



Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200, Mequon WI 53092

July 10, 2017
File: 193703931

Attention: Nicolas Sparacio, AICP
Community Development Director
City of Manitowoc
900 Quay Street
Manitowoc, WI 54220-4543

Reference: Addendum #2 to the *Identification and Delineation of TSCA-Level PCB Impacts to Porous Building Materials*
1512 Washington Street
Manitowoc, Wisconsin
WDNR BRRTS #02-36-545108 (Open)
Stantec Project No. 193703931

Dear Mr. Sparacio:

On behalf of the City of Manitowoc, Wisconsin (City), Stantec Consulting Services Inc. (Stantec) has completed a supplemental site investigation and prepared this letter as an addendum to previous waste characterization investigations (Stantec, 2017a and 2017b) for the property located at 1512 Washington Street in the City (herein referred to as the "Site"); the location of the Site is illustrated on Figure 1a and Figure 1b. The scope of work was completed utilizing protocols described in the Stantec (2015) *Quality Assurance Project Plan (QAPP)* and associated Stantec (2016a and 2016b) *QAPP Addenda* as a continuance of the Stantec (2016c) *Site-Specific Sampling and Analysis Plan*.

As described in the Stantec report (2017a) and the *Self-Implementing Cleanup and Disposal Plan* prepared by Brandenburg Industrial Services (Brandenburg, 2017), the primary objective of this supplemental site investigation was to further refine the delineation of residual Polychlorinated Biphenyl (PCB) impacts to porous wood and concrete flooring located north of the Loading Dock release area for waste segregation purposes. This work was performed using funds from an assessment grant for petroleum brownfields awarded to the City by the United States Environmental Protection Agency (USEPA) in 2015 under Cooperative Agreement Number BF-00E01529-0.

BACKGROUND

As illustrated on Figure 2, Stantec (2017a and 2017b) identified and delineated the horizontal extents of residual PCB impacts to porous flooring in three PCB focus areas. The Stantec (2017a and 2017b) investigations and the Brandenburg (2017) workplan were submitted to the Wisconsin Department of Natural Resources (WDNR) and USEPA for review, and the documents were subsequently approved on June 1, 2017. Pursuant to the timeline outlined by Stantec (2017a) and Brandenburg (2017), this investigation was completed following removal of the comingled debris pile formerly located on the northern side of the Loading Dock release area.

FIELD INVESTIGATION METHODS

Sampling methodology to powder/homogenize each media in place is detailed by Stantec (2016b and 2017a); the following presents a summary of sampling methodologies used during this investigation for each media. Sample locations are illustrated on the revised Figure 5. Photographic documentation of the sampling locations is provided in Attachment A. Laboratory



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reports are provided in Appendix B. Descriptions of each sample location (i.e. area, building, location, substrate) and analytical results are included on revised Table 1.

Wood Borings

Borings were advanced into wood utilizing a cordless power drill with a 1 ¼-inch diameter spade bit. To prevent potential cross-contamination, prior to advancement, the boring location was wiped free of surficial debris using a clean disposable shop rag. The boring was then advanced up to 0.5-inches into the stained wood to powder and homogenize the media in place. A plastic disposable scoopula was used to retrieve the wood shavings/sawdust from the boring and transfer the sample into a laboratory supplied containers (per SOP No. 02). Samples were stored on ice and submitted under chain-of-custody procedures to TestAmerica Laboratories, Inc. (Chicago, Illinois; a State of Wisconsin-certified laboratory) for analysis as described in the Stantec (2016c) SAP and Stantec (2015, 2016a, and 2016c) QAPP using protocols outlined in SOP No. 07. Wood boring equipment and sampling supplies were clean when brought on Site and were cleaned between each sample location. The spade bit was decontaminated per Stantec SOP-08. Unique to Stantec SOP-20, the bit was further decontaminated with hexane and dried by hand with a paper towel to remove residual hydrophobic constituents.

Concrete Borings

Borings were advanced into concrete utilizing a rotary hammer with a 1.25-inch by 23-inch bit. To prevent potential cross-contamination, prior to advancement, the boring location was wiped free of surficial debris and a layer of metal tape (approximately 36 square inches) adhered to the concrete surface. The metal tape created a clean sampling surface to capture/retain the concrete dust. Shallow concrete borings were then extended through the tape up to 0.25-inches into the concrete to powder and homogenize the media in place. A plastic disposable scoopula was used to retrieve the concrete dust from the boring/taped area and transfer the sample into a laboratory supplied containers (per SOP No. 02). Samples were stored on ice and submitted under chain-of-custody procedures to TestAmerica Laboratories, Inc. (Chicago, Illinois; a State of Wisconsin-certified laboratory) for analysis as described in the Stantec (2016f) SAP and Stantec (2015, 2016a, and 2016c) QAPP using protocols outlined in SOP No. 07. Concrete boring equipment and sampling supplies were clean when brought on Site and were cleaned between each sample location/sample depth. The rotary hammer bit was decontaminated per Stantec SOP-08. Unique to Stantec SOP-20, the bit was further decontaminated with hexane and dried by hand with a paper towel to remove residual hydrophobic constituents.

SAMPLING RESULTS

Applicable Cleanup Criteria

This assessment and abatement/removal of TSCA-level PCBs in porous building materials will be completed under a coordinated approval led by WDNR, in accordance with the One Cleanup Program Memorandum of Agreement between USEPA and WDNR for a Type C Site classification. As noted in Brandenburg (2017), demolition debris with total PCB concentrations greater than 50 milligrams per kilogram will be segregated as a TSCA waste; debris with total



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PCB concentrations less than 50 milligrams per kilogram will be disposed of at the Waste Management solid waste landfill (Whitelaw, Wisconsin).

Analytical Results

Porous Concrete and Wood Flooring. As summarized on revised Table 1, Stantec collected 9 samples of concrete flooring and 2 samples of wood flooring from areas formerly covered by the comingled debris pile on the north side of the Loading Dock. Based on total PCB concentrations, as illustrated on the revised Figure 5, delineation of porous concrete/wood flooring to be segregated and removed as a TSCA waste during demolition is complete. Flooring material to be removed as a TSCA waste includes approximately 310 square feet of wood partially overlaying approximately 3,632 square feet of concrete.

QA/QC Evaluation. As noted in Attachment B, all laboratory quality assurance/quality control thresholds were met. Therefore, these data are considered appropriate for use in this investigation.

CONCLUSIONS AND RECOMMENDATIONS

As summarized in revised Table 1 and illustrated on revised Figure 5, this supplemental investigation has further delineated/refined the extent of debris to be segregated as a TSCA waste in the Loading Dock area. The means and methods proposed by Brandenburg (2017) for segregation and removal of PCB-impacted building materials remain valid and appropriate.

Therefore, Stantec recommends including this addendum in the Brandenburg (2017) cleanup plan and adjusting the segregated waste accordingly.

Regards,

STANTEC CONSULTING SERVICES INC.

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Brownfields Project Manager
Phone: 414-581-6476
Harris.Byers@stantec.com

STANTEC CONSULTING SERVICES INC.

Richard J. Binder, P.G., CPG
Project QA/QC Manager

STANTEC CONSULTING SERVICES INC.

Hiedi A. Waller, P.E.
Environmental Engineer

STANTEC CONSULTING SERVICES INC.

Nicholas Heim
Brownfields Hydrogeologist



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Enclosures:

Figures

Table

Attachments: A – Photographic Documentation

B – Laboratory Report

Cc: Mr. Peter Ramanauskas and Mr. Jon Peterson; USEPA Region 5
Mr. Tauren Beggs; WDNR

REFERENCES

Brandenburg, 2017, Work Execution Plan, Self-Implementing Cleanup and Disposal Plan for Polychlorinated Biphenyls, Mirro Building, 1512 Washington Street Manitowoc, WI.

Stantec, 2015, Quality Assurance Project Plan (Revision 0), Implementation of U.S. EPA Assessment Grants for Petroleum and Hazardous Substance Brownfields, City of Manitowoc, WI, U.S. EPA Cooperative Agreement Nos. BF- BF-00E01529-0, August 19, 2015

Stantec, 2016a, Quality Assurance Project Plan Addendum 1, June 3, 2016.

Stantec, 2016b, Quality Assurance Project Plan Update and Addendum 2, August 15, 2016.

Stantec, 2016c, Site-Specific Sampling and Analysis Plan for Phase II ESA – Characterization of Floor Stains and Delineation of PCB Impacts to Concrete, September 15, 2016.

Stantec, 2017a, Identification and Delineation of TSCA-Level PCB Impacts to Porous Building Materials, 1512 Washington Street, Manitowoc, Wisconsin, February 22, 2017.

Stantec, 2017b, Addendum to the Identification and Delineation of TSCA-Level PCB Impacts to Porous Building Materials, 1512 Washington Street, Manitowoc, Wisconsin, May 30, 2017.

LIMITATIONS

This Supplemental Site Investigation was performed in accordance with generally accepted practices of the profession for performing similar studies at the same time and in the same geographical area. Stantec observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions. No other warranty is expressed or implied.

Stantec observations, findings, and opinions must not be considered as scientific certainties, but only an opinion based on our professional judgment concerning the significance of the data gathered during the course of the investigation. Specifically, Stantec does not and cannot represent that the Site contains no hazardous or toxic materials or other latent condition beyond that observed by Stantec. Stantec does not warrant that this submittal represents an exhaustive study of all possible environmental concerns at the project area. The items investigated as part of this study represent likely sources of environmental concerns at the project area, and are consequently believed to adequately address the public at risk at the present time.

FIGURES

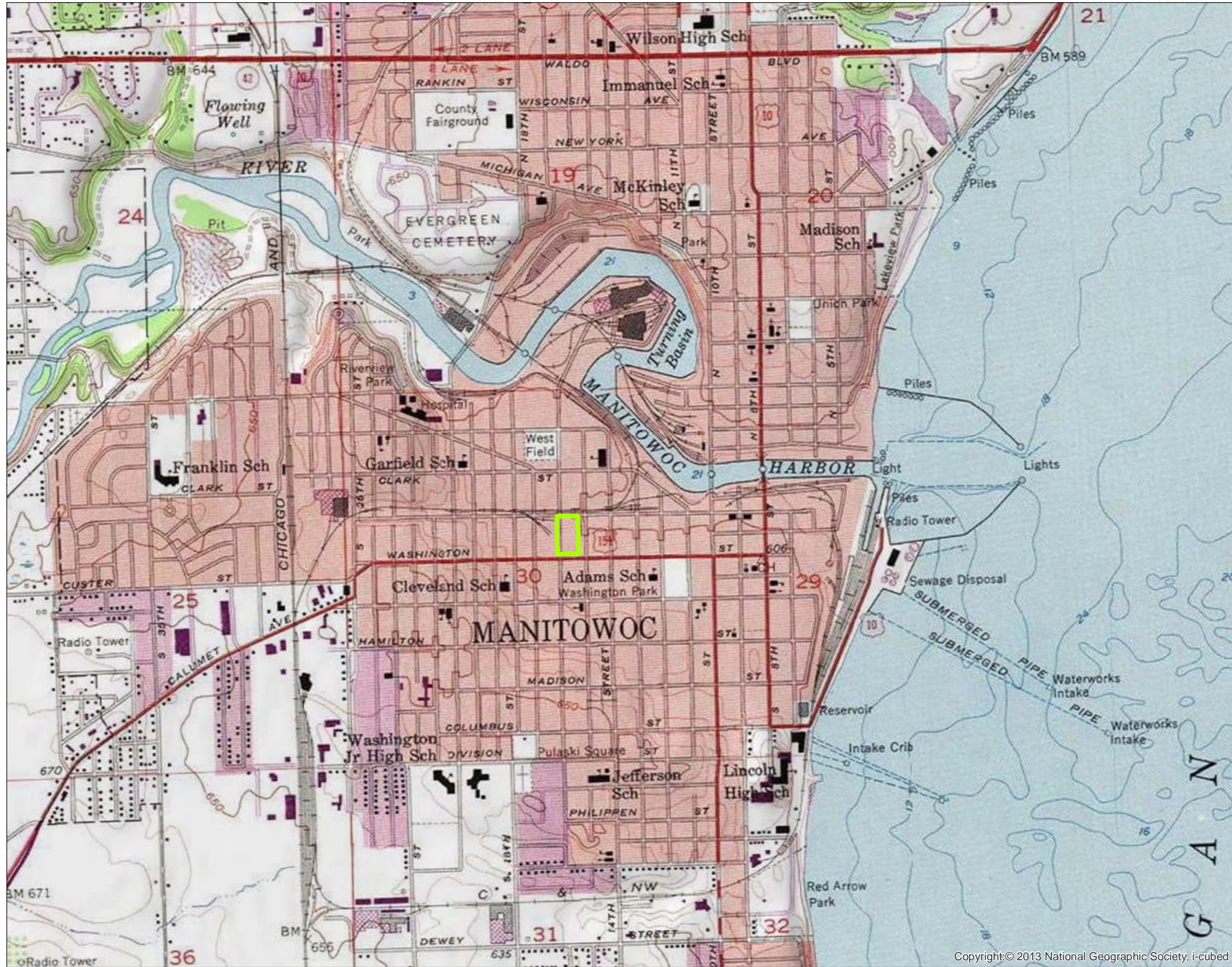


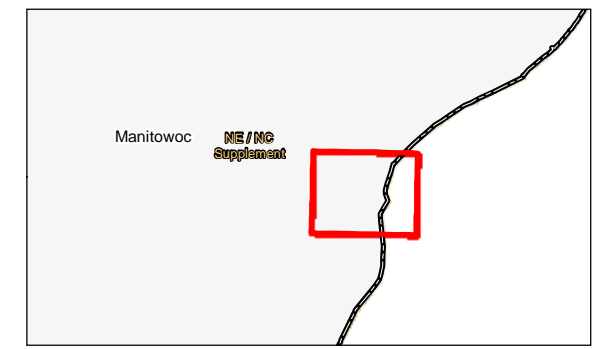
Figure No. **1A**
 Title **Figure 1A
 Site Location and Local Topography**

Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances

0 1,050 2,100 Feet

193703931
 Prepared by HLB on 5-24-16

Legend
 Target Site



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include:
 Topo Map: USGS/National Geographic Society



Copyright © 2013 National Geographic Society, i-cubed

G:\Data\Manitowoc\Map\2016\1512\Washnrdgn\01.mxd - Revised: 2016-05-25 By: bbyr

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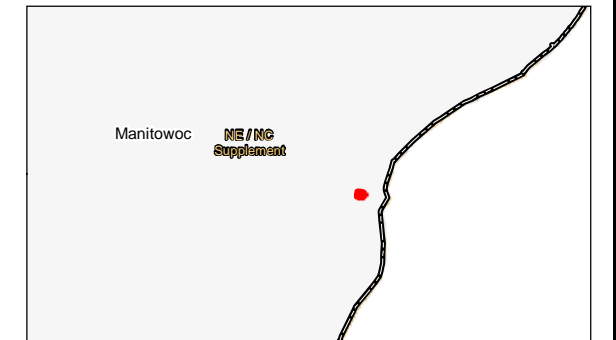


Figure No.
1B
Title
**Figure 1B
Site Location and 2014 Ortho**

Client/Project
City of Manitowoc
USEPA Brownfield Assessment Grant
Hazardous Substances

0 65 130 Feet
193703931
Prepared by HLB on 5-24-16

Legend
 Target Site
 Parcels



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803
 2. Feet
 3. Data Sources Include:
 Orthophotography: 2015 City of Manitowoc



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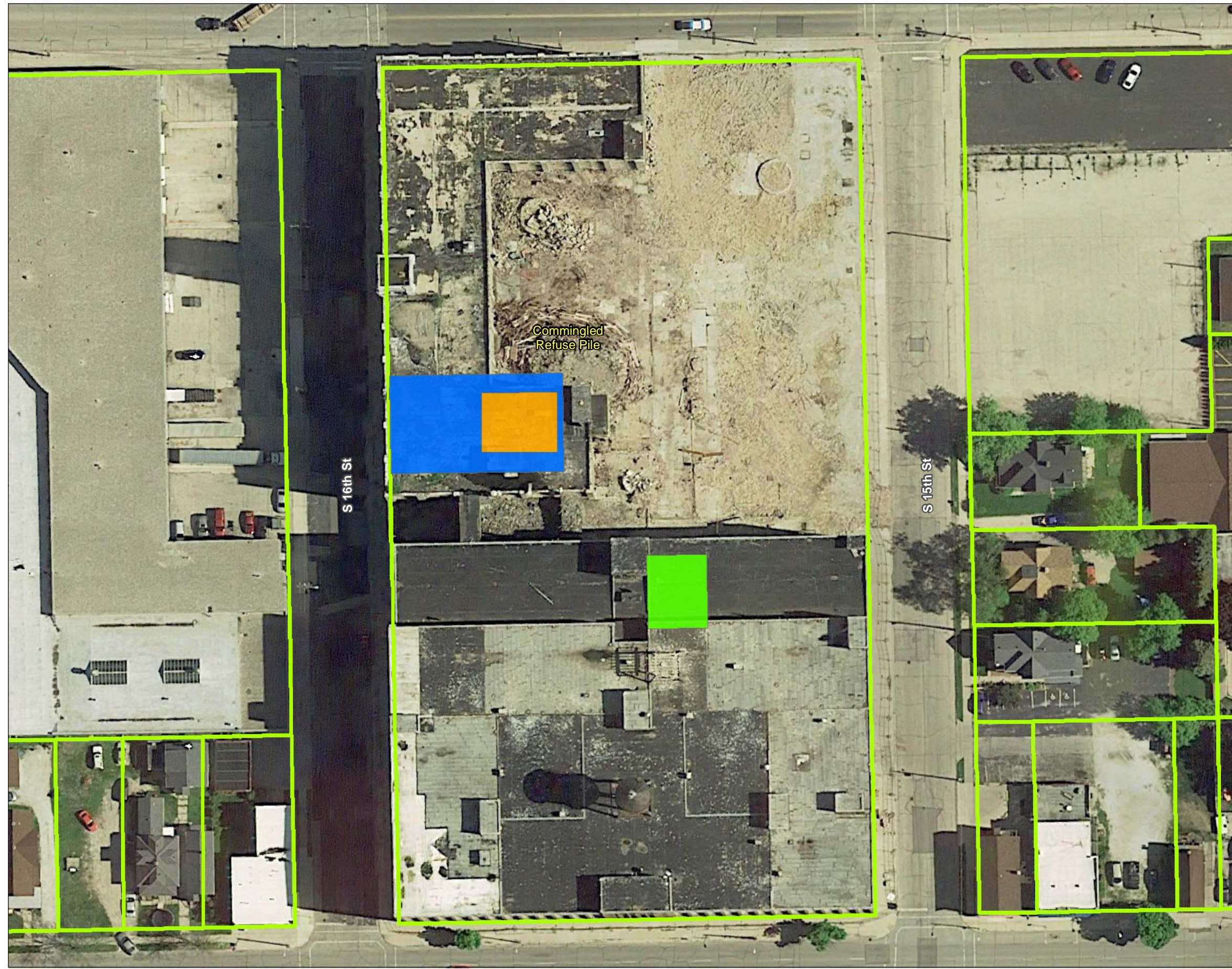


Figure No.
2

Title
Figure 2. PCB Focus Areas

Client/Project
City of Manitowoc
USEPA Brownfield Assessment Grant
Hazardous Substances

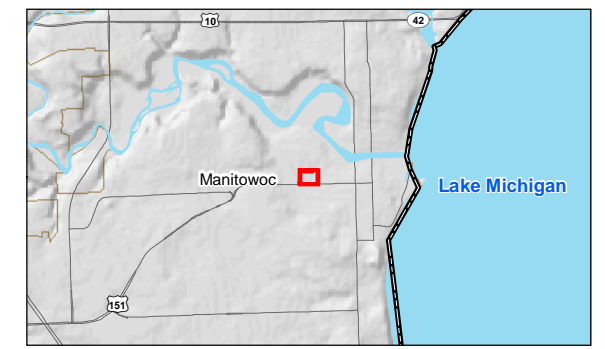
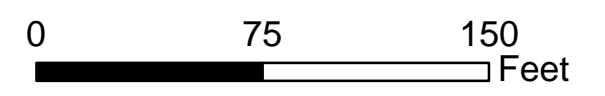
Project Location
T19N, R24E, S30
C. of Manitowoc,
Manitowoc Co., WI

193703931
Prepared by HLB on 2016-12-20

Legend

PCB Areas

- Area 14 (2nd Floor)
- Area 8 (Ground Floor)
- Loading Dock (Ground Floor)



Notes

Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803

1. Feet
2. Data Sources Include: Stantec, NADS



Figure No.
5 Rev
 Title
Figure 5 Rev. Building Material Sample Locations in the Loading Dock Area

Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances

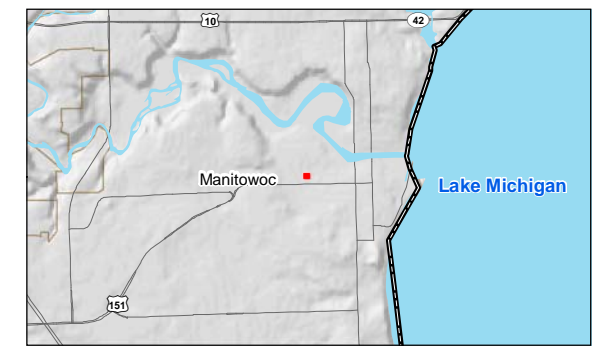
Project Location
 T19N, R24E, S30
 C. of Manitowoc,
 Manitowoc Co., WI

193703931
 Prepared by HLB on 07-03-2017

Legend

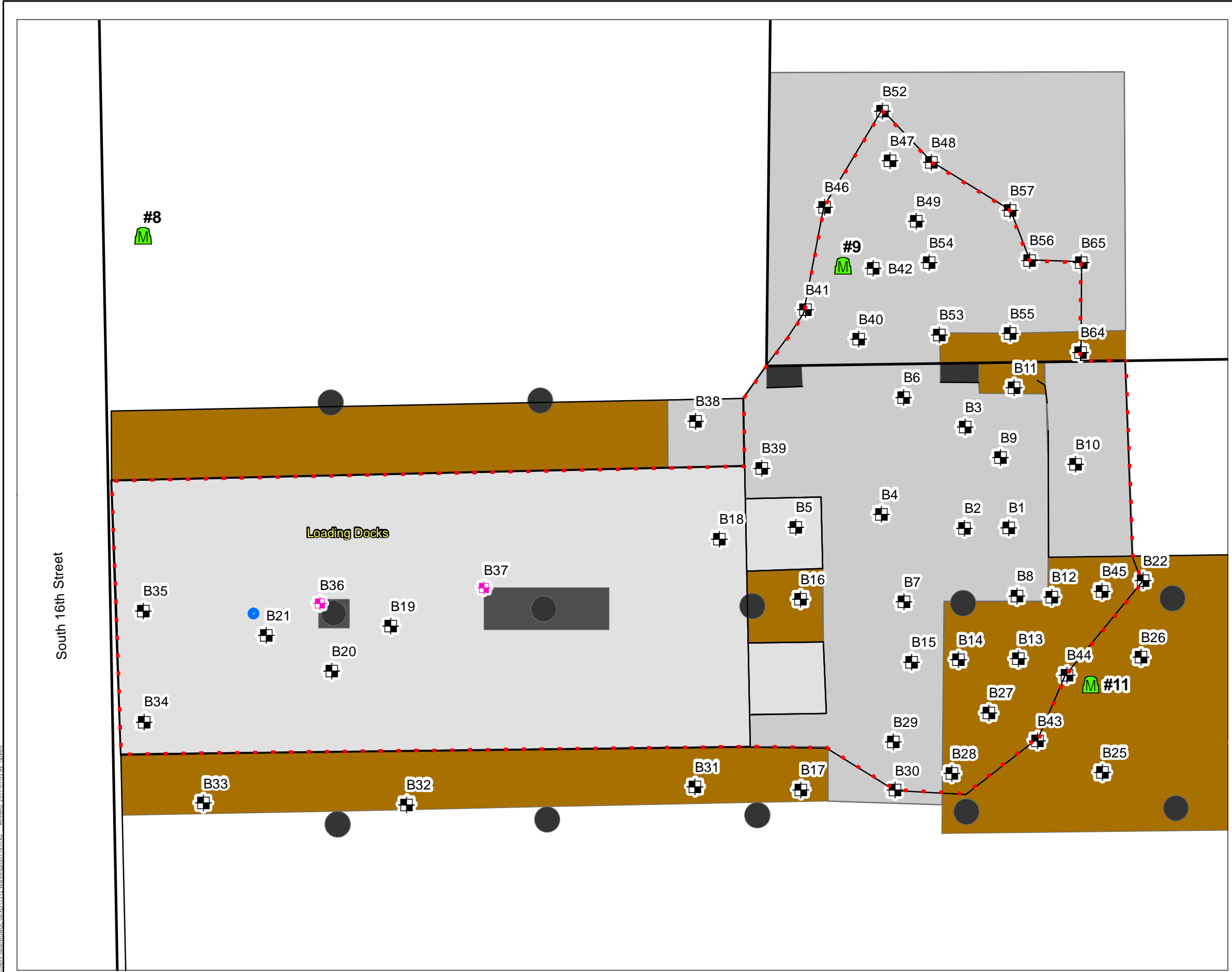
- Extent of Material to be Segregated
- Building Material Sample Locations**
 - Floor Sample
 - Column Sample
 - Interior Building Walls
 - Exterior Building Wall
- Tunnel Entrances**
 - Confirmed-Floor Access-Way
 - Catch Basin
 - Concrete Column
 - Concrete Footing
- Area Features**
 - Loading Dock
- Flooring Type**
 - Wood Flooring
 - Concrete

0 10 20 Feet



Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803
2. Feet
3. Data Sources Include: Stantec, NADS
4. "Area B" as identified in photographic documentation provided in the Symbiont (2016) Site Investigation



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TABLE

Table 1 - Rev 7-3-17
PCB Concentrations in Porous Building Materials
1512 Washington Street
Manitowoc, Wisconsin

Sample Location Details				Sample Information			PCBs Concentrations (ug/kg; Method 8082A)							
							Aroclor- 1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	
Area	Building	Floor	Rationale	Substrate	Sample Date	Time	Sample Name	50,000 (Combined) ¹						
Area - Loading Dock	North	Ground	Delineate stained concrete in area potentially impacted by draining of Area 14 Transformer	Concrete	11/9/2016	2:10	B1-LD-C (0.0-0.5)	<130,000	<160,000	<160,000	<120,000	<150,000	<81,000	4,000,000
					11/9/2016	2:00	B2-LD-C (0.0-0.5)	<330,000	<410,000	<410,000	<310,000	<370,000	<200,000	12,000,000
					11/9/2016	1:45	B3-LD-C (0.0-0.5)	<130,000	<160,000	<160,000	<120,000	<150,000	<80,000	3,900,000
					11/9/2016	1:30	B4-LD-C (0.0-0.25)	<350,000	<430,000	<430,000	<320,000	<390,000	<210,000	6,500,000
					11/9/2016	1:20	B5-LD-C (0.0-0.25)	<63,000	<79,000	<78,000	<59,000	<70,000	<39,000	2,300,000
					11/10/2016	9:10	B6-LD-C (0.0-0.25)	<66,000	<82,000	<81,000	<61,000	<74,000	<40,000	470,000
					11/10/2016	9:20	B7-LD-C (0.0-0.25)	<83,000	<100,000	<100,000	<77,000	<92,000	<51,000	770,000
					11/10/2016	9:25	B8-LD-C (0.0-0.25)	<1,300,000	<1,700,000	<1,700,000	<1,200,000	<1,200,000	<820,000	64,000,000
					11/22/2016	1:50	B8-LD-C (1.0-1.5)	<63,000	<78,000	<78,000	<59,000	<70,000	<38,000	2,200,000
					11/10/2016	9:35	B9-LD-C (0.0-0.25)	<1,700,000	<2,100,000	<2,100,000	<1,600,000	<1,900,000	<1,000,000	42,000,000
				11/10/2016	9:30	B10-LD-C (0.0-0.25)	<5,000	<6,200	<6,100	<4,600	<5,500	<3,000	60,000	
				Wood	11/22/2016	1:25	B11-LD-W	<1,400,000	<1,700,000	<1,700,000	<1,300,000	<1,500,000	<840,000	31,000,000
					11/22/2016	1:30	B12-LD-W	<69,000	<85,000	<85,000	<64,000	<76,000	<42,000	870,000
					11/22/2016	1:35	B13-LD-W	<3,300	<4,200	<4,100	<3,100	<3,700	<2,000	120,000
					11/22/2016	1:40	B14-LD-W	<3,500	<4,400	<4,300	<3,200	<3,900	<2,100	43,000
				Concrete	11/22/2016	2:00	B15-LD-C (0.0-0.25)	<70,000	<87,000	<86,000	<65,000	<78,000	<43,000	240,000
				Wood	11/22/2016	2:05	B16-LD-W	<3,400	<4,300	<4,200	<3,200	<3,800	<2,100	61,000
					11/22/2016	2:35	B17-LD-W	<350	<440	<430	<330	<390	<220	3,800
				Concrete	11/22/2016	3:00	B18-LD-C (0.0-0.25)	<70,000	<88,000	<87,000	<65,000	<78,000	<43,000	320,000
					11/22/2016	3:05	B19-LD-C (0.0-0.25)	<69,000	<86,000	<85,000	<64,000	<77,000	<42,000	1,400,000
					11/22/2016	3:10	B20-LD-C (0.0-0.25)	<64,000	<80,000	<79,000	<60,000	<72,000	<39,000	250,000
					11/22/2016	3:15	B21-LD-C (0.0-0.25)	<70,000	<88,000	<87,000	<65,000	<78,000	<43,000	440,000
				Wood	12/6/2016	11:40	B22-LD-W	<340	<420	<420	<320	<380	<210	3,800
					12/6/2016	11:35	B23-LD-W	<350	<440	<430	<330	<390	<210	1,800
					12/6/2016	11:45	B24-LD-W	<350	<430	<430	<320	<390	<210	8,600
					12/6/2016	11:55	B25-LD-W	<350	<440	<430	<330	<390	<220	6,400
					12/6/2016	11:50	B26-LD-W	<350	<430	<430	<320	<390	<210	11,000
					12/6/2016	12:00	B27-LD-W	<350	<430	<430	<320	<390	<210	8,100
					12/6/2016	12:05	B28-LD-W	<6900	<8600	<8500	<6400	<7700	<4200	84,000
				Concrete	12/6/2016	1:00	B29-LC-C (0.0-0.25)	<6700	<8300	<8200	<6200	<7400	<4100	66,000
					12/6/2016	12:55	B30-LC-C (0.0-0.25)	<340	<430	<420	<320	<380	<210	2,400
				Wood	12/6/2016	12:10	B31-LD-W	<340	<430	<420	<320	<380	<210	2,100
					12/6/2016	12:15	B32-LD-W	<340	<430	<420	<320	<380	<210	4,300
					12/6/2016	12:20	B33-LD-W	<350	<440	<440	<330	<390	<220	630 J
				Concrete	12/6/2016	1:30	B34-LD-C (0.0-0.25)	<3300	<4100	<4100	<3100	<3700	<2000	24,000
					12/6/2016	1:35	B35-LD-C (0.0-0.25)	<6500	<8100	<8100	<6100	<7300	<4000	62,000
				Concrete Column 6" from Floor	12/6/2016	1:40	B36-LD-C West Column-W	<340	<420	<420	<320	<380	<210	4,600
					12/6/2016	1:45	B37-LD-C West Column-W	<310	<390	<390	<290	<350	<190	2,800
				Concrete	12/6/2016	1:20	B38-LD-C (0.0-0.25)	<390	<480	<480	<360	<430	<240	16,000
					12/6/2016	1:20	B39-LD-C (0.0-0.25)	<31000	<39000	<39000	<29000	<35000	<19000	550,000
					12/6/2016	1:05	B40-LD-C (0.0-0.25)	<6100	<7600	<7500	<5700	<6800	<3700	84,000
					12/6/2016	1:10	B41-LD-C (0.0-0.25)	<350	<440	<430	<330	<390	<210	13,000
					12/6/2016	1:15	B42-LD-C (0.0-0.25)	<3300	<4200	<4100	<3100	<3700	<2000	73,000
				Wood	5/16/2017	9:45	B43-LD-W	<670	<840	<830	<630	<750	<410	4,600
					5/16/2017	9:55	B44-LD-W	<390	<480	<480	<360	<430	<240	4,900
					5/16/2017	10:05	B45-LD-W	<2,100	<2,600	<2,500	<1,900	<2,300	<1,300	54,000
Concrete	5/16/2017	11:00	B46-LD-C (0.0-0.25)	<1,700	<2,100	<2,100	<1,600	<1,900	<1,000	37,000				

Table 1 - Rev 7-3-17
 PCB Concentrations in Porous Building Materials
 1512 Washington Street
 Manitowoc, Wisconsin

Sample Location Details				Sample Information			PCBs Concentrations (ug/kg; Method 8082A)							
Area	Building	Floor	Rationale	Substrate	Sample Date	Time	Sample Name	Aroclor- 1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
								50,000 (Combined)¹						
Area - Loading Dock	North	Ground	Delineate area formerly covered by comingled debris pile that was potentially impacted by draining of Area 14 Transformer	Concrete	6/23/2017	10:00	B47-LD-C (0-0.25)	<3100	<3800	<3800	<2900	<3400	<1900	76,000
					6/23/2017	10:05	B48-LD-C (0-0.25)	<340	<440	<440	<330	<400	<220	7,000
					6/23/2017	10:10	B49-LD-C (0-0.25)	<3200	<3900	<3900	<2900	<3500	<1900	61,000
					6/23/2017	10:30	B52-LD-C (0-0.25)	<3200	<4000	<4000	<3000	<3600	<2000	28,000
					6/23/2017	10:35	B53-LD-C (0-0.25)	<15000	<19000	<19000	<14000	<17000	<9400	110,000
					6/23/2017	10:40	B54-LD-C (0-0.25)	<3300	<4000	<4000	<3000	<3600	<2000	59,000
				Wood	6/23/2017	10:45	B55-LD-W	<670000	<830000	<820000	<620000	<740000	<410000	10,000,000
				Concrete	6/23/2017	10:50	B56-LD-C (0-0.25)	<120	<150	<150	<110	<130	<74	3,300
				Concrete	6/23/2017	10:55	B57-LD-C (0-0.25)	<310	<380	<380	<290	<340	<190	7,600
				Wood	6/23/2017	11:30	B64-LD-W	<1000	<1200	<1200	<930	<1100	<610	14,000
				Concrete	6/23/2017	11:35	B65-LD-C (0-0.25)	<120	<150	<150	<110	<130	<72	1900

Notes:

PCB = Polychlorinated Biphenyl

ug/kg = microgram per kilogram

(8082) = Laboratory analytical method (SW-846)

¹ Cleanup action levels for PCBs in WDNR Publication RR-786 is 50 mg/kg

150 Concentration is greater than 50 milligrams per kilogram.

ATTACHMENT A

PHOTOGRAPHIC DOCUMENTATION

PHOTO 1



Aerial view of delineation borings, looking down from the 2nd Story, looking North

PHOTO 2



Aerial view of delineation borings, looking down from the 2nd Story, looking North

PHOTO 3



Ground level view of borings, View S

PHOTO 4



Ground level view of borings, View SE

ATTACHMENT B

LABORATORY REPORT

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: 500-130138-1

Client Project/Site: Mirro Building - 193703931

For:

Stantec Consulting Corp.

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Attn: Harris Byers



Authorized for release by:

6/27/2017 4:38:46 PM

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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.

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Case Narrative

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Job ID: 500-130138-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative 500-130138-1

Comments

No additional comments.

Receipt

The samples were received on 6/24/2017 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 6.9° C.

GC Semi VOA

Method(s) 8082A: The following samples were diluted to bring the concentration of target analytes within the calibration range: DEBRIS PILE 1 (500-130138-1), DEBRIS PILE 2 (500-130138-2), DEBRIS PILE 3 (500-130138-3), DEBRIS PILE 4 (500-130138-4), DEBRIS PILE 5 (500-130138-5), B53-LD-C (0-0.25) (500-130138-6), B55-LD-W (500-130138-7), B64-LD-W (500-130138-8), B65-LD-C (0-0.25) (500-130138-9), B56-LD-C (0-0.25) (500-130138-10), B54-LD-C (0-0.25) (500-130138-11), B47-LD-C (0-0.25) (500-130138-12), B48-LD-C (0-0.25) (500-130138-13), B49-LD-C (0-0.25) (500-130138-14), B57-LD-C (0-0.25) (500-130138-15), B52-LD-C (0-0.25) (500-130138-16), (500-130138-A-1-B MS) and (500-130138-A-1-C MSD). Elevated reporting limits (RLs) are provided.

Method(s) 8082A: The following sample required a dilution due to the nature of the sample matrix: DEBRIS PILE 1 (500-130138-1), DEBRIS PILE 2 (500-130138-2), DEBRIS PILE 3 (500-130138-3), DEBRIS PILE 4 (500-130138-4), DEBRIS PILE 5 (500-130138-5), B53-LD-C (0-0.25) (500-130138-6), B55-LD-W (500-130138-7), B64-LD-W (500-130138-8), B65-LD-C (0-0.25) (500-130138-9), B56-LD-C (0-0.25) (500-130138-10), B54-LD-C (0-0.25) (500-130138-11), B47-LD-C (0-0.25) (500-130138-12), B48-LD-C (0-0.25) (500-130138-13), B49-LD-C (0-0.25) (500-130138-14), B57-LD-C (0-0.25) (500-130138-15) and B52-LD-C (0-0.25) (500-130138-16). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8082A: The following samples were diluted due to the nature of the sample matrix: (500-130138-A-1-B MS) and (500-130138-A-1-C MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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.

Organic Prep

Method(s) 3541: 3541 8082. Due to the low density of the sample matrix, the initial volumes used for the following samples deviated from the standard procedure: 500-130138-4, 500-130138-5, 500-130138-6, 500-130138-7, 500-130138-8, 500-130138-11, 500-130138-12, 500-130138-13, 500-130138-14, 500-130138-15, and 500-130138-16. The reporting limits (RLs) have been adjusted proportionately.

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

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: DEBRIS PILE 1

Lab Sample ID: 500-130138-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	9500	F2	530	260	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: DEBRIS PILE 2

Lab Sample ID: 500-130138-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	1800		370	180	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: DEBRIS PILE 3

Lab Sample ID: 500-130138-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	4400		370	180	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: DEBRIS PILE 4

Lab Sample ID: 500-130138-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	1300		1300	620	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: DEBRIS PILE 5

Lab Sample ID: 500-130138-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	5700		2100	1000	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: B53-LD-C (0-0.25)

Lab Sample ID: 500-130138-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	110000		43000	21000	ug/Kg	1000	☼	8082A	Total/NA

Client Sample ID: B55-LD-W

Lab Sample ID: 500-130138-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	10000000		1900000	930000	ug/Kg	20000	☼	8082A	Total/NA

Client Sample ID: B64-LD-W

Lab Sample ID: 500-130138-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	14000		2800	1400	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: B65-LD-C (0-0.25)

Lab Sample ID: 500-130138-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	1900		330	160	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: B56-LD-C (0-0.25)

Lab Sample ID: 500-130138-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	3300		340	170	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: B54-LD-C (0-0.25)

Lab Sample ID: 500-130138-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260									

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B54-LD-C (0-0.25) (Continued)

Lab Sample ID: 500-130138-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	59000		9200	4500	ug/Kg	200	☼	8082A	Total/NA

Client Sample ID: B47-LD-C (0-0.25)

Lab Sample ID: 500-130138-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	76000		8700	4300	ug/Kg	200	☼	8082A	Total/NA

Client Sample ID: B48-LD-C (0-0.25)

Lab Sample ID: 500-130138-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	7000		1000	500	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: B49-LD-C (0-0.25)

Lab Sample ID: 500-130138-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	61000		8900	4400	ug/Kg	200	☼	8082A	Total/NA

Client Sample ID: B57-LD-C (0-0.25)

Lab Sample ID: 500-130138-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	7600		870	430	ug/Kg	20	☼	8082A	Total/NA

Client Sample ID: B52-LD-C (0-0.25)

Lab Sample ID: 500-130138-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-1260	28000		9200	4500	ug/Kg	200	☼	8082A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

Method Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-130138-1	DEBRIS PILE 1	Solid	06/23/17 09:10	06/24/17 10:30
500-130138-2	DEBRIS PILE 2	Solid	06/23/17 09:15	06/24/17 10:30
500-130138-3	DEBRIS PILE 3	Solid	06/23/17 09:20	06/24/17 10:30
500-130138-4	DEBRIS PILE 4	Solid	06/23/17 09:25	06/24/17 10:30
500-130138-5	DEBRIS PILE 5	Solid	06/23/17 09:30	06/24/17 10:30
500-130138-6	B53-LD-C (0-0.25)	Solid	06/23/17 10:35	06/24/17 10:30
500-130138-7	B55-LD-W	Solid	06/23/17 10:45	06/24/17 10:30
500-130138-8	B64-LD-W	Solid	06/23/17 11:30	06/24/17 10:30
500-130138-9	B65-LD-C (0-0.25)	Solid	06/23/17 11:35	06/24/17 10:30
500-130138-10	B56-LD-C (0-0.25)	Solid	06/23/17 10:50	06/24/17 10:30
500-130138-11	B54-LD-C (0-0.25)	Solid	06/23/17 10:40	06/24/17 10:30
500-130138-12	B47-LD-C (0-0.25)	Solid	06/23/17 10:00	06/24/17 10:30
500-130138-13	B48-LD-C (0-0.25)	Solid	06/23/17 10:05	06/24/17 10:30
500-130138-14	B49-LD-C (0-0.25)	Solid	06/23/17 10:10	06/24/17 10:30
500-130138-15	B57-LD-C (0-0.25)	Solid	06/23/17 10:55	06/24/17 10:30
500-130138-16	B52-LD-C (0-0.25)	Solid	06/23/17 10:30	06/24/17 10:30

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: DEBRIS PILE 1

Date Collected: 06/23/17 09:10

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-1

Matrix: Solid

Percent Solids: 61.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<190	F1	530	190	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20
PCB-1221	<230		530	230	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20
PCB-1232	<230		530	230	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20
PCB-1242	<170		530	170	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20
PCB-1248	<210		530	210	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20
PCB-1254	<110		530	110	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20
PCB-1260	9500	F2	530	260	ug/Kg	☼	06/26/17 07:25	06/27/17 09:58	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 09:58	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 09:58	20

Client Sample ID: DEBRIS PILE 2

Date Collected: 06/23/17 09:15

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-2

Matrix: Solid

Percent Solids: 87.6

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<130		370	130	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1221	<160		370	160	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1232	<160		370	160	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1242	<120		370	120	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1248	<150		370	150	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1254	<80		370	80	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1260	1800		370	180	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 10:44	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 10:44	20

Client Sample ID: DEBRIS PILE 3

Date Collected: 06/23/17 09:20

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-3

Matrix: Solid

Percent Solids: 89.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<130		370	130	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1221	<160		370	160	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1232	<160		370	160	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1242	<120		370	120	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1248	<150		370	150	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1254	<80		370	80	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1260	4400		370	180	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 10:59	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 10:59	20

TestAmerica Chicago

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: DEBRIS PILE 4

Date Collected: 06/23/17 09:25

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-4

Matrix: Solid

Percent Solids: 74.6

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<450		1300	450	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20
PCB-1221	<550		1300	550	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20
PCB-1232	<550		1300	550	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20
PCB-1242	<410		1300	410	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20
PCB-1248	<500		1300	500	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20
PCB-1254	<270		1300	270	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20
PCB-1260	1300		1300	620	ug/Kg	☼	06/26/17 07:25	06/27/17 11:15	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 11:15	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 11:15	20

Client Sample ID: DEBRIS PILE 5

Date Collected: 06/23/17 09:30

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-5

Matrix: Solid

Percent Solids: 44.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<730		2100	730	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20
PCB-1221	<910		2100	910	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20
PCB-1232	<900		2100	900	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20
PCB-1242	<680		2100	680	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20
PCB-1248	<810		2100	810	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20
PCB-1254	<450		2100	450	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20
PCB-1260	5700		2100	1000	ug/Kg	☼	06/26/17 07:25	06/27/17 11:30	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 11:30	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 11:30	20

Client Sample ID: B53-LD-C (0-0.25)

Date Collected: 06/23/17 10:35

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-6

Matrix: Solid

Percent Solids: 97.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<15000		43000	15000	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000
PCB-1221	<19000		43000	19000	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000
PCB-1232	<19000		43000	19000	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000
PCB-1242	<14000		43000	14000	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000
PCB-1248	<17000		43000	17000	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000
PCB-1254	<9400		43000	9400	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000
PCB-1260	110000		43000	21000	ug/Kg	☼	06/26/17 07:25	06/27/17 13:33	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 13:33	1000
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 13:33	1000

TestAmerica Chicago

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B55-LD-W

Date Collected: 06/23/17 10:45

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-7

Matrix: Solid

Percent Solids: 49.5

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<670000		1900000	670000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000
PCB-1221	<830000		1900000	830000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000
PCB-1232	<820000		1900000	820000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000
PCB-1242	<620000		1900000	620000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000
PCB-1248	<740000		1900000	740000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000
PCB-1254	<410000		1900000	410000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000
PCB-1260	10000000		1900000	930000	ug/Kg	☼	06/26/17 07:25	06/27/17 14:49	20000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	0	D	49 - 129	06/26/17 07:25	06/27/17 14:49	20000
<i>DCB Decachlorobiphenyl</i>	0	D	37 - 121	06/26/17 07:25	06/27/17 14:49	20000

Client Sample ID: B64-LD-W

Date Collected: 06/23/17 11:30

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-8

Matrix: Solid

Percent Solids: 33.3

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<1000		2800	1000	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20
PCB-1221	<1200		2800	1200	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20
PCB-1232	<1200		2800	1200	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20
PCB-1242	<930		2800	930	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20
PCB-1248	<1100		2800	1100	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20
PCB-1254	<610		2800	610	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20
PCB-1260	14000		2800	1400	ug/Kg	☼	06/26/17 07:25	06/27/17 10:29	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	0	D	49 - 129	06/26/17 07:25	06/27/17 10:29	20
<i>DCB Decachlorobiphenyl</i>	0	D	37 - 121	06/26/17 07:25	06/27/17 10:29	20

Client Sample ID: B65-LD-C (0-0.25)

Date Collected: 06/23/17 11:35

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-9

Matrix: Solid

Percent Solids: 96.3

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<120		330	120	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1221	<150		330	150	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1232	<150		330	150	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1242	<110		330	110	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1248	<130		330	130	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1254	<72		330	72	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20
PCB-1260	1900		330	160	ug/Kg	☼	06/26/17 07:25	06/27/17 10:44	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	0	D	49 - 129	06/26/17 07:25	06/27/17 10:44	20
<i>DCB Decachlorobiphenyl</i>	0	D	37 - 121	06/26/17 07:25	06/27/17 10:44	20

TestAmerica Chicago

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B56-LD-C (0-0.25)

Lab Sample ID: 500-130138-10

Date Collected: 06/23/17 10:50

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 94.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<120		340	120	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1221	<150		340	150	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1232	<150		340	150	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1242	<110		340	110	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1248	<130		340	130	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1254	<74		340	74	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20
PCB-1260	3300		340	170	ug/Kg	☼	06/26/17 07:25	06/27/17 10:59	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 10:59	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 10:59	20

Client Sample ID: B54-LD-C (0-0.25)

Lab Sample ID: 500-130138-11

Date Collected: 06/23/17 10:40

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 96.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<3300		9200	3300	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200
PCB-1221	<4000		9200	4000	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200
PCB-1232	<4000		9200	4000	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200
PCB-1242	<3000		9200	3000	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200
PCB-1248	<3600		9200	3600	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200
PCB-1254	<2000		9200	2000	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200
PCB-1260	59000		9200	4500	ug/Kg	☼	06/26/17 07:25	06/27/17 12:46	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 12:46	200
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 12:46	200

Client Sample ID: B47-LD-C (0-0.25)

Lab Sample ID: 500-130138-12

Date Collected: 06/23/17 10:00

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 96.7

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<3100		8700	3100	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200
PCB-1221	<3800		8700	3800	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200
PCB-1232	<3800		8700	3800	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200
PCB-1242	<2900		8700	2900	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200
PCB-1248	<3400		8700	3400	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200
PCB-1254	<1900		8700	1900	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200
PCB-1260	76000		8700	4300	ug/Kg	☼	06/26/17 07:25	06/27/17 13:02	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 13:02	200
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 13:02	200

TestAmerica Chicago

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B48-LD-C (0-0.25)

Lab Sample ID: 500-130138-13

Date Collected: 06/23/17 10:05

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 95.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<360		1000	360	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20
PCB-1221	<440		1000	440	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20
PCB-1232	<440		1000	440	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20
PCB-1242	<330		1000	330	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20
PCB-1248	<400		1000	400	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20
PCB-1254	<220		1000	220	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20
PCB-1260	7000		1000	500	ug/Kg	☼	06/26/17 07:25	06/27/17 11:45	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 11:45	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 11:45	20

Client Sample ID: B49-LD-C (0-0.25)

Lab Sample ID: 500-130138-14

Date Collected: 06/23/17 10:10

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 95.8

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<3200		8900	3200	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200
PCB-1221	<3900		8900	3900	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200
PCB-1232	<3900		8900	3900	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200
PCB-1242	<2900		8900	2900	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200
PCB-1248	<3500		8900	3500	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200
PCB-1254	<1900		8900	1900	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200
PCB-1260	61000		8900	4400	ug/Kg	☼	06/26/17 07:25	06/27/17 13:17	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 13:17	200
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 13:17	200

Client Sample ID: B57-LD-C (0-0.25)

Lab Sample ID: 500-130138-15

Date Collected: 06/23/17 10:55

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 98.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<310		870	310	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20
PCB-1221	<380		870	380	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20
PCB-1232	<380		870	380	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20
PCB-1242	<290		870	290	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20
PCB-1248	<340		870	340	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20
PCB-1254	<190		870	190	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20
PCB-1260	7600		870	430	ug/Kg	☼	06/26/17 07:25	06/27/17 12:16	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	0	D	49 - 129	06/26/17 07:25	06/27/17 12:16	20
DCB Decachlorobiphenyl	0	D	37 - 121	06/26/17 07:25	06/27/17 12:16	20

TestAmerica Chicago

Client Sample Results

Client: Stantec Consulting Corp.
 Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B52-LD-C (0-0.25)

Lab Sample ID: 500-130138-16

Date Collected: 06/23/17 10:30

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 97.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<3200		9200	3200	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200
PCB-1221	<4000		9200	4000	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200
PCB-1232	<4000		9200	4000	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200
PCB-1242	<3000		9200	3000	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200
PCB-1248	<3600		9200	3600	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200
PCB-1254	<2000		9200	2000	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200
PCB-1260	28000		9200	4500	ug/Kg	✱	06/26/17 07:25	06/27/17 14:03	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	0	D	49 - 129	06/26/17 07:25	06/27/17 14:03	200
<i>DCB Decachlorobiphenyl</i>	0	D	37 - 121	06/26/17 07:25	06/27/17 14:03	200

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
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.
E	Result exceeded calibration range.

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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

GC Semi VOA

Prep Batch: 390819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-130138-1	DEBRIS PILE 1	Total/NA	Solid	3541	
500-130138-2	DEBRIS PILE 2	Total/NA	Solid	3541	
500-130138-3	DEBRIS PILE 3	Total/NA	Solid	3541	
500-130138-4	DEBRIS PILE 4	Total/NA	Solid	3541	
500-130138-5	DEBRIS PILE 5	Total/NA	Solid	3541	
500-130138-6	B53-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-7	B55-LD-W	Total/NA	Solid	3541	
500-130138-8	B64-LD-W	Total/NA	Solid	3541	
500-130138-9	B65-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-10	B56-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-11	B54-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-12	B47-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-13	B48-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-14	B49-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-15	B57-LD-C (0-0.25)	Total/NA	Solid	3541	
500-130138-16	B52-LD-C (0-0.25)	Total/NA	Solid	3541	
MB 500-390819/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-390819/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-130138-1 MS	DEBRIS PILE 1	Total/NA	Solid	3541	
500-130138-1 MSD	DEBRIS PILE 1	Total/NA	Solid	3541	

Analysis Batch: 390948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-130138-1	DEBRIS PILE 1	Total/NA	Solid	8082A	390819
500-130138-2	DEBRIS PILE 2	Total/NA	Solid	8082A	390819
500-130138-3	DEBRIS PILE 3	Total/NA	Solid	8082A	390819
500-130138-4	DEBRIS PILE 4	Total/NA	Solid	8082A	390819
500-130138-5	DEBRIS PILE 5	Total/NA	Solid	8082A	390819
500-130138-6	B53-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
MB 500-390819/1-A	Method Blank	Total/NA	Solid	8082A	390819
LCS 500-390819/2-A	Lab Control Sample	Total/NA	Solid	8082A	390819
500-130138-1 MS	DEBRIS PILE 1	Total/NA	Solid	8082A	390819
500-130138-1 MSD	DEBRIS PILE 1	Total/NA	Solid	8082A	390819

Analysis Batch: 391007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-130138-7	B55-LD-W	Total/NA	Solid	8082A	390819
500-130138-8	B64-LD-W	Total/NA	Solid	8082A	390819
500-130138-9	B65-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-10	B56-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-11	B54-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-12	B47-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-13	B48-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-14	B49-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-15	B57-LD-C (0-0.25)	Total/NA	Solid	8082A	390819
500-130138-16	B52-LD-C (0-0.25)	Total/NA	Solid	8082A	390819

TestAmerica Chicago

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

General Chemistry

Analysis Batch: 390847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-130138-1	DEBRIS PILE 1	Total/NA	Solid	Moisture	
500-130138-2	DEBRIS PILE 2	Total/NA	Solid	Moisture	
500-130138-3	DEBRIS PILE 3	Total/NA	Solid	Moisture	
500-130138-4	DEBRIS PILE 4	Total/NA	Solid	Moisture	
500-130138-5	DEBRIS PILE 5	Total/NA	Solid	Moisture	
500-130138-6	B53-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-7	B55-LD-W	Total/NA	Solid	Moisture	
500-130138-8	B64-LD-W	Total/NA	Solid	Moisture	
500-130138-9	B65-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-10	B56-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-11	B54-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-12	B47-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-13	B48-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-14	B49-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-15	B57-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-16	B52-LD-C (0-0.25)	Total/NA	Solid	Moisture	
500-130138-3 DU	DEBRIS PILE 3	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2	DCB2
		(49-129)	(37-121)
500-130138-1	DEBRIS PILE 1	0 D	0 D
500-130138-1 MS	DEBRIS PILE 1	0 D	0 D
500-130138-1 MSD	DEBRIS PILE 1	0 D	0 D
500-130138-2	DEBRIS PILE 2	0 D	0 D
500-130138-3	DEBRIS PILE 3	0 D	0 D
500-130138-4	DEBRIS PILE 4	0 D	0 D
500-130138-5	DEBRIS PILE 5	0 D	0 D
500-130138-6	B53-LD-C (0-0.25)	0 D	0 D
500-130138-7	B55-LD-W	0 D	0 D
500-130138-8	B64-LD-W	0 D	0 D
500-130138-9	B65-LD-C (0-0.25)	0 D	0 D
500-130138-10	B56-LD-C (0-0.25)	0 D	0 D
500-130138-11	B54-LD-C (0-0.25)	0 D	0 D
500-130138-12	B47-LD-C (0-0.25)	0 D	0 D
500-130138-13	B48-LD-C (0-0.25)	0 D	0 D
500-130138-14	B49-LD-C (0-0.25)	0 D	0 D
500-130138-15	B57-LD-C (0-0.25)	0 D	0 D
500-130138-16	B52-LD-C (0-0.25)	0 D	0 D
LCS 500-390819/2-A	Lab Control Sample	81	91
MB 500-390819/1-A	Method Blank	87	97

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-390819/1-A
Matrix: Solid
Analysis Batch: 390948

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 390819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<5.9		17	5.9	ug/Kg		06/26/17 07:25	06/27/17 08:56	1
PCB-1221	<7.3		17	7.3	ug/Kg		06/26/17 07:25	06/27/17 08:56	1
PCB-1232	<7.3		17	7.3	ug/Kg		06/26/17 07:25	06/27/17 08:56	1
PCB-1242	<5.5		17	5.5	ug/Kg		06/26/17 07:25	06/27/17 08:56	1
PCB-1248	<6.6		17	6.6	ug/Kg		06/26/17 07:25	06/27/17 08:56	1
PCB-1254	<3.6		17	3.6	ug/Kg		06/26/17 07:25	06/27/17 08:56	1
PCB-1260	<8.2		17	8.2	ug/Kg		06/26/17 07:25	06/27/17 08:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		49 - 129	06/26/17 07:25	06/27/17 08:56	1
DCB Decachlorobiphenyl	97		37 - 121	06/26/17 07:25	06/27/17 08:56	1

Lab Sample ID: LCS 500-390819/2-A
Matrix: Solid
Analysis Batch: 390948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 390819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	167	144		ug/Kg		87	57 - 120
PCB-1260	167	139		ug/Kg		84	61 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	81		49 - 129
DCB Decachlorobiphenyl	91		37 - 121

Lab Sample ID: 500-130138-1 MS
Matrix: Solid
Analysis Batch: 390948

Client Sample ID: DEBRIS PILE 1
Prep Type: Total/NA
Prep Batch: 390819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
PCB-1016	<190	F1	269	<190	F1	ug/Kg	☼	0	57 - 120
PCB-1260	9500	F2	269	26700	E 4	ug/Kg	☼	6404	61 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	0	D	49 - 129
DCB Decachlorobiphenyl	0	D	37 - 121

Lab Sample ID: 500-130138-1 MSD
Matrix: Solid
Analysis Batch: 390948

Client Sample ID: DEBRIS PILE 1
Prep Type: Total/NA
Prep Batch: 390819

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
PCB-1016	<190	F1	263	<190	F1	ug/Kg	☼	0	57 - 120	NC	30
PCB-1260	9500	F2	263	13900	E 4 F2	ug/Kg	☼	1686	61 - 125	63	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	0	D	49 - 129
DCB Decachlorobiphenyl	0	D	37 - 121

TestAmerica Chicago

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: DEBRIS PILE 1

Date Collected: 06/23/17 09:10

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: DEBRIS PILE 1

Date Collected: 06/23/17 09:10

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-1

Matrix: Solid

Percent Solids: 61.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	390948	06/27/17 09:58	BJH	TAL CHI

Client Sample ID: DEBRIS PILE 2

Date Collected: 06/23/17 09:15

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: DEBRIS PILE 2

Date Collected: 06/23/17 09:15

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-2

Matrix: Solid

Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	390948	06/27/17 10:44	BJH	TAL CHI

Client Sample ID: DEBRIS PILE 3

Date Collected: 06/23/17 09:20

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: DEBRIS PILE 3

Date Collected: 06/23/17 09:20

Date Received: 06/24/17 10:30

Lab Sample ID: 500-130138-3

Matrix: Solid

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	390948	06/27/17 10:59	BJH	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: DEBRIS PILE 4

Lab Sample ID: 500-130138-4

Date Collected: 06/23/17 09:25

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: DEBRIS PILE 4

Lab Sample ID: 500-130138-4

Date Collected: 06/23/17 09:25

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 74.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	390948	06/27/17 11:15	BJH	TAL CHI

Client Sample ID: DEBRIS PILE 5

Lab Sample ID: 500-130138-5

Date Collected: 06/23/17 09:30

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: DEBRIS PILE 5

Lab Sample ID: 500-130138-5

Date Collected: 06/23/17 09:30

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 44.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	390948	06/27/17 11:30	BJH	TAL CHI

Client Sample ID: B53-LD-C (0-0.25)

Lab Sample ID: 500-130138-6

Date Collected: 06/23/17 10:35

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B53-LD-C (0-0.25)

Lab Sample ID: 500-130138-6

Date Collected: 06/23/17 10:35

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		1000	390948	06/27/17 13:33	BJH	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B55-LD-W

Lab Sample ID: 500-130138-7

Date Collected: 06/23/17 10:45

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B55-LD-W

Lab Sample ID: 500-130138-7

Date Collected: 06/23/17 10:45

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 49.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20000	391007	06/27/17 14:49	BJH	TAL CHI

Client Sample ID: B64-LD-W

Lab Sample ID: 500-130138-8

Date Collected: 06/23/17 11:30

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B64-LD-W

Lab Sample ID: 500-130138-8

Date Collected: 06/23/17 11:30

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 33.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	391007	06/27/17 10:29	BJH	TAL CHI

Client Sample ID: B65-LD-C (0-0.25)

Lab Sample ID: 500-130138-9

Date Collected: 06/23/17 11:35

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B65-LD-C (0-0.25)

Lab Sample ID: 500-130138-9

Date Collected: 06/23/17 11:35

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 96.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	391007	06/27/17 10:44	BJH	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B56-LD-C (0-0.25)

Lab Sample ID: 500-130138-10

Date Collected: 06/23/17 10:50

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B56-LD-C (0-0.25)

Lab Sample ID: 500-130138-10

Date Collected: 06/23/17 10:50

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	391007	06/27/17 10:59	BJH	TAL CHI

Client Sample ID: B54-LD-C (0-0.25)

Lab Sample ID: 500-130138-11

Date Collected: 06/23/17 10:40

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B54-LD-C (0-0.25)

Lab Sample ID: 500-130138-11

Date Collected: 06/23/17 10:40

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		200	391007	06/27/17 12:46	BJH	TAL CHI

Client Sample ID: B47-LD-C (0-0.25)

Lab Sample ID: 500-130138-12

Date Collected: 06/23/17 10:00

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B47-LD-C (0-0.25)

Lab Sample ID: 500-130138-12

Date Collected: 06/23/17 10:00

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 96.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		200	391007	06/27/17 13:02	BJH	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B48-LD-C (0-0.25)

Lab Sample ID: 500-130138-13

Date Collected: 06/23/17 10:05

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B48-LD-C (0-0.25)

Lab Sample ID: 500-130138-13

Date Collected: 06/23/17 10:05

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 95.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	391007	06/27/17 11:45	BJH	TAL CHI

Client Sample ID: B49-LD-C (0-0.25)

Lab Sample ID: 500-130138-14

Date Collected: 06/23/17 10:10

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B49-LD-C (0-0.25)

Lab Sample ID: 500-130138-14

Date Collected: 06/23/17 10:10

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		200	391007	06/27/17 13:17	BJH	TAL CHI

Client Sample ID: B57-LD-C (0-0.25)

Lab Sample ID: 500-130138-15

Date Collected: 06/23/17 10:55

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B57-LD-C (0-0.25)

Lab Sample ID: 500-130138-15

Date Collected: 06/23/17 10:55

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 98.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		20	391007	06/27/17 12:16	BJH	TAL CHI

TestAmerica Chicago

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Client Sample ID: B52-LD-C (0-0.25)

Lab Sample ID: 500-130138-16

Date Collected: 06/23/17 10:30

Matrix: Solid

Date Received: 06/24/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	390847	06/26/17 10:12	LWN	TAL CHI

Client Sample ID: B52-LD-C (0-0.25)

Lab Sample ID: 500-130138-16

Date Collected: 06/23/17 10:30

Matrix: Solid

Date Received: 06/24/17 10:30

Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			390819	06/26/17 07:25	STW	TAL CHI
Total/NA	Analysis	8082A		200	391007	06/27/17 14:03	BJH	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: Mirro Building - 193703931

TestAmerica Job ID: 500-130138-1

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Chicago

- 1
- 2
- 3
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- 10
- 11
- 12
- 13
- 14
- 15

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 61
Phone: 708.534.5200 Fax: 708.534.5200



500-130138 COC

Report To (optional)
Contact: HARRIS BYERS
Company: STANTEC
Address: 12075 COBURN AVE
Address: PKWY MTQUON, WI
Phone: _____
Fax: _____
E-Mail: HARRIS.BYERS@STANTEC.COM

Bill To (optional)
Contact: _____
Company: _____
Address: _____
Address: _____
Phone: _____
Fax: _____
Ref/Reference# _____

Chain of Custody Record

Lab Job #: 500-130138
Chain of Custody Number: _____
Page 1 of 2
Temperature °C of Cooler: 6.9

Client		Client Project #		Preservative		Parameter		Matrix		Preservative Key
<u>STANTEC</u>		<u>193703931</u>		<u>8</u>						
Project Name		Project Location/State		Lab Project #		Sampler		Lab PM		Comments
<u>MIND BUILDING</u>		<u>WI</u>				<u>N. HEIM</u>				
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	PCB			
			Date	Time						
<u>1</u>		<u>DEBRIS PILE 2</u>	<u>6/23/17</u>	<u>9:10</u>	<u>1</u>	<u>0</u>	<u>X</u>			
<u>2</u>		<u>DEBRIS PILE 2</u>		<u>9:15</u>			<u>X</u>			
<u>3</u>		<u>DEBRIS PILE 3</u>		<u>9:20</u>			<u>X</u>			
<u>4</u>		<u>DEBRIS PILE 4</u>		<u>9:25</u>			<u>X</u>			
<u>5</u>		<u>DEBRIS PILE 5</u>		<u>9:30</u>			<u>X</u>			
<u>6</u>		<u>B53-LD-C (0-0.25)</u>		<u>10:35</u>			<u>X</u>			
<u>7</u>		<u>B55-LD-W</u>		<u>10:45</u>			<u>X</u>			
<u>8</u>		<u>B64-LD-W</u>		<u>11:30</u>			<u>X</u>			
<u>9</u>		<u>B65-LD-C (0-0.25)</u>		<u>11:35</u>			<u>X</u>			
<u>10</u>		<u>B56-LD-C (0-0.25)</u>		<u>10:50</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

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>N HEIM</u>	Company <u>STANTEC</u>	Date <u>6/23/17</u>	Time	Received By <u>[Signature]</u>	Company <u>TA</u>	Date <u>6/24/17</u>	Time <u>1030</u>	Lab Courier
Relinquished By	Company	Date	Time	Received By	Company	Date	Time	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
24 HR TAT
MAI CONTAIN FLEWATED PCBs

Lab Comments:

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: HARRIS BYERS
 Company: _____
 Address: _____
 Address: _____
 Phone: _____
 Fax: _____
 E-Mail: HARRIS.BYERS@STANTEC.COM

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

Chain of Custody Record

Lab Job #: 500-130138
 Chain of Custody Number: _____
 Page 2 of 2
 Temperature °C of Cooler: _____

Client		Client Project #		Preservative		Parameter		Project Location/State		Lab Project #		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		Sampler		Lab PM		Date		Time		Matrix		
Lab ID	MS/MSD	Sample ID	Date	Time	# of Containers	Matrix					Comments	
STANTEC		193703931		8		PLUB						
Micro BUILDING		N Heim										
11		B54-LD-L (0-0.25)	6/24/17	10:40	2	0	X					
12		B47-LD-L (0-0.25)		10:00			X					
13		B48-LD-L (0-0.25)		10:05			X					
14		B49-LD-L (0-0.25)		10:10			X					
15		B57-LD-L (0-0.25)		10:55			X					
16		B52-LD-L (0-0.25)		10:30			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>N. Heim</u>	Company <u>STANTEC</u>	Date <u>6/23/17</u>	Time	Received By <u>[Signature]</u>	Company <u>TA</u>	Date <u>6-24-17</u>	Time <u>1030</u>	Lab Courier
Relinquished By	Company	Date	Time	Received By	Company	Date	Time	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
May CONTAIN ELEVATED PLUBS

Lab Comments:

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 500-130138-1

Login Number: 130138

List Source: TestAmerica Chicago

List Number: 1

Creator: James, Jeff A

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	ON ICE
Cooler Temperature is recorded.	True	6.9
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 (excluding tests with immediate HTs)	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	