0.19	0.046	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
4,6-Dinitro-2-methylphenol	<0.78		0.78	0.31	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Phenanthrene</b>	<b>0.40</b>		0.038	0.0054	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Anthracene</b>	<b>0.060</b>		0.038	0.0065	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Carbazole	<0.19		0.19	0.097	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Di-n-butyl phthalate	<0.19		0.19	0.059	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Fluoranthene</b>	<b>0.81</b>		0.038	0.0072	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Pyrene</b>	<b>0.79</b>		0.038	0.0077	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Butyl benzyl phthalate	<0.19		0.19	0.074	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Benzo[a]anthracene</b>	<b>0.30</b>		0.038	0.0052	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

**Client Sample ID: 2993-92-B01 (0-0.75)**

**Lab Sample ID: 500-104045-24**

Date Collected: 11/13/15 13:20

Matrix: Solid

Date Received: 11/14/15 08:00

Percent Solids: 83.3

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chrysene</b>	<b>0.42</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>0.073</b>	<b>J</b>	0.19	0.071	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
Di-n-octyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Benzo[b]fluoranthene</b>	<b>0.60</b>		0.038	0.0083	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Benzo[k]fluoranthene</b>	<b>0.21</b>		0.038	0.011	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Benzo[a]pyrene</b>	<b>0.37</b>		0.038	0.0075	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.18</b>		0.038	0.010	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Dibenz(a,h)anthracene</b>	<b>0.046</b>		0.038	0.0075	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
<b>Benzo[g,h,i]perylene</b>	<b>0.16</b>		0.038	0.012	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	11/19/15 07:08	11/24/15 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	78		25 - 110	11/19/15 07:08	11/24/15 18:10	1
Phenol-d5	83		31 - 110	11/19/15 07:08	11/24/15 18:10	1
Nitrobenzene-d5	85		25 - 115	11/19/15 07:08	11/24/15 18:10	1
2-Fluorobiphenyl	86		25 - 119	11/19/15 07:08	11/24/15 18:10	1
2,4,6-Tribromophenol	130		35 - 137	11/19/15 07:08	11/24/15 18:10	1
Terphenyl-d14	130		36 - 134	11/19/15 07:08	11/24/15 18:10	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.39</b>	<b>J</b>	1.2	0.24	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Arsenic</b>	<b>7.7</b>		0.59	0.27	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Barium</b>	<b>59</b>		0.59	0.11	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Beryllium</b>	<b>0.82</b>		0.24	0.051	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Boron</b>	<b>11</b>		2.9	0.41	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Cadmium</b>	<b>0.20</b>		0.12	0.034	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Calcium</b>	<b>29000</b>		12	3.8	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Chromium</b>	<b>25</b>		0.59	0.10	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Cobalt</b>	<b>12</b>		0.29	0.066	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Copper</b>	<b>30</b>		0.59	0.13	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Iron</b>	<b>20000</b>		12	4.5	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Lead</b>	<b>36</b>		0.29	0.15	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Magnesium</b>	<b>16000</b>		5.9	2.4	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Manganese</b>	<b>530</b>		0.59	0.12	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Nickel</b>	<b>33</b>		0.59	0.16	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Potassium</b>	<b>2100</b>		29	4.8	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Selenium</b>	<b>0.49</b>	<b>J</b>	0.59	0.29	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
Silver	<0.29		0.29	0.069	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Sodium</b>	<b>880</b>		59	7.8	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Thallium</b>	<b>0.54</b>	<b>J</b>	0.59	0.29	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Vanadium</b>	<b>20</b>		0.29	0.086	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1
<b>Zinc</b>	<b>220</b>		1.2	0.37	mg/Kg	☼	11/24/15 20:03	11/25/15 18:10	1

## Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Barium</b>	<b>0.38</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 13:38	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		11/25/15 14:07	11/26/15 13:38	1
<b>Boron</b>	<b>0.066</b>	<b>J</b>	0.50	0.050	mg/L		11/25/15 14:07	11/26/15 13:38	1

TestAmerica Chicago

# Client Sample Results

Client: Ecology and Environment, Inc.  
 Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

**Client Sample ID: 2993-92-B01 (0-0.75)**

**Lab Sample ID: 500-104045-24**

**Date Collected: 11/13/15 13:20**

**Matrix: Solid**

**Date Received: 11/14/15 08:00**

**Percent Solids: 83.3**

**Method: 6010B - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Cadmium</b>	<b>0.0026</b>	<b>J</b>	0.0050	0.0020	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Chromium	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Cobalt	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Iron	<0.20		0.20	0.20	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Lead	<0.0075		0.0075	0.0075	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
<b>Manganese</b>	<b>0.49</b>		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Nickel	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Selenium	<0.050		0.050	0.020	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
Silver	<0.025		0.025	0.010	mg/L	-	11/25/15 14:07	11/26/15 13:38	1
<b>Zinc</b>	<b>0.14</b>		0.10	0.020	mg/L	-	11/25/15 14:07	11/26/15 13:38	1

**Method: 6010B - Metals (ICP) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Manganese</b>	<b>0.91</b>		0.025	0.010	mg/L	-	12/01/15 10:10	12/01/15 21:57	1

**Method: 6020A - Metals (ICP/MS) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L	-	11/25/15 14:07	11/30/15 17:50	1
Thallium	<0.0020		0.0020	0.0020	mg/L	-	11/25/15 14:07	11/30/15 17:50	1

**Method: 7470A - TCLP Mercury - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L	-	11/25/15 16:20	11/27/15 10:06	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.029</b>		0.018	0.0062	mg/Kg	☼	11/25/15 06:45	11/25/15 13:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.36</b>		0.200	0.200	SU	-		11/21/15 13:30	1



# Definitions/Glossary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: Ecology and Environment, Inc.  
Project/Site: IDOT - Dan Ryan Expressway - WO 003

TestAmerica Job ID: 500-104045-11

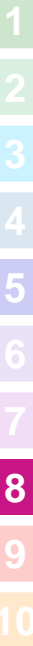
## Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

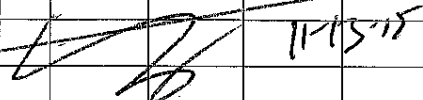
2417 Bond Street, University Park, IL 60484  
 Phone: 708.634.5200 Fax: 708.634.5211

Report To: \_\_\_\_\_ (optional)  
 Contact: DT  
 Company: DS  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Bill To: \_\_\_\_\_ (optional)  
 Contact: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 PO#/Reference#: \_\_\_\_\_

## Chain of Custody Record

Lab Job #: 500-104045  
 Chain of Custody Number: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_  
 Temperature °C of Cooler: \_\_\_\_\_

Client		Client Project #		Preservative							Preservative Key 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other		
Project Name		Lab Project #		Parameter									
Project Location/State		Lab PM											
Sampler													
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix							Comments
			Date	Time									
24		2993-92-B01 (0-0.75)	11-13-15	1320	2	S	X	X	X	X	X		
25		2993-92-B02 (0-0.75)	11-13-15	1330	2	S	X	X	X	X	X		
26		2993-92-B03 (0-0.75)	11-13-15	1340	2	S	X	X	X	X	X		
27		2993-92-B04 (0-0.75)	11-13-15	1350	2	S	X	X	X	X	X		
													

Turnaround Time Required (Business Days)

\_\_\_ 1 Day \_\_\_ 2 Days \_\_\_ 5 Days \_\_\_ 7 Days  10 Days \_\_\_ 15 Days \_\_\_ Other

Requested Due Date \_\_\_\_\_

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

(A fee may be assessed if samples are retained longer than 1 month)

Relinquished By: _____ Company: <u>EE</u> Date: <u>11-13-15</u> Time: <u>1525</u>	Received By: _____ Company: <u>TA</u> Date: <u>11/13/15</u> Time: <u>1525</u>
Relinquished By: <u>P. Neal</u> Company: <u>TA</u> Date: <u>11/13/15</u> Time: <u>1720</u>	Received By: _____ Company: <u>TAL</u> Date: <u>11/14/15</u> Time: <u>0800</u>
Relinquished By: _____ Company: _____ Date: _____ Time: _____	Received By: _____ Company: _____ Date: _____ Time: _____

Lab Courier:   
 Shipped: \_\_\_\_\_  
 Hand Delivered: \_\_\_\_\_

**Matrix Key**  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments:

Lab Comments:

## Login Sample Receipt Checklist

Client: Ecology and Environment, Inc.

Job Number: 500-104045-11

**Login Number: 104045**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Kelsey, Shawn M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(4.3)(4.7)(2.6)(4.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

