



April 20, 2018

**Wisconsin Department of Natural Resources**

Attn: Mr. Matt Thompson

1300 West Clairemont Avenue

Eau Claire, WI 54701

**Subject:**

Update Report  
Band Box Cleaners & Laundry, Inc.  
Sparta, WI 54646  
BRRTS #02-42-551921

Dear Matt,

On behalf of Band Box Cleaners & Laundry, Inc., REI is submitting an Update Report for the above referenced site. REI has completed the June 2016 Approved Scope of Services including the operation and eventual removal of a soil vapor extraction system, and additional groundwater and sub-slab vapor sampling. Based on the results of this scope of services, REI is recommending the site be submitted for case closure consideration.

If you have additional questions, please contact REI at 715-675-9784.

Sincerely,  
REI Engineering, Inc.

A handwritten signature in black ink, appearing to read "Brian J. Bailey".

Brian J. Bailey  
Environmental Scientist

CC: Band Box Cleaners & Laundry, Inc., Attn: Mr. John Tessman, P.O. Box 299,  
Tomah, WI 54660



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4080 N. 20th Avenue Wausau, WI 54401  
715-675-9784 REIengineering.com

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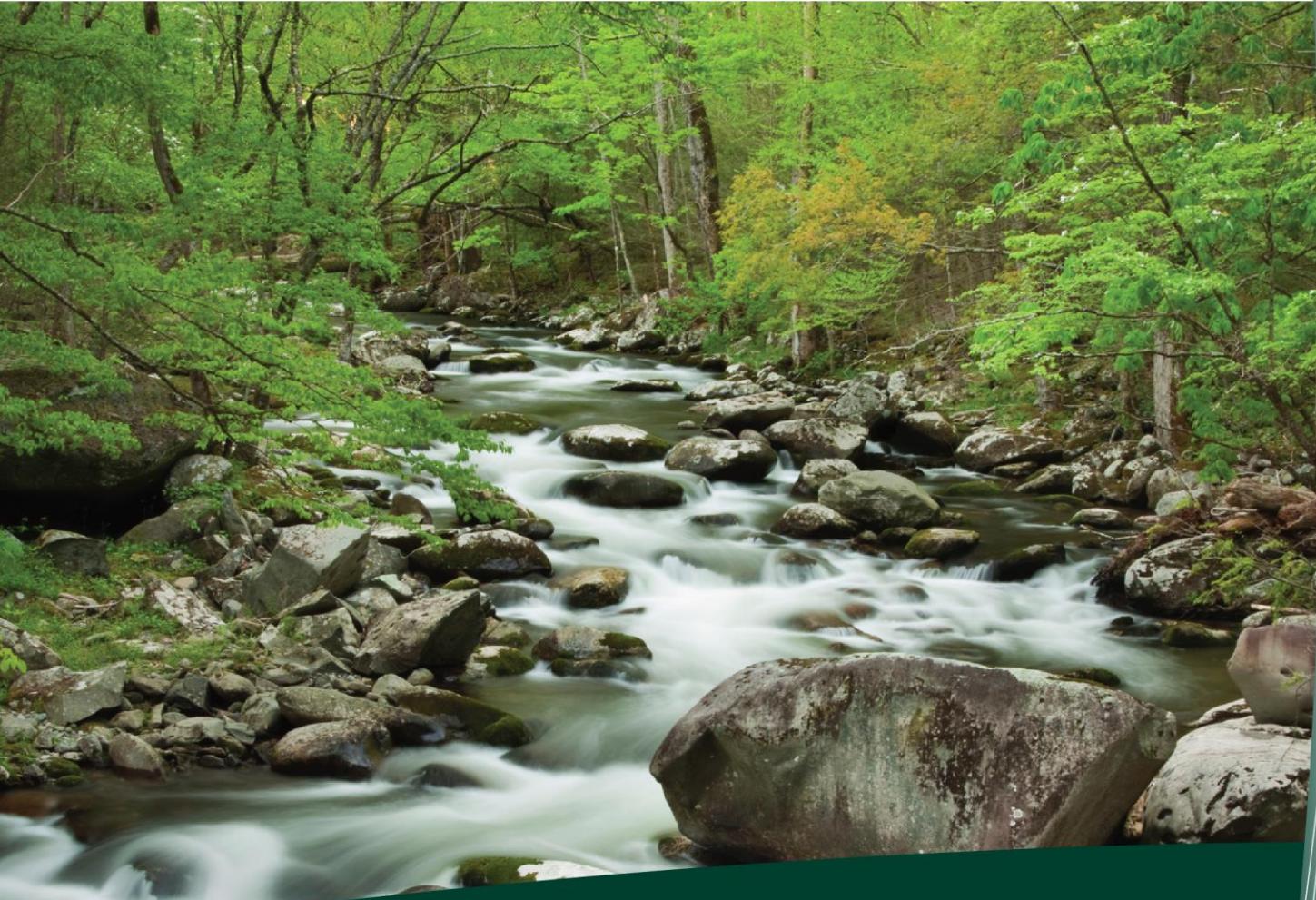


CIVIL & ENVIRONMENTAL  
ENGINEERING, SURVEYING

## UPDATE REPORT

**BAND BOX CLEANERS & LAUNDRY, INC.**  
**122 EAST OAK STREET**  
**SPARTA, WI 54656**  
**BRRTS #02-42-551921**

**REI PROJECT #6546**



**COMPREHENSIVE  
SERVICES WITH  
PRACTICAL  
SOLUTIONS**



## **UPDATE REPORT**

**BAND BOX CLEANERS & LAUNDRY, INC.**  
**122 EAST OAK STREET**  
**SPARTA, WI 54656**  
**BRRTS #02-42-551921**

**REI PROJECT #6546**

### **PREPARED FOR:**

**Band Box Cleaners  
Attn: Mr. John Tessman  
1207 Superior Avenue  
Tomah, WI 54460**

**APRIL 2018**

## UPDATE REPORT

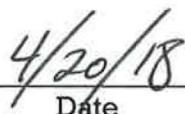
**BAND BOX CLEANERS & LAUNDRY, INC.**  
**122 EAST OAK STREET**  
**SPARTA, WI 54656**  
**BRRTS #02-42-551921**

**REI PROJECT #6546**

The recommendations contained in this report are based on the information obtained from our study of the site and were arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location.

I, Brian J. Bailey, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

  
Signature

  
Date

"I, David N. Larsen, hereby certify that I am a registered Professional Geologist in the state of Wisconsin as defined in Wisconsin Statutes Chapter 470.01. I also certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



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## **UPDATE REPORT**

**BAND BOX CLEANERS & LAUNDRY, INC.**  
**122 EAST OAK STREET**  
**SPARTA, WI 54656**  
**BRRTS #02-42-551921**

**REI PROJECT #6546**

### **1.0 INTRODUCTION**

#### **1.1 Purpose**

This report presents results from the limited scope of work for the Band Box Cleaners & Laundry, Inc. in Sparta, WI. The June 2016 approved scope of services were specific to the operation of the soil vapor extraction system for six (6) additional months, the removal of the soil vapor extraction system, and one (1) round of confirmation groundwater monitoring and vapor intrusion sampling and reporting to be conducted during the winter 2017/2018.

### **2.0 SITE LOCATION**

The Band Box Cleaners & Laundry Sparta Facility site is located at 122 East Oak Street in the SW ¼ of the SW ¼ of Section 13, Township 17 North, Range 4 West, Monroe County, Wisconsin (Figure 1). The property is currently operated as a commercial dry cleaner and laundromat.

### **3.0 SUMMARY OF WORK**

#### **3.1 Groundwater Monitoring and Analytical Results**

One (1) round of groundwater sampling was completed on January 23, 2018 for select wells (MW-1, MW-3 and MW-5) utilizing low-flow sampling technique. Depth to groundwater was measured in the wells prior to sampling. Table 1 presents the depth to groundwater and groundwater elevations collected by REI personnel during this investigation. Groundwater samples were collected and submitted to Pace Analytical, Green Bay, WI for analysis of volatile organic compounds (VOC). Groundwater analytical results for samples collected by REI personnel are

summarized in Tables 2a-2f. The complete groundwater laboratory analytical reports are included as Appendix A. Figure 2 presents the location of the groundwater sampling points. Figure 3 is a close-up of the area of concern. Figure 4 is a groundwater contour map from the January 23, 2018 groundwater sampling event. The observed groundwater flow direction is to the south which is consistent with previously submitted groundwater flow directions.

The January 23, 2018 groundwater sampling event revealed only one (1) exceedance of the ch NR 140 Preventive Action Limit (PAL) for tetrachloroethene in MW-3. Additional low-level detections were identified in MW-1 and MW-3, however, no other exceedances of the ch NR 140 groundwater quality standards were identified.

### **3.2 Pre-Remedial Sub-Slab Vapor Sampling**

REI personnel conducted pre-remedial sub-slab vapor sampling on November 4, 2014. All sub-slab vapor sampling ports were installed by a previous consultant. REI personnel collected sub-slab samples from vapor ports SS-1 and SS-4. Vapor port SS-1 was installed in the break room of the adjacent fire department building. Vapor port SS-4 was installed in the working area of the dry-cleaning facility. Pre-remedial sub-slab vapor sampling results are provided in Table 3.

### **3.3 Soil Vapor Extraction System**

Active remedial action, due to the consistent elevated concentration of chlorinated related vapor contamination at sub-slab sample locations SS-1 and SS-4, was the chosen remedial action for this site. The utilization of an engineered soil vapor extraction (SVE) system to reduce the contaminant mass in the soil was determined to be the most effective remedial approach for this site.

The SVE System was installed on November 10, 2014 and operated through December 9, 2015. The WDNR requested that REI shut the system down for a six (6) month interval to observe if chlorinated concentrations would rebound in soil gas. The April 20, 2016 sub-slab vapor sample result demonstrated an increase in chlorinated concentrations as compared to the November 13, 2015 vapor sample result collected during system operation. WDNR requested REI restart the SVE

System for additional active remediation. REI restarted the SVE System on June 17, 2016 with intent to operate for an additional six (6) months.

REI personnel identified the SVE system in an alarm state (shut down) upon arrival in September, October and November 2016 during the monthly system checks. This was due to substantial precipitation events in late summer/early fall causing groundwater elevations to increase enough to entrain groundwater in the extracted air to fill the moisture separator drum and create an alarm situation that resulted in the system shutting down. REI personnel pumped the water out of the moisture separator and restarted the system. Recovered water was containerized and transported to the City of Wausau wastewater treatment plant for final treatment. Each time the system went down, it was due to a high-water level alarm in the moisture separator tank.

Exhaust stack samples were collected during system operation to document the effectiveness of the engineered system. Air flow velocities at the exhaust stack averaged approximately 65-70 standard cubic feet per minute (scfm) during system operation. The SVE system applied vacuum to VW1 and VW4 beginning at startup. This was reduced to apply vacuum to only VW4 beginning on August 15, 2016 for the remainder of the operational period.

During the June 2016 through November 2016 operational period, the system operated at a 64% efficiency rating, for an overall 73% efficiency rating. Following the November 25, 2016 shut down, the system was physically removed from the property.

The total tetrachloroethylene emitted to the atmosphere by the SVE system during system operation has been calculated at 22.2 pounds. Many of the reported concentration values were listed as “less than detection limits,” and the detection limits were used for reporting purposes (Table 4). Photo-ionization detector (PID) readings were also collected for each vapor sample collected. PID readings collected with a PID equipped with a 10.6 eV lamp are presented in Table 5. The complete vapor analytical reports for samples collected during this reporting period are presented in Appendix C. Table 4 indicates the emission levels from the SVE

system have not approached the WDNR emission limits of 5.7 pounds of VOCs per hour.

The utilization of an engineered soil SVE System for active remediation on the Band Box release was due to elevated soil gas concentrations from sub-slab sample locations SS-1 and SS-4. An evaluation of sub-slab analytical sample results pre and post remedial actions document a significant reduction in detectable concentrations of chlorinated compounds. In addition, this reduction has been sustained overtime confirming the efficiency of the SVE System.

### **3.4 Post Remedial Sub-Slab Vapor Sampling**

One (1) round of sub-slab vapor samples was collected from SS-1 and SS-4 located at the facility. Low level detections were identified in both sub-slab vapor samples. Detections remained below the Vapor Risk Screening Level (VRSL) for all VOCs analyzed nearly fourteen (14) months post shut down of the SVE System, documenting overall efficiency of SVE as primary remedial action at the site. Tetrachloroethene sub-slab vapors decreased at both locations between the April 20, 2016 sample event and the January 23, 2018 sample event. The sub-slab vapor sample results are tabulated in the attached Table 3. The sub-slab vapor analytical laboratory report is included in Appendix B.

### **4.0 CONCLUSION AND RECOMMENDATIONS**

While PAL exceedances of the chapter NR 140 groundwater standard exist in the latest round of groundwater sampling (MW-3) completed in January 2018, analytical results reveal there has been an overall decrease in the contaminant concentrations following the period of active remediation. Post-remedial sub-slab vapor analytical results demonstrate significant reduction in VOC detections and no rebound in January 2018, with no exceedances of the sub-slab vapor VRSL. Based on this information, REI recommends submitting the site for closure with the WDNR. REI also recommends updating historical information associated with this site from previous consultants.

**Table 1**  
**Band Box Cleaners & Laundry**  
**Depth to Water and Water Level Elevations**  
**Sparta, WI**

**Depth to Water (feet) below Reference Elevation**

Date	MW1	MW2	MW3	MW4	MW5	PZ3
11/4/2014	11.68	11.95	13.79	15.09	14.79	13.84
11/13/2015	11.35	12.17	14.01	15.31	15.02	14.04
1/23/2018	11.55	-	13.77	-	14.84	-

**Measuring Point Elevations (top of well casing)**

Elevations referenced to a U.S.G.S. Benchmark (feet MSL) - provided by others	Initial Survey	Ground Surface Elevation	Top of Casing	Water Level Elevation (feet MSL)
	780.81	781.11	782.82	784.21

Initial Survey	Ground Surface Elevation	Top of Casing	Water Level Elevation (feet MSL)
781.00	781.50	783.00	784.50

Average	11.53	12.06	13.86	15.20	14.88	13.94
Maximum	11.68	12.17	14.01	15.31	15.02	14.04
Minimum	11.35	11.95	13.77	15.09	14.79	13.84
Range	0.33	0.22	0.24	0.22	0.23	0.20

Date	MW1	MW2	MW3	MW4	MW5	PZ3
11/4/2014	769.13	769.16	769.03	769.12	768.89	769.01
11/13/2015	769.46	768.94	768.81	768.90	768.66	768.81
1/23/2018	769.26	-	769.05	-	768.84	-

**Table 2a**  
**Groundwater Analytical Results**  
**Band Box Cleaners**  
**122 East Oak Street**  
**Sparta, WI**

Location-->			MW-1							
			Date-->	11/4/14	11/10/15	11/13/15	12/9/15	6/17/16	11/25/16	1/23/18
			Sampler-->	REI	-	REI	-	-	-	REI
VOC's ( $\mu\text{g/L}$ )	ES	PAL								
1,1,1,2-Tetrachloroethane	70	7	<0.18	SVE	<0.18	SVE	SVE	SVE	<0.18	
1,1,1-Trichloroethane	200	40	<0.5	System	<0.5	System	System	System	<0.5	
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.25	Startup	<0.25	Shutdown	Startup	Shutdown	<0.25	
1,1,2-Trichloroethane	5	0.5	<0.16		<0.20				<0.20	
1,1-Dichloroethane	850	85	<0.24		<0.24				<0.24	
1,1-Dichloroethene	7	0.7	<0.41		<0.41				<0.41	
1,1-Dichloropropene	NS	NS	<0.44		<0.44				<0.44	
1,2,3-Trichlorobenzene	NS	NS	<2.1		<2.1				<2.1	
1,2,3-Trichloropropane	60	12	<0.5		<0.5				<0.5	
1,2,4-Trichlorobenzene	70	14	<2.2		<2.2				<2.2	
1,2,4-Trimethylbenzene	NS	NS	87.6		19.5				13.4	
1,2-Dibromo-3-chloropropane	0.2	0.02	<2.2		<2.2				<2.2	
1,2-Dibromoethane (EDB)	0.05	0.005	<0.16		<0.18				<0.18	
1,2-Dichlorobenzene	600	60	<0.5		<0.5				<0.5	
1,2-Dichloroethane	5	0.5	<0.17		<0.17				<0.17	
1,2-Dichloropropane	5	0.5	<0.23		<0.23				<0.23	
1,3,5-Trimethylbenzene	NS	NS	6.2		<0.5				0.98 <sup>J</sup>	
1,3-Dichlorobenzene	600	120	<0.5		<0.5				<0.5	
1,3-Dichloropropane	NS	NS	<0.5		<0.5				<0.5	
1,4-Dichlorobenzene	75	15	<0.5		<0.5				<0.5	
2,2-Dichloropropane	NS	NS	<0.48		<0.48				<0.48	
2-Chlorotoluene	NS	NS	<0.5		<0.5				<0.5	
4-Chlorotoluene	NS	NS	<0.21		<0.21				<0.21	
Benzene	5	0.5	<0.5		<0.5				<0.5	
Bromobenzene	NS	NS	<0.23		<0.23				<0.23	
Bromochloromethane	NS	NS	<0.34		<0.34				<0.34	
Bromodichloromethane	0.6	0.06	<0.5		<0.5				<0.5	
Bromoform	4.4	0.44	<0.5		<0.5				<0.5	
Bromomethane	10	1	<2.4		<2.4				<2.4	
Carbon tetrachloride	5	0.5	<0.5		<0.5				<0.5	
Chlorobenzene	NS	NS	<0.5		<0.5				<0.5	
Chloroethane	400	80	<0.37		<0.37				<0.37	
Chloroform	6	0.6	<2.5		<2.5				<2.5	
Chloromethane	30	3	<0.5		<0.5				<0.5	
Dibromochloromethane	0.6	0.06	<0.5		<0.5				<0.5	
Dibromomethane	NS	NS	<0.43		<0.43				<0.43	
Dichlorodifluoromethane	1000	200	<0.20		<0.22				<0.22	
Diisopropyl ether	NS	NS	<0.5		<0.5				<0.5	
Ethylbenzene	700	140	2.4		0.59 <sup>J</sup>				<0.50	
Hexachloro-1,3-butadiene	NS	NS	<2.1		<2.1				<2.1	
Isopropylbenzene (cumene)	NS	NS	5.9		2.9				3.7	
Methyl-tert-butyl ether	60	12	<0.17		<0.17				<0.17	
Methylene Chloride	5	0.5	<0.23		<0.23				<0.23	
Naphthalene	100	10	<2.5		<2.5				<2.5	
Styrene	100	10	<0.5		<0.5				<0.5	
Tetrachloroethene	5	0.5	<0.5		<0.5				<0.5	
Toluene	800	160	<0.5		<0.5				<0.5	
Trichloroethene	5	0.5	<0.33		<0.33				<0.33	
Trichlorofluoromethane	NS	NS	<0.17		<0.18				<0.18	
Trimethylbenzenes (Total)	480	96	93.8		19.5				13.4	
Vinyl chloride	0.2	0.02	<0.18		<0.18				<0.18	
cis-1,2-Dichloroethene	70	7	20.1		13.9				3.4	
cis-1,3-Dichloropropene	0.4	0.04	<0.5		<0.5				<0.5	
m&p-Xylene	NS	NS	1.7 <sup>J</sup>		<1.0				<1.0	
n-Butylbenzene	NS	NS	7.9		2.5				3.0	
n-Propylbenzene	NS	NS	14.5		4.8				6.4	
o-Xylene	NS	NS	8.5		2.5				1.6	
p-Isopropyltoluene	NS	NS	4.5		<0.5				<0.5	
sec-Butylbenzene	NS	NS	7.5		2.4 <sup>J</sup>				4.1 <sup>J</sup>	
tert-Butylbenzene	NS	NS	0.90 <sup>J</sup>		0.25 <sup>J</sup>				0.54 <sup>J</sup>	
trans-1,2-Dichloroethene	100	20	<0.26		<0.26				<0.26	
trans-1,3-Dichloropropene	0.4	0.04	<0.23		<0.23				<0.23	

Notes:

PAL = Preventive Action Limit

ES = Enforcement Standards

**BOLD**

= Exceeds Enforcement Standard

*Italic*

= Exceeds Preventative Action Limit

NA - Not Analyzed

NS - No Standard

< - Concentration less than listed detection limit

J - Estimated concentration above the adjusted method detection limit and below  
the adjusted reporting limit.

**Table 2b**  
**Groundwater Analytical Results**  
**Band Box Cleaners**  
**122 East Oak Street**  
**Sparta, WI**

Location-->			MW-2							
			Date-->	11/4/14	11/10/15	11/13/15	12/9/15	6/17/16	11/25/16	1/23/18
			Sampler-->	REI	-	REI	-	-	-	REI
VOC's ( $\mu\text{g/L}$ )	ES	PAL								
1,1,1,2-Tetrachloroethane	70	7	<0.18	<b>SVE</b>	<0.18	<b>SVE</b>	<b>SVE</b>	<b>SVE</b>	Not	
1,1,1-Trichloroethane	200	40	<0.5	<b>System</b>	<0.5	<b>System</b>	<b>System</b>	<b>System</b>	Sampled	
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.25	<b>Startup</b>	<0.25	<b>Shutdown</b>	<b>Startup</b>	<b>Shutdown</b>		
1,1,2-Trichloroethane	5	0.5	<0.16		<0.16					
1,1-Dichloroethane	850	85	<0.24		<0.24					
1,1-Dichloroethene	7	0.7	<0.41		<0.41					
1,1-Dichloropropene	NS	NS	<0.44		<0.44					
1,2,3-Trichlorobenzene	NS	NS	<2.1		<2.1					
1,2,3-Trichloropropane	60	12	<0.5		<0.5					
1,2,4-Trichlorobenzene	70	14	<2.2		<2.2					
1,2,4-Trimethylbenzene	NS	NS	<0.5		<0.5					
1,2-Dibromo-3-chloropropane	0.2	0.02	<2.2		<2.2					
1,2-Dibromoethane (EDB)	0.05	0.005	<0.16		<0.16					
1,2-Dichlorobenzene	600	60	<0.5		<0.5					
1,2-Dichloroethane	5	0.5	<0.17		<0.17					
1,2-Dichloropropene	5	0.5	<0.23		<0.23					
1,3,5-Trimethylbenzene	NS	NS	<0.5		<0.5					
1,3-Dichlorobenzene	600	120	<0.5		<0.5					
1,3-Dichloropropene	NS	NS	<0.5		<0.5					
1,4-Dichlorobenzene	75	15	<0.5		<0.5					
2,2-Dichloropropene	NS	NS	<0.48		<0.48					
2-Chlorotoluene	NS	NS	<0.5		<0.5					
4-Chlorotoluene	NS	NS	<0.21		<0.21					
Benzene	5	0.5	<0.5		<0.5					
Bromobenzene	NS	NS	<0.23		<0.23					
Bromochloromethane	NS	NS	<0.34		<0.34					
Bromodichloromethane	0.6	0.06	<0.5		<0.5					
Bromoform	4.4	0.44	<0.5		<0.5					
Bromomethane	10	1	<2.4		<2.4					
Carbon tetrachloride	5	0.5	<0.5		<0.5					
Chlorobenzene	NS	NS	<0.5		<0.5					
Chloroethane	400	80	<0.37		<0.37					
Chloroform	6	0.6	<2.5		<2.5					
Chloromethane	30	3	<0.5		<0.5					
Dibromochloromethane	0.6	0.06	<0.5		<0.5					
Dibromomethane	NS	NS	<0.43		<0.43					
Dichlorodifluoromethane	1000	200	<0.20		<0.20					
Diisopropyl ether	NS	NS	<0.5		<0.5					
Ethylbenzene	700	140	<0.5		<0.5					
Hexachloro-1,3-butadiene	NS	NS	<2.1		<2.1					
Isopropylbenzene (cumene)	NS	NS	<0.14		<0.14					
Methyl-tert-butyl ether	60	12	<0.17		<0.17					
Methylene Chloride	5	0.5	<0.23		<0.23					
Naphthalene	100	10	<2.5		<2.5					
Styrene	100	10	<0.5		<0.5					
Tetrachloroethene	5	0.5	<b>6.8</b>		0.79 <sup>J</sup>					
Toluene	800	160	<0.5		<0.5					
Trichloroethene	5	0.5	<b>0.67<sup>J</sup></b>		<0.33					
Trichlorofluoromethane	NS	NS	<0.17		<0.17					
Trimethylbenzenes (Total)	480	96	<0.5		<0.5					
Vinyl chloride	0.2	0.02	<0.18		<0.18					
cis-1,2-Dichloroethene	70	7	<0.26		0.29 <sup>J</sup>					
cis-1,3-Dichloropropene	0.4	0.04	<0.5		<0.5					
m&p-Xylene	NS	NS	<1.0		<1.0					
n-Butylbenzene	NS	NS	<0.5		<0.5					
n-Propylbenzene	NS	NS	<0.5		<0.5					
o-Xylene	NS	NS	<0.5		<0.5					
p-Isopropyltoluene	NS	NS	<0.5		<0.5					
sec-Butylbenzene	NS	NS	<2.3		<2.2					
tert-Butylbenzene	NS	NS	<0.18		<0.18					
trans-1,2-Dichloroethene	100	20	<0.26		<0.26					
trans-1,3-Dichloropropene	0.4	0.04	<0.23		<0.23					

Notes:

PAL = Preventive Action Limit

ES = Enforcement Standards

**BOLD**

= Exceeds Enforcement Standard

*Italic*

= Exceeds Preventative Action Limit

NA - Not Analyzed

NS - No Standard

< - Concentration less than listed detection limit

J - Estimated concentration above the adjusted method detection limit and below

the adjusted reporting limit.

**Table 2c**  
**Groundwater Analytical Results**  
**Band Box Cleaners**  
**122 East Oak Street**  
**Sparta, WI**

Location-->			MW-3						
Date-->			11/4/14	11/10/15	11/13/15	12/9/15	6/17/16	11/25/16	1/23/18
Sampler-->			REI	-	REI	-	-	-	REI
VOC's ( $\mu\text{g/L}$ )	ES	PAL							
1,1,1,2-Tetrachloroethane	70	7	<0.18	<b>SVE</b>	<0.18	<b>SVE</b>	<b>SVE</b>	<b>SVE</b>	<0.18
1,1,1-Trichloroethane	200	40	<0.5	<b>System</b>	<0.5	<b>System</b>	<b>System</b>	<b>System</b>	<0.5
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.25	<b>Startup</b>	<0.25	<b>Shutdown</b>	<b>Startup</b>	<b>Shutdown</b>	<0.25
1,1,2-Trichloroethane	5	0.5	<0.16		<0.16				<0.20
1,1-Dichloroethane	850	85	<0.24		<0.24				<0.24
1,1-Dichloroethene	7	0.7	<0.41		<0.41				<0.41
1,1-Dichloropropene	NS	NS	<0.44		<0.44				<0.44
1,2,3-Trichlorobenzene	NS	NS	<2.1		<2.1				<2.1
1,2,3-Trichloropropane	60	12	<0.5		<0.5				<0.5
1,2,4-Trichlorobenzene	70	14	<2.2		<2.2				<2.2
1,2,4-Trimethylbenzene	NS	NS	<0.5		<0.5				<0.5
1,2-Dibromo-3-chloropropane	0.2	0.02	<2.2		<2.2				<2.2
1,2-Dibromoethane (EDB)	0.05	0.005	<0.16		<0.16				<0.18
1,2-Dichlorobenzene	600	60	<0.5		<0.5				<0.5
1,2-Dichloroethane	5	0.5	<0.17		<0.17				<0.17
1,2-Dichloropropane	5	0.5	<0.23		<0.23				<0.23
1,3,5-Trimethylbenzene	NS	NS	<0.5		<0.5				<0.5
1,3-Dichlorobenzene	600	120	<0.5		<0.5				<0.5
1,3-Dichloropropane	NS	NS	<0.5		<0.5				<0.5
1,4-Dichlorobenzene	75	15	<0.5		<0.5				<0.5
2,2-Dichloropropane	NS	NS	<0.48		<0.48				<0.48
2-Chlorotoluene	NS	NS	<0.5		<0.5				<0.5
4-Chlorotoluene	NS	NS	<0.21		<0.21				<0.21
Benzene	5	0.5	<0.5		<0.5				<0.5
Bromobenzene	NS	NS	<0.23		<0.23				<0.23
Bromochloromethane	NS	NS	<0.34		<0.34				<0.34
Bromodichloromethane	0.6	0.06	<0.5		<0.5				<0.5
Bromoform	4.4	0.44	<0.5		<0.5				<0.5
Bromomethane	10	1	<2.4		<2.4				<2.4
Carbon tetrachloride	5	0.5	<0.5		<0.5				<0.5
Chlorobenzene	NS	NS	<0.5		<0.5				<0.5
Chloroethane	400	80	<0.37		<0.37				<0.37
Chloroform	6	0.6	<2.5		<2.5				<2.5
Chloromethane	30	3	<0.5		<0.5				<0.5
Dibromochloromethane	0.6	0.06	<0.5		<0.5				<0.5
Dibromomethane	NS	NS	<0.43		<0.43				<0.43
Dichlorodifluoromethane	1000	200	<0.20		<0.20				<0.20
Diisopropyl ether	NS	NS	<0.5		<0.5				<0.5
Ethylbenzene	700	140	<0.5		<0.5				<0.5
Hexachloro-1,3-butadiene	NS	NS	<2.1		<2.1				<2.1
Isopropylbenzene (cumene)	NS	NS	<0.14		<0.14				<0.14
Methyl-tert-butyl ether	60	12	<0.17		<0.17				<0.17
Methylene Chloride	5	0.5	<0.23		<0.23				<0.23
Naphthalene	100	10	<2.5		<2.5				<2.5
Styrene	100	10	<0.5		<0.5				<0.5
Tetrachloroethene	5	0.5	0.83 <sup>J</sup>		<0.5				1.4
Toluene	800	160	<0.5		<0.5				<0.5
Trichloroethene	5	0.5	<0.33		<0.33				0.45 <sup>J</sup>
Trichlorofluoromethane	NS	NS	<0.17		<0.17				<0.17
Trimethylbenzenes (Total)	480	96	<0.5		<0.5				<0.5
Vinyl chloride	0.2	0.02	<0.18		<0.18				<0.18
cis-1,2-Dichloroethene	70	7	<0.26		<0.26				0.64 <sup>J</sup>
cis-1,3-Dichloropropene	0.4	0.04	<0.5		<0.5				<0.5
m&p-Xylene	NS	NS	<1.0		<1.0				<1.0
n-Butylbenzene	NS	NS	<0.5		<0.5				<0.5
n-Propylbenzene	NS	NS	<0.5		<0.5				<0.5
o-Xylene	NS	NS	<0.5		<0.5				<0.5
p-Isopropyltoluene	NS	NS	<0.5		<0.5				<0.5
sec-Butylbenzene	NS	NS	<2.2		<2.2				<2.2
tert-Butylbenzene	NS	NS	<0.18		<0.18				<0.18
trans-1,2-Dichloroethene	100	20	<0.26		<0.26				<0.26
trans-1,3-Dichloropropene	0.4	0.04	<0.23		<0.23				<0.23

Notes:

PAL = Preventive Action Limit

ES = Enforcement Standards

**BOLD**

= Exceeds Enforcement Standard

*Italic*

= Exceeds Preventative Action Limit

NA - Not Analyzed

NS - No Standard

< - Concentration less than listed detection limit

J - Estimated concentration above the adjusted method detection limit and below

the adjusted reporting limit.

**Table 2d**  
**Groundwater Analytical Results**  
**Band Box Cleaners**  
**122 East Oak Street**  
**Sparta, WI**

Location-->			MW-4						
Date-->			11/4/14	11/10/15	11/13/15	12/9/15	6/17/16	11/25/16	1/23/18
Sampler-->			REI	-	REI	-	-	-	REI
VOC's ( $\mu\text{g/L}$ )	ES	PAL							
1,1,1,2-Tetrachloroethane	70	7	<0.18	<b>SVE</b>	<0.18	<b>SVE</b>	<b>SVE</b>	<b>SVE</b>	Not Sampled
1,1,1-Trichloroethane	200	40	<0.5	<b>System</b>	<0.5	<b>System</b>	<b>System</b>	<b>System</b>	Sampled
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.25	<b>Startup</b>	<0.25	<b>Shutdown</b>	<b>Startup</b>	<b>Shutdown</b>	
1,1,2-Trichloroethane	5	0.5	<0.16		<0.16				
1,1-Dichloroethane	850	85	<0.24		<0.24				
1,1-Dichloroethene	7	0.7	<0.41		<0.41				
1,1-Dichloropropene	NS	NS	<0.44		<0.44				
1,2,3-Trichlorobenzene	NS	NS	<2.1		<2.1				
1,2,3-Trichloropropane	60	12	<0.5		<0.5				
1,2,4-Trichlorobenzene	70	14	<2.2		<2.2				
1,2,4-Trimethylbenzene	NS	NS	<0.5		<0.5				
1,2-Dibromo-3-chloropropane	0.2	0.02	<2.2		<2.2				
1,2-Dibromoethane (EDB)	0.05	0.005	<0.16		<0.16				
1,2-Dichlorobenzene	600	60	<0.5		<0.5				
1,2-Dichloroethane	5	0.5	<0.17		<0.17				
1,2-Dichloropropane	5	0.5	<0.23		<0.23				
1,3,5-Trimethylbenzene	NS	NS	<0.5		<0.5				
1,3-Dichlorobenzene	600	120	<0.5		<0.5				
1,3-Dichloropropane	NS	NS	<0.5		<0.5				
1,4-Dichlorobenzene	75	15	<0.5		<0.5				
2,2-Dichloropropane	NS	NS	<0.48		<0.48				
2-Chlorotoluene	NS	NS	<0.5		<0.5				
4-Chlorotoluene	NS	NS	<0.21		<0.21				
Benzene	5	0.5	<0.5		<0.5				
Bromobenzene	NS	NS	<0.23		<0.23				
Bromochloromethane	NS	NS	<0.34		<0.34				
Bromodichloromethane	0.6	0.06	<0.5		<0.5				
Bromoform	4.4	0.44	<0.5		<0.5				
Bromomethane	10	1	<2.4		<2.4				
Carbon tetrachloride	5	0.5	<0.5		<0.5				
Chlorobenzene	NS	NS	<0.5		<0.5				
Chloroethane	400	80	<0.37		<0.37				
Chloroform	6	0.6	<2.5		<2.5				
Chloromethane	30	3	<0.5		<0.5				
Dibromochloromethane	0.6	0.06	<0.5		<0.5				
Dibromomethane	NS	NS	<0.43		<0.43				
Dichlorodifluoromethane	1000	200	<0.20		<0.20				
Diisopropyl ether	NS	NS	<0.5		<0.5				
Ethylbenzene	700	140	<0.5		<0.5				
Hexachloro-1,3-butadiene	NS	NS	<2.1		<2.1				
Isopropylbenzene (cumene)	NS	NS	<0.14		<0.14				
Methyl-tert-butyl ether	60	12	<0.17		<0.17				
Methylene Chloride	5	0.5	<0.23		<0.23				
Naphthalene	100	10	<2.5		<2.5				
Styrene	100	10	<0.5		<0.5				
Tetrachloroethene	5	0.5	<0.5		<0.5				
Toluene	800	160	<0.5		<0.5				
Trichloroethene	5	0.5	<0.33		<0.33				
Trichlorofluoromethane	NS	NS	<0.17		<0.17				
Trimethylbenzenes (Total)	480	96	<0.5		<0.5				
Vinyl chloride	0.2	0.02	<0.18		<0.18				
cis-1,2-Dichloroethene	70	7	<0.26		<0.26				
cis-1,3-Dichloropropene	0.4	0.04	<0.5		<0.5				
m&p-Xylene	NS	NS	<1.0		<1.0				
n-Butylbenzene	NS	NS	<0.5		<0.5				
n-Propylbenzene	NS	NS	<0.5		<0.5				
o-Xylene	NS	NS	<0.5		<0.5				
p-Isopropyltoluene	NS	NS	<0.5		<0.5				
sec-Butylbenzene	NS	NS	<2.2		<2.2				
tert-Butylbenzene	NS	NS	<0.18		<0.18				
trans-1,2-Dichloroethene	100	20	<0.26		<0.26				
trans-1,3-Dichloropropene	0.4	0.04	<0.23		<0.23				

Notes:

PAL = Preventive Action Limit

ES = Enforcement Standards

**BOLD**

= Exceeds Enforcement Standard

*Italic*

= Exceeds Preventative Action Limit

NA - Not Analyzed

NS - No Standard

< - Concentration less than listed detection limit

J - Estimated concentration above the adjusted method detection limit and below

the adjusted reporting limit.

**Table 2e**  
**Groundwater Analytical Results**  
**Band Box Cleaners**  
**122 East Oak Street**  
**Sparta, WI**

Location-->			MW-5						
Date-->			11/4/14	11/10/15	11/13/15	12/9/15	6/17/16	11/25/16	1/23/18
Sampler-->			REI	-	REI	-	-	-	REI
VOC's ( $\mu\text{g/L}$ )	ES	PAL							
1,1,1,2-Tetrachloroethane	70	7	<0.18	<b>SVE</b>	<0.18	<b>SVE</b>	<b>SVE</b>	<b>SVE</b>	<0.18
1,1,1-Trichloroethane	200	40	<0.5	<b>System</b>	<0.5	<b>System</b>	<b>System</b>	<b>System</b>	<0.5
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.25	<b>Startup</b>	<0.25	<b>Shutdown</b>	<b>Startup</b>	<b>Shutdown</b>	<0.25
1,1,2-Trichloroethane	5	0.5	<0.16		<0.16				<0.20
1,1-Dichloroethane	850	85	<0.24		<0.24				<0.24
1,1-Dichloroethene	7	0.7	<0.41		<0.41				<0.41
1,1-Dichloropropene	NS	NS	<0.44		<0.44				<0.44
1,2,3-Trichlorobenzene	NS	NS	<2.1		<2.1				<2.1
1,2,3-Trichloropropane	60	12	<0.5		<0.5				<0.5
1,2,4-Trichlorobenzene	70	14	<2.2		<2.2				<2.2
1,2,4-Trimethylbenzene	NS	NS	<0.5		<0.5				<0.5
1,2-Dibromo-3-chloropropane	0.2	0.02	<2.2		<2.2				<2.2
1,2-Dibromoethane (EDB)	0.05	0.005	<0.16		<0.16				<0.18
1,2-Dichlorobenzene	600	60	<0.5		<0.5				<0.5
1,2-Dichloroethane	5	0.5	<0.17		<0.17				<0.17
1,2-Dichloropropane	5	0.5	<0.23		<0.23				<0.23
1,3,5-Trimethylbenzene	NS	NS	<0.5		<0.5				<0.5
1,3-Dichlorobenzene	600	120	<0.5		<0.5				<0.5
1,3-Dichloropropane	NS	NS	<0.5		<0.5				<0.5
1,4-Dichlorobenzene	75	15	<0.5		<0.5				<0.5
2,2-Dichloropropane	NS	NS	<0.48		<0.48				<0.48
2-Chlorotoluene	NS	NS	<0.5		<0.5				<0.5
4-Chlorotoluene	NS	NS	<0.21		<0.21				<0.21
Benzene	5	0.5	<0.5		<0.5				<0.5
Bromobenzene	NS	NS	<0.23		<0.23				<0.23
Bromochloromethane	NS	NS	<0.34		<0.34				<0.34
Bromodichloromethane	0.6	0.06	<0.5		<0.5				<0.5
Bromoform	4.4	0.44	<0.5		<0.5				<0.5
Bromomethane	10	1	<2.4		<2.4				<2.4
Carbon tetrachloride	5	0.5	<0.5		<0.5				<0.5
Chlorobenzene	NS	NS	<0.5		<0.5				<0.5
Chloroethane	400	80	<0.37		<0.37				<0.37
Chloroform	6	0.6	<2.5		<2.5				<2.5
Chloromethane	30	3	<0.5		<0.5				<0.5
Dibromochloromethane	0.6	0.06	<0.5		<0.5				<0.5
Dibromomethane	NS	NS	<0.43		<0.43				<0.43
Dichlorodifluoromethane	1000	200	<0.20		<0.20				<0.20
Diisopropyl ether	NS	NS	<0.5		<0.5				<0.5
Ethylbenzene	700	140	<0.5		<0.5				<0.5
Hexachloro-1,3-butadiene	NS	NS	<2.1		<2.1				<2.1
Isopropylbenzene (cumene)	NS	NS	<0.14		<0.14				<0.14
Methyl-tert-butyl ether	60	12	<0.17		<0.17				<0.17
Methylene Chloride	5	0.5	<0.23		<0.23				<0.23
Naphthalene	100	10	<2.5		<2.5				<2.5
Styrene	100	10	<0.5		<0.5				<0.5
Tetrachloroethene	5	0.5	<0.5		<0.5				<0.5
Toluene	800	160	<0.5		<0.5				<0.5
Trichloroethene	5	0.5	<0.33		<0.33				<0.33
Trichlorofluoromethane	NS	NS	<0.17		<0.17				<0.18
Trimethylbenzenes (Total)	480	96	<0.5		<0.5				<0.5
Vinyl chloride	0.2	0.02	<0.18		<0.18				<0.18
cis-1,2-Dichloroethene	70	7	<0.26		<0.26				<0.26
cis-1,3-Dichloropropene	0.4	0.04	<0.5		<0.5				<0.5
m&p-Xylene	NS	NS	<1.0		<1.0				<1.0
n-Butylbenzene	NS	NS	<0.5		<0.5				<0.5
n-Propylbenzene	NS	NS	<0.5		<0.5				<0.5
o-Xylene	NS	NS	<0.5		<0.5				<0.5
p-Isopropyltoluene	NS	NS	<0.5		<0.5				<0.5
sec-Butylbenzene	NS	NS	<2.2		<2.2				<2.2
tert-Butylbenzene	NS	NS	<0.18		<0.18				<0.18
trans-1,2-Dichloroethene	100	20	<0.26		<0.26				<0.26
trans-1,3-Dichloropropene	0.4	0.04	<0.23		<0.23				<0.23

Notes:

PAL = Preventive Action Limit

ES = Enforcement Standards

**BOLD**

= Exceeds Enforcement Standard

*Italic*

= Exceeds Preventative Action Limit

NA - Not Analyzed

NS - No Standard

< - Concentration less than listed detection limit

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

**Table 2f**  
**Groundwater Analytical Results**  
**Band Box Cleaners**  
**122 East Oak Street**  
**Sparta, WI**

Location-->			PZ-3						
Date-->			11/4/14	11/10/15	11/13/15	12/9/15	6/17/16	11/25/16	1/23/18
Sampler-->			REI	-	REI	-	-	-	REI
VOC's ( $\mu\text{g/L}$ )	ES	PAL							
1,1,1,2-Tetrachloroethane	70	7	<0.18	SVE	<0.18	SVE	SVE	SVE	Not Sampled
1,1,1-Trichloroethane	200	40	<0.5	System	<0.5	System	System	System	Sampled
1,1,2,2-Tetrachloroethane	0.2	0.02	<0.25	Startup	<0.25	Shutdown	Startup	Shutdown	
1,1,2-Trichloroethane	5	0.5	<0.16		<0.16				
1,1-Dichloroethane	850	85	<0.24		<0.24				
1,1-Dichloroethene	7	0.7	<0.41		<0.41				
1,1-Dichloropropene	NS	NS	<0.44		<0.44				
1,2,3-Trichlorobenzene	NS	NS	<2.1		<2.1				
1,2,3-Trichloropropane	60	12	<0.5		<0.5				
1,2,4-Trichlorobenzene	70	14	<2.2		<2.2				
1,2,4-Trimethylbenzene	NS	NS	<0.5		<0.5				
1,2-Dibromo-3-chloropropane	0.2	0.02	<2.2		<2.2				
1,2-Dibromoethane (EDB)	0.05	0.005	<0.16		<0.16				
1,2-Dichlorobenzene	600	60	<0.5		<0.5				
1,2-Dichloroethane	5	0.5	<0.17		<0.17				
1,2-Dichloropropane	5	0.5	<0.23		<0.23				
1,3,5-Trimethylbenzene	NS	NS	<0.5		<0.5				
1,3-Dichlorobenzene	600	120	<0.5		<0.5				
1,3-Dichloropropane	NS	NS	<0.5		<0.5				
1,4-Dichlorobenzene	75	15	<0.5		<0.5				
2,2-Dichloropropane	NS	NS	<0.48		<0.48				
2-Chlorotoluene	NS	NS	<0.5		<0.5				
4-Chlorotoluene	NS	NS	<0.21		<0.21				
Benzene	5	0.5	<0.5		<0.5				
Bromobenzene	NS	NS	<0.23		<0.23				
Bromochloromethane	NS	NS	<0.34		<0.34				
Bromodichloromethane	0.6	0.06	<0.5		<0.5				
Bromoform	4.4	0.44	<0.5		<0.5				
Bromomethane	10	1	<2.4		<2.4				
Carbon tetrachloride	5	0.5	<0.5		<0.5				
Chlorobenzene	NS	NS	<0.5		<0.5				
Chloroethane	400	80	<0.37		<0.37				
Chloroform	6	0.6	<2.5		<2.5				
Chloromethane	30	3	<0.5		<0.5				
Dibromochloromethane	0.6	0.06	<0.5		<0.5				
Dibromomethane	NS	NS	<0.43		<0.43				
Dichlorodifluoromethane	1000	200	<0.20		<0.20				
Diisopropyl ether	NS	NS	<0.5		<0.5				
Ethylbenzene	700	140	<0.5		<0.5				
Hexachloro-1,3-butadiene	NS	NS	<2.1		<2.1				
Isopropylbenzene (cumene)	NS	NS	<0.14		<0.14				
Methyl-tert-butyl ether	60	12	<0.17		<0.17				
Methylene Chloride	5	0.5	<0.23		<0.23				
Naphthalene	100	10	<2.5		<2.5				
Styrene	100	10	<0.5		<0.5				
Tetrachloroethene	5	0.5	<0.5		<0.5				
Toluene	800	160	<0.5		<0.5				
Trichloroethene	5	0.5	<0.33		<0.33				
Trichlorofluoromethane	NS	NS	<0.17		<0.17				
Trimethylbenzenes (Total)	480	96	<0.5		<0.5				
Vinyl chloride	0.2	0.02	<0.18		<0.18				
cis-1,2-Dichloroethene	70	7	<0.26		<0.26				
cis-1,3-Dichloropropene	0.4	0.04	<0.5		<0.5				
m&p-Xylene	NS	NS	<1.0		<1.0				
n-Butylbenzene	NS	NS	<0.5		<0.5				
n-Propylbenzene	NS	NS	<0.5		<0.5				
o-Xylene	NS	NS	<0.5		<0.5				
p-Isopropyltoluene	NS	NS	<0.5		<0.5				
sec-Butylbenzene	NS	NS	<2.2		<2.2				
tert-Butylbenzene	NS	NS	<0.18		<0.18				
trans-1,2-Dichloroethene	100	20	<0.26		<0.26				
trans-1,3-Dichloropropene	0.4	0.04	<0.23		<0.23				

Notes:

PAL = Preventive Action Limit

ES = Enforcement Standards

**BOLD**

= Exceeds Enforcement Standard

*Italic*

= Exceeds Preventative Action Limit

NA - Not Analyzed

NS - No Standard

< - Concentration less than listed detection limit

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

**Table 3**  
**Summary of Vapor Analytical Results**  
**Band Box Cleaners**  
**122 E Oak Street**  
**Sparta, WI**

<b>Location--&gt;</b>		SS-1										SS-4																				
<b>Date --&gt;</b>		4/12/2011	11/4/2014	11/10/2014	11/13/2015	12/9/2015	4/20/2016	6/17/2016	11/25/2016	1/23/2018	4/12/2011	11/4/2014	11/10/2014	11/13/2015	12/9/2015	4/20/2016	6/17/2016	11/25/2016	1/23/2018													
<b>Sampler--&gt;</b>		Braun	REI										Braun	REI																		
Small Commercial Building (Attenuation Factor 0.03)																																
<b>Chemical (µg/m³)</b>																																
Acetone	4,500,000	19.2	10.3	<b>SVE</b>	6.4	<b>SVE</b>	17.9	<b>SVE</b>	<b>SVE</b>	6.7	17.2	8	<b>SVE</b>	362	<b>SVE</b>	21.6	<b>SVE</b>	<b>SVE</b>	62.0 <sup>j</sup>													
Benzene	530	< 1.51	12.7	<b>System</b>	< 0.28	<b>System</b>	3.2	<b>System</b>	<b>System</b>	< 0.30	1.96	3.4	<b>System</b>	31.6	<b>System</b>	0.78	<b>System</b>	<b>System</b>	< 5.4													
2-Butanone (MEK)	730,000	3.21	3.8	<b>Startup</b>	< 2.6	<b>Shutdown</b>	1.8 <sup>j</sup>	<b>Startup</b>	<b>Shutdown</b>	2.1 <sup>j</sup>	< 1.41	2.1	<b>Startup</b>	< 32.1	<b>Shutdown</b>	< 0.38	<b>Startup</b>	<b>Shutdown</b>	< 7.3													
Carbon disulfide	102,333	< 1.42	< 0.84		< 0.066		0.33 <sup>j</sup>			< 0.35	< 1.43	< 0.91		< 0.81		0.64 <sup>j</sup>			< 6.4													
Chloromethane	13,000	< 0.978	< 0.56		0.65 <sup>j</sup>		0.58 <sup>j</sup>			< 0.26	< 0.988	< 0.60		< 0.45		1.50			< 4.8													
Cyclohexane	876,667	< 1.57	18.1		< 0.091		11.9			< 0.44	< 1.59	1.3		143		0.75 <sup>j</sup>			13.0 <sup>j</sup>													
1,4-Dichlorobenzene	370	< 2.85	28.2		2.8		12.1			3.8	< 2.88	4.9		< 1.3		< 0.84			29.0 <sup>j</sup>													
Dichlorodifluoromethane	15,000	< 3.88	3.0		2.2		4.3			3.0	< 3.93	2.2		48.6		247			951													
Ethylbenzene	1,600	< 2.06	18.4		6.6		5.0			6.0	< 2.08	7.3		109		4.1			< 6.1													
4-Ethyltoluene	--	< 2.33	11.9		2.7		6.2			12.2	< 2.35	7.1		30.6		6.2			< 7.7													
n-Heptane	58,333	< 1.87	15.3		< 0.73		3.5			14.0	< 1.89	2.8		75.9		1.2 <sup>j</sup>			< 7.5													
n-Hexane	102,333	< 1.67	32.4		< 0.096		5.2			1.9	< 1.69	2.0		80.2		1.7			< 11.9													
Propylene	436,667	< 0.815	< 0.47		0.35 <sup>j</sup>		< 0.24			< 0.31	3.98	< 0.50		< 0.49		< 0.23			< 5.6													
Methylene Chloride	87,000	< 1.65	< 4.7		< 3.1		1.2 <sup>j</sup>			< 3.0	< 1.66	< 5.1		< 37.8		5.0 <sup>j</sup>			< 54.4													
Tetrachloroethene	6,000	27.3	7.0		< 0.60		235			147	<b>36,600</b>	<b>29,400</b>		< 7.4		2,660			2,420													
Trichloroethene	290	< 2.45	< 0.74		< 0.48		0.98			< 0.53	151	160		< 0.59		17.8			10.6 <sup>j</sup>													
Toluene	730,000	< 1.85	83.1		12.5		21.3			12.7	< 1.87	19.5		265		16.3			14.0 <sup>j</sup>													
Trichlorofluoromethane (Halocarbon 11)	--	< 2.66	1.6		1.3 <sup>j</sup>		1.5 <sup>j</sup>			< 0.82	< 2.69	< 1.6		< 14.6		6.2			< 15.0													
1,2,4-Trimethylbenzene	8,700	< 2.33	29.1		12.4		18.3			146	< 2.35	13.7		88.5		19.9			99.0													
1,3,5-Trimethylbenzene	8,700	< 2.33	10.4		2.8		5.5			77.9	< 2.35	5.8		28		5.7			50.1													
Vinyl acetate	29,200	< 1.73	< 2.4		2.2		2.2 <sup>j</sup>			< 0.33	< 1.75	< 2.6		< 0.96		< 0.55			< 5.9													
Xylene (mix)	15,000	< 3.96	100.3		36.4		28.0			111.1	< 4.0	39.3		554		25.5			42.2													

Notes:

Sub-Slab Vapor Risk Screening Levels Based on November 2017 USEPA Regional Screening Level Summary Table

**Bold** Exceeds Sub-Slab Vapor Risk Screening Level

<sup>j</sup> - Estimated concentration at or above the Limit of Detection and below the Limit of Quantification

**Table 4**  
**SVE System Vacuum Extraction Stack**  
**Tetrachloroethene Emission Data**  
**Band Box**  
**Sparta, Wisconsin**

	Vacuum		Days		Cumulative	VOC		VOC	VOC
	Pump	Cumulative	System	System	System	Concentration	Air Flow Rate	Emission Rate*	Cumulative
Date	Hour Meter	Days	Operational	Efficiency	Efficiency	(ug/l)	(SCFM)	(lbs/hr)	Pounds Emitted
<b>System Officially Started</b>									
11/10/14 14:15	12,328.3	0.0							
11/10/14 16:00	12,330.1	0.1	0.1	100.0%	100.0%	9.7	105.0	0.0	0.0
11/13/14 12:30	12,398.3	2.9	2.9	99.6%	99.6%	6.7	105.0	0.0	0.2
11/19/14 8:45	12,538.3	8.8	8.8	99.8%	99.8%	6.7	100.0	0.0	0.6
11/27/14 10:50	12,732.5	16.9	16.8	100.0%	99.9%	6.7	100.0	0.0	1.1
12/6/14 10:25	12,948.2	25.8	25.8	100.1%	100.0%	6.7	100.0	0.0	1.6
2/3/15 16:00	13,238.6	85.1	37.9	20.4%	44.6%	6.7	90.0	0.0	2.3
3/30/15 13:30	14,555.0	140.0	92.8	99.9%	66.3%	6.7	85.0	0.0	5.2
4/14/15 11:45	14,914.0	154.9	107.7	100.2%	69.6%	12.0	80.0	0.0	6.2
5/28/15 11:15	15,969.3	198.9	151.7	100.0%	76.3%	6.7	65.0	0.0	8.9
6/18/15 8:20	16,470.1	219.8	172.6	99.9%	78.5%	3.3	65.0	0.0	9.5
7/17/15 15:10	17,172.9	249.0	201.9	100.0%	81.1%	3.4	55.0	0.0	10.1
8/20/15 11:25	17,983.5	282.9	235.6	99.8%	83.3%	6.8	60.0	0.0	11.0
9/6/15 16:05	18,366.3	300.1	251.6	92.8%	83.8%	6.8	70.0	0.0	11.6
9/21/15 15:30	18,366.3	315.1	251.6	0.0%	79.9%	6.8	70.0	0.0	12.2
11/13/15 9:55	18,950.6	367.8	275.9	46.1%	75.0%	6.8	70.0	0.0	14.5
11/25/15 13:25	19,241.7	380.0	288.1	99.9%	75.8%	6.8	70.0	0.0	15.0
12/9/15 12:55	19,578.2	393.9	302.1	100.3%	76.7%	6.8	70.0	0.0	15.6
<b>System Shut Down for 6 Month Period</b>									
6/17/16 16:40	19,578.2	393.9	302.1	1.9%	76.7%	6.8	65.0	0.0	15.6
7/15/16 16:25	20,250.4	421.9	330.1	100.1%	78.2%	6.8	70.0	0.0	16.8
8/15/16 7:45	20,985.7	452.6	360.7	100.0%	79.7%	6.8	70.0	0.0	18.1
9/14/16 11:55	21,540.0	482.7	383.8	76.5%	79.5%	6.8	65.0	0.0	19.3
10/4/16 11:40	21,768.9	502.7	393.4	47.7%	78.2%	6.8	65.0	0.0	20.1
11/25/16 13:35	22,051.2	554.8	405.1	22.6%	73.0%	6.8	65.0	0.0	22.2
<b>System Officially Shut Down and Removed from Site</b>									

Notes:

na = No Samples Collected

Cumulative Pounds Emitted is the Average of Sampling Events

\*Formula Used When Vapor Sample Collected:

$$ER = (Q \times C \times 3.7378 \times 10^{-6})$$

Where: ER = Emission Rate (lbs/hr)

Q = Pumping Rate (SCFM)

C = Soil Gas Concentration (ug/l)

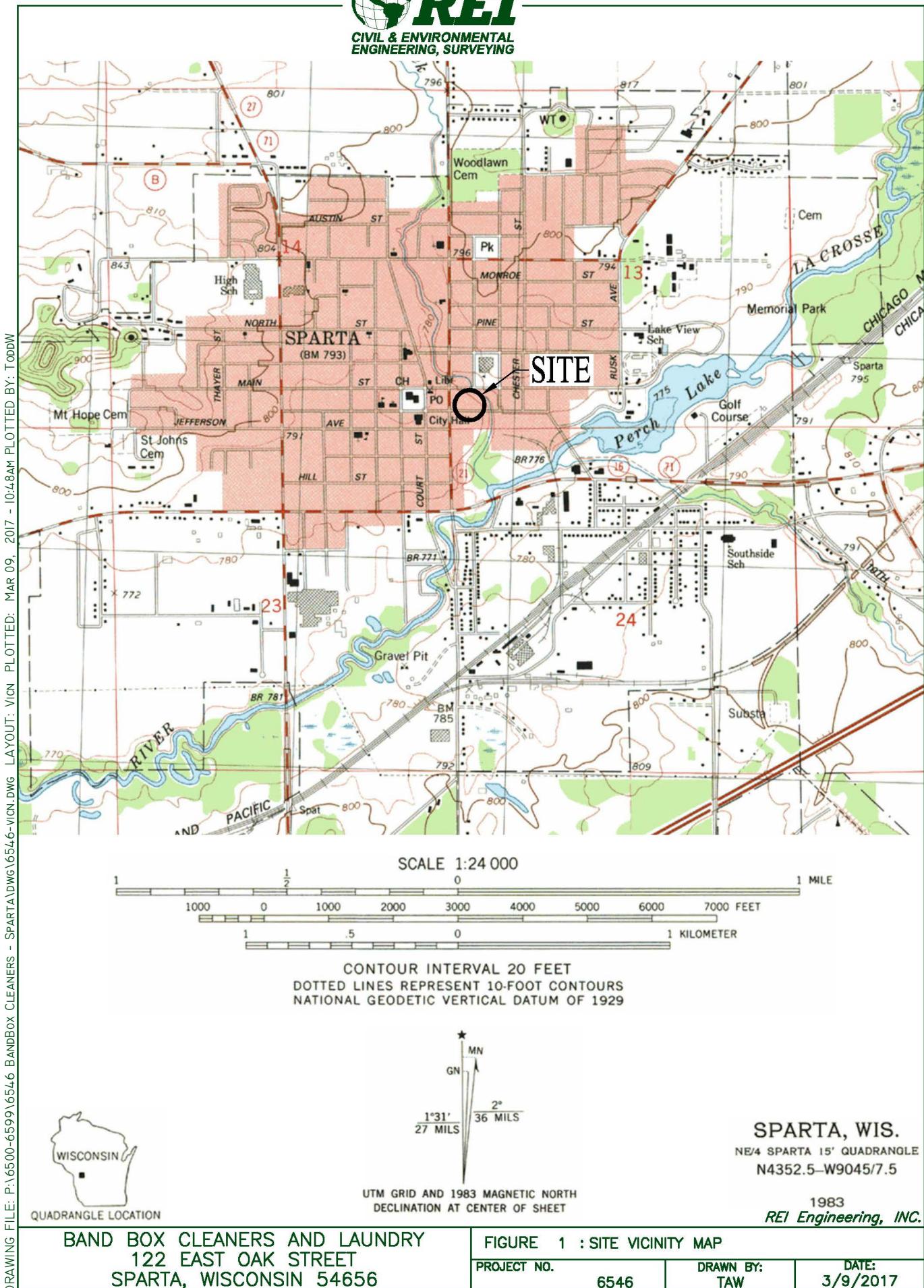
lbs/hr = Pounds per hour

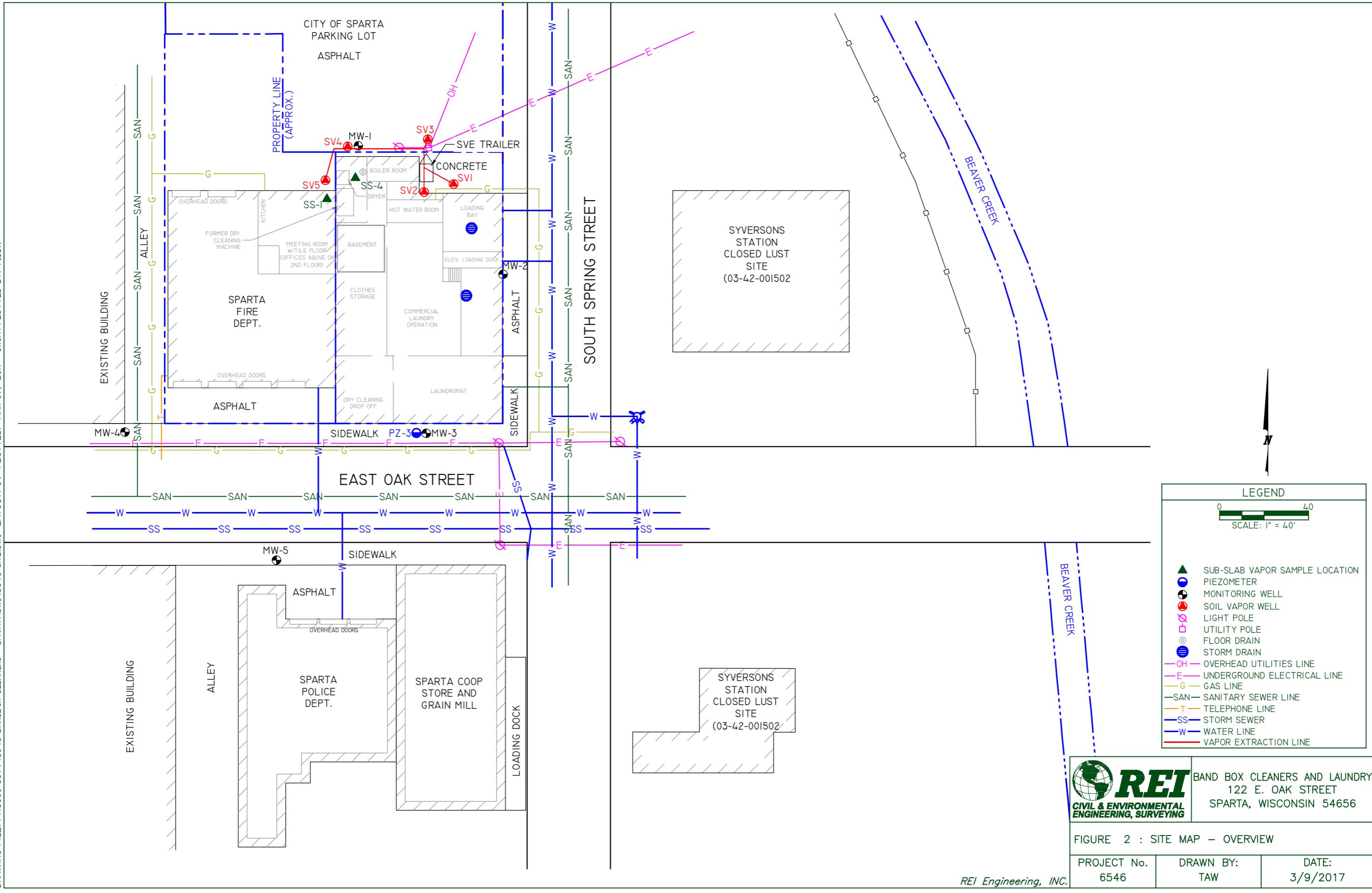
SCFM = Standard Cubic Feet Per Minute

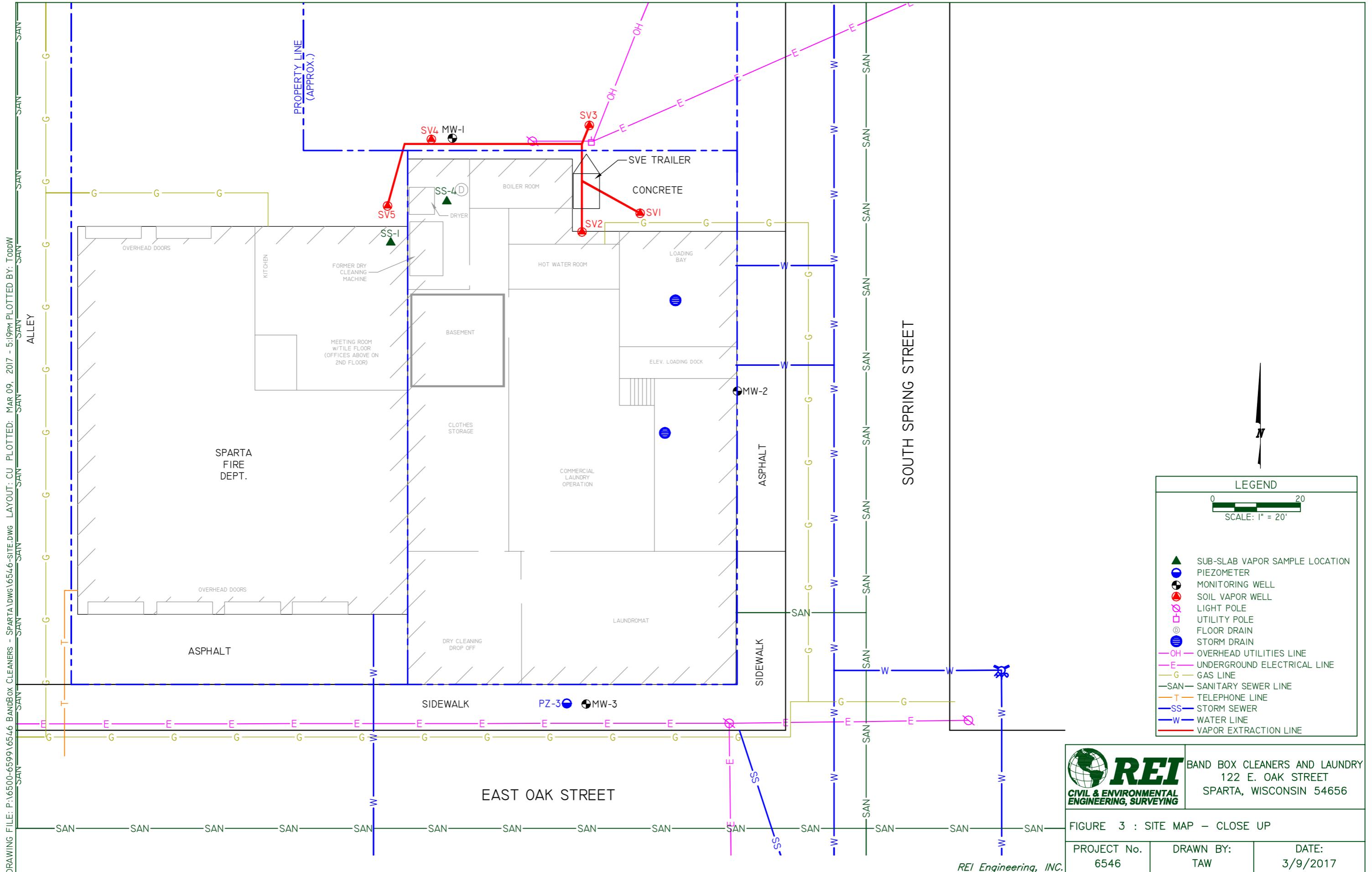
**Table 5**  
**Summary of PID Results**  
**Band Box**  
**Sparta, WI**

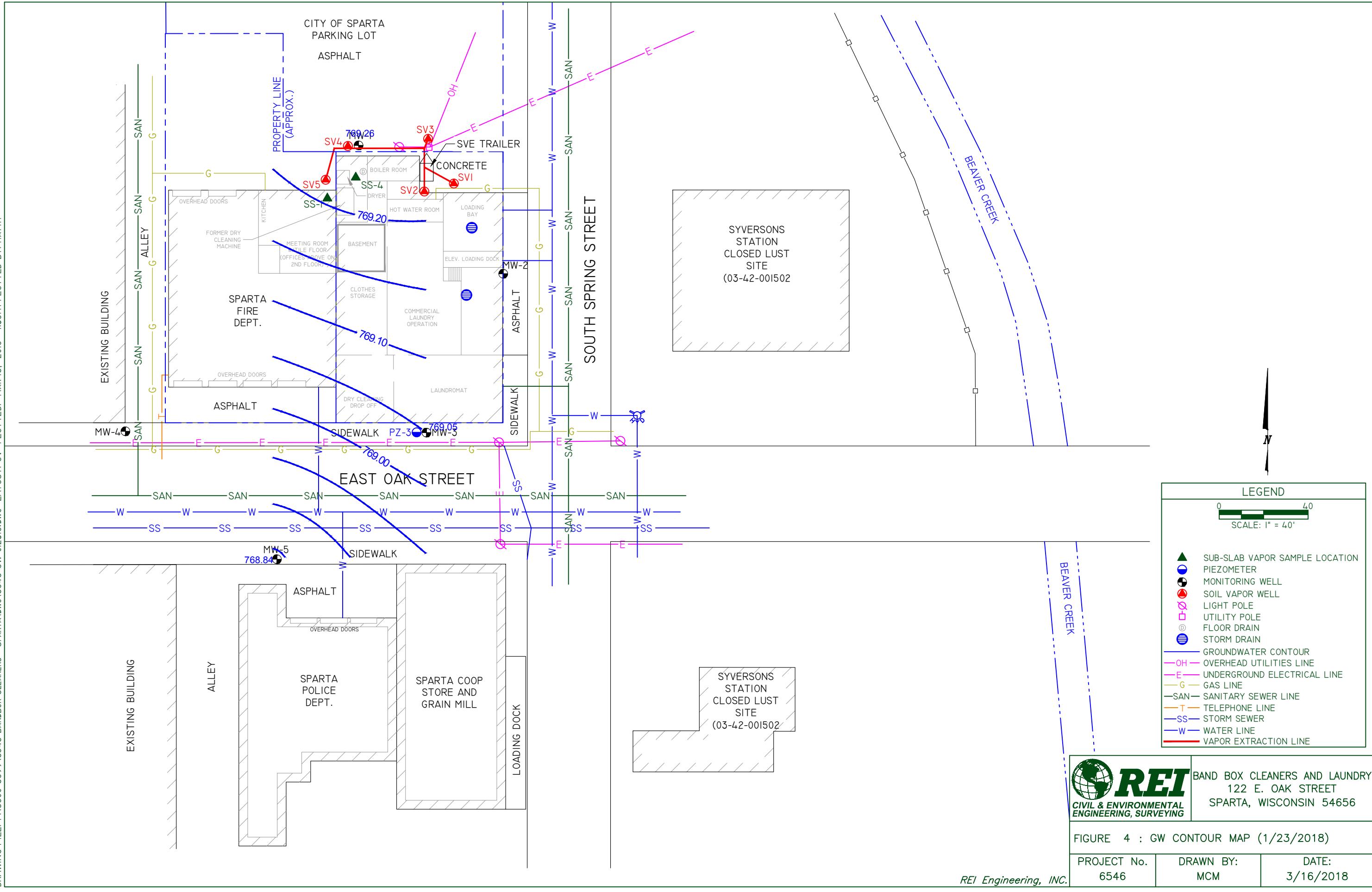
Date	RW1	RW2	RW3	RW4	RW5
11/10/2014	17	27	16.6	175	53
11/13/2014	3.4	2.7	2.8	360	12.7
3/30/2015	1.8	0.3	0.0*	0.0*	0.0*
4/14/2015	18.6	5.3	3.3	170	7.7
6/17/2016	0.7	0.0	0.0	2.3	0.0
7/15/2016	2.4			1.9	
8/15/2016	0.0			1.0	
9/14/2016				0.9	
10/4/2016				0.4	
11/25/2016				0.0	

\* = Make up air valve opened









## **APPENDIX A**

### **COPY OF GROUNDWATER LABORATORY ANALYTICAL RESULTS**



January 30, 2018

Brian Bailey  
REI Engineering  
4080 North 20th Ave  
Wausau, WI 54401

RE: Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Dear Brian Bailey:

Enclosed are the analytical results for sample(s) received by the laboratory on January 26, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten  
brian.basten@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky UST Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334  
New York Certification #: 12064  
North Dakota Certification #: R-150

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 6546 BANDBOX-SPARTA

Pace Project No.: 40163965

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40163965001	MW-1	Water	01/23/18 09:45	01/26/18 08:45
40163965002	MW-3	Water	01/23/18 10:00	01/26/18 08:45
40163965003	MW-5	Water	01/23/18 10:30	01/26/18 08:45

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## SAMPLE ANALYTE COUNT

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40163965001	MW-1	EPA 8260	LAP	64
40163965002	MW-3	EPA 8260	LAP	64
40163965003	MW-5	EPA 8260	LAP	64

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Sample: MW-1	Lab ID: 40163965001	Collected: 01/23/18 09:45	Received: 01/26/18 08:45	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		01/29/18 14:02	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	71-55-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		01/29/18 14:02	79-34-5	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		01/29/18 14:02	79-00-5	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		01/29/18 14:02	75-34-3	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		01/29/18 14:02	75-35-4	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		01/29/18 14:02	563-58-6	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		01/29/18 14:02	87-61-6	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	96-18-4	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		01/29/18 14:02	120-82-1	
1,2,4-Trimethylbenzene	13.4	ug/L	1.0	0.50	1		01/29/18 14:02	95-63-6	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		01/29/18 14:02	96-12-8	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		01/29/18 14:02	106-93-4	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	95-50-1	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		01/29/18 14:02	107-06-2	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		01/29/18 14:02	78-87-5	
1,3,5-Trimethylbenzene	0.98J	ug/L	1.0	0.50	1		01/29/18 14:02	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	106-46-7	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		01/29/18 14:02	594-20-7	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		01/29/18 14:02	106-43-4	
Benzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		01/29/18 14:02	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		01/29/18 14:02	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		01/29/18 14:02	74-83-9	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		01/29/18 14:02	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		01/29/18 14:02	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	124-48-1	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		01/29/18 14:02	74-95-3	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		01/29/18 14:02	75-71-8	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		01/29/18 14:02	87-68-3	
Isopropylbenzene (Cumene)	3.7	ug/L	1.0	0.14	1		01/29/18 14:02	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/29/18 14:02	1634-04-4	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		01/29/18 14:02	75-09-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/29/18 14:02	91-20-3	
Styrene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	100-42-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	127-18-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Sample: MW-1	Lab ID: 40163965001	Collected: 01/23/18 09:45	Received: 01/26/18 08:45	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Toluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	108-88-3	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		01/29/18 14:02	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		01/29/18 14:02	75-69-4	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		01/29/18 14:02	75-01-4	
cis-1,2-Dichloroethene	3.4	ug/L	1.0	0.26	1		01/29/18 14:02	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	10061-01-5	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/29/18 14:02	179601-23-1	
n-Butylbenzene	3.0	ug/L	1.0	0.50	1		01/29/18 14:02	104-51-8	
n-Propylbenzene	6.4	ug/L	1.0	0.50	1		01/29/18 14:02	103-65-1	
o-Xylene	1.6	ug/L	1.0	0.50	1		01/29/18 14:02	95-47-6	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:02	99-87-6	
sec-Butylbenzene	4.1J	ug/L	5.0	2.2	1		01/29/18 14:02	135-98-8	
tert-Butylbenzene	0.54J	ug/L	1.0	0.18	1		01/29/18 14:02	98-06-6	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/29/18 14:02	156-60-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		01/29/18 14:02	10061-02-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97	%	61-130		1		01/29/18 14:02	460-00-4	
Dibromofluoromethane (S)	92	%	67-130		1		01/29/18 14:02	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/29/18 14:02	2037-26-5	
Sample: MW-3	Lab ID: 40163965002	Collected: 01/23/18 10:00	Received: 01/26/18 08:45	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		01/29/18 14:23	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	71-55-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		01/29/18 14:23	79-34-5	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		01/29/18 14:23	79-00-5	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		01/29/18 14:23	75-34-3	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		01/29/18 14:23	75-35-4	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		01/29/18 14:23	563-58-6	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		01/29/18 14:23	87-61-6	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	96-18-4	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		01/29/18 14:23	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	95-63-6	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		01/29/18 14:23	96-12-8	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		01/29/18 14:23	106-93-4	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	95-50-1	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		01/29/18 14:23	107-06-2	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		01/29/18 14:23	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	142-28-9	

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## ANALYTICAL RESULTS

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Sample: MW-3	Lab ID: 40163965002	Collected: 01/23/18 10:00	Received: 01/26/18 08:45	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	106-46-7	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		01/29/18 14:23	594-20-7	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		01/29/18 14:23	106-43-4	
Benzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		01/29/18 14:23	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		01/29/18 14:23	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		01/29/18 14:23	74-83-9	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		01/29/18 14:23	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		01/29/18 14:23	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	124-48-1	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		01/29/18 14:23	74-95-3	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		01/29/18 14:23	75-71-8	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		01/29/18 14:23	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		01/29/18 14:23	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/29/18 14:23	1634-04-4	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		01/29/18 14:23	75-09-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/29/18 14:23	91-20-3	
Styrene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	100-42-5	
Tetrachloroethene	1.4	ug/L	1.0	0.50	1		01/29/18 14:23	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	108-88-3	
Trichloroethene	0.45J	ug/L	1.0	0.33	1		01/29/18 14:23	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		01/29/18 14:23	75-69-4	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		01/29/18 14:23	75-01-4	
cis-1,2-Dichloroethene	0.64J	ug/L	1.0	0.26	1		01/29/18 14:23	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	10061-01-5	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/29/18 14:23	179601-23-1	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	103-65-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	95-47-6	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:23	99-87-6	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		01/29/18 14:23	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		01/29/18 14:23	98-06-6	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/29/18 14:23	156-60-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		01/29/18 14:23	10061-02-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	89	%	61-130		1		01/29/18 14:23	460-00-4	
Dibromofluoromethane (S)	95	%	67-130		1		01/29/18 14:23	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/29/18 14:23	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6546 BANDBOX-SPARTA

Pace Project No.: 40163965

Sample: MW-5	Lab ID: 40163965003	Collected: 01/23/18 10:30	Received: 01/26/18 08:45	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		01/29/18 14:45	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		01/29/18 14:45	79-34-5	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		01/29/18 14:45	79-00-5	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		01/29/18 14:45	75-34-3	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		01/29/18 14:45	75-35-4	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		01/29/18 14:45	563-58-6	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		01/29/18 14:45	87-61-6	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	96-18-4	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		01/29/18 14:45	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	95-63-6	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		01/29/18 14:45	96-12-8	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		01/29/18 14:45	106-93-4	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	95-50-1	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		01/29/18 14:45	107-06-2	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		01/29/18 14:45	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	106-46-7	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		01/29/18 14:45	594-20-7	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		01/29/18 14:45	106-43-4	
Benzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		01/29/18 14:45	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		01/29/18 14:45	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		01/29/18 14:45	74-83-9	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		01/29/18 14:45	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		01/29/18 14:45	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	124-48-1	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		01/29/18 14:45	74-95-3	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		01/29/18 14:45	75-71-8	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		01/29/18 14:45	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		01/29/18 14:45	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/29/18 14:45	1634-04-4	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		01/29/18 14:45	75-09-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/29/18 14:45	91-20-3	
Styrene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	100-42-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	127-18-4	

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## ANALYTICAL RESULTS

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Sample: MW-5	Lab ID: 40163965003	Collected: 01/23/18 10:30	Received: 01/26/18 08:45	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Toluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	108-88-3	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		01/29/18 14:45	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		01/29/18 14:45	75-69-4	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		01/29/18 14:45	75-01-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/29/18 14:45	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	10061-01-5	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/29/18 14:45	179601-23-1	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	103-65-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	95-47-6	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/29/18 14:45	99-87-6	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		01/29/18 14:45	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		01/29/18 14:45	98-06-6	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/29/18 14:45	156-60-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		01/29/18 14:45	10061-02-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	90	%	61-130		1		01/29/18 14:45	460-00-4	
Dibromofluoromethane (S)	104	%	67-130		1		01/29/18 14:45	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		01/29/18 14:45	2037-26-5	

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## QUALITY CONTROL DATA

Project: 6546 BANDBOX-SPARTA

Pace Project No.: 40163965

QC Batch: 279973 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV

Associated Lab Samples: 40163965001, 40163965002, 40163965003

METHOD BLANK: 1643178 Matrix: Water

Associated Lab Samples: 40163965001, 40163965002, 40163965003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	01/29/18 11:47	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	01/29/18 11:47	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	01/29/18 11:47	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	01/29/18 11:47	
1,1-Dichloroethane	ug/L	<0.24	1.0	01/29/18 11:47	
1,1-Dichloroethene	ug/L	<0.41	1.0	01/29/18 11:47	
1,1-Dichloropropene	ug/L	<0.44	1.0	01/29/18 11:47	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	01/29/18 11:47	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	01/29/18 11:47	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	01/29/18 11:47	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	01/29/18 11:47	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	01/29/18 11:47	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	01/29/18 11:47	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	01/29/18 11:47	
1,2-Dichloroethane	ug/L	<0.17	1.0	01/29/18 11:47	
1,2-Dichloropropane	ug/L	<0.23	1.0	01/29/18 11:47	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	01/29/18 11:47	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	01/29/18 11:47	
1,3-Dichloropropane	ug/L	<0.50	1.0	01/29/18 11:47	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	01/29/18 11:47	
2,2-Dichloropropane	ug/L	<0.48	1.0	01/29/18 11:47	
2-Chlorotoluene	ug/L	<0.50	1.0	01/29/18 11:47	
4-Chlorotoluene	ug/L	<0.21	1.0	01/29/18 11:47	
Benzene	ug/L	<0.50	1.0	01/29/18 11:47	
Bromobenzene	ug/L	<0.23	1.0	01/29/18 11:47	
Bromochloromethane	ug/L	<0.34	1.0	01/29/18 11:47	
Bromodichloromethane	ug/L	<0.50	1.0	01/29/18 11:47	
Bromoform	ug/L	<0.50	1.0	01/29/18 11:47	
Bromomethane	ug/L	<2.4	5.0	01/29/18 11:47	
Carbon tetrachloride	ug/L	<0.50	1.0	01/29/18 11:47	
Chlorobenzene	ug/L	<0.50	1.0	01/29/18 11:47	
Chloroethane	ug/L	<0.37	1.0	01/29/18 11:47	
Chloroform	ug/L	<2.5	5.0	01/29/18 11:47	
Chloromethane	ug/L	<0.50	1.0	01/29/18 11:47	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	01/29/18 11:47	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	01/29/18 11:47	
Dibromochloromethane	ug/L	<0.50	1.0	01/29/18 11:47	
Dibromomethane	ug/L	<0.43	1.0	01/29/18 11:47	
Dichlorodifluoromethane	ug/L	<0.22	1.0	01/29/18 11:47	
Diisopropyl ether	ug/L	<0.50	1.0	01/29/18 11:47	
Ethylbenzene	ug/L	<0.50	1.0	01/29/18 11:47	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6546 BANDBOX-SPARTA

Pace Project No.: 40163965

METHOD BLANK: 1643178 Matrix: Water

Associated Lab Samples: 40163965001, 40163965002, 40163965003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	01/29/18 11:47	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	01/29/18 11:47	
m&p-Xylene	ug/L	<1.0	2.0	01/29/18 11:47	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	01/29/18 11:47	
Methylene Chloride	ug/L	<0.23	1.0	01/29/18 11:47	
n-Butylbenzene	ug/L	<0.50	1.0	01/29/18 11:47	
n-Propylbenzene	ug/L	<0.50	1.0	01/29/18 11:47	
Naphthalene	ug/L	<2.5	5.0	01/29/18 11:47	
o-Xylene	ug/L	<0.50	1.0	01/29/18 11:47	
p-Isopropyltoluene	ug/L	<0.50	1.0	01/29/18 11:47	
sec-Butylbenzene	ug/L	<2.2	5.0	01/29/18 11:47	
Styrene	ug/L	<0.50	1.0	01/29/18 11:47	
tert-Butylbenzene	ug/L	<0.18	1.0	01/29/18 11:47	
Tetrachloroethene	ug/L	<0.50	1.0	01/29/18 11:47	
Toluene	ug/L	<0.50	1.0	01/29/18 11:47	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	01/29/18 11:47	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	01/29/18 11:47	
Trichloroethene	ug/L	<0.33	1.0	01/29/18 11:47	
Trichlorofluoromethane	ug/L	<0.18	1.0	01/29/18 11:47	
Vinyl chloride	ug/L	<0.18	1.0	01/29/18 11:47	
4-Bromofluorobenzene (S)	%	91	61-130	01/29/18 11:47	
Dibromofluoromethane (S)	%	96	67-130	01/29/18 11:47	
Toluene-d8 (S)	%	94	70-130	01/29/18 11:47	

LABORATORY CONTROL SAMPLE: 1643179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.1	106	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	70-130	
1,1,2-Trichloroethane	ug/L	20	19.9	100	70-130	
1,1-Dichloroethane	ug/L	20	18.6	93	71-132	
1,1-Dichloroethene	ug/L	20	17.7	88	75-130	
1,2,4-Trichlorobenzene	ug/L	20	18.7	94	70-130	
1,2-Dibromo-3-chloropropane	ug/L	20	18.8	94	63-123	
1,2-Dibromoethane (EDB)	ug/L	20	20.9	104	70-130	
1,2-Dichlorobenzene	ug/L	20	19.9	99	70-130	
1,2-Dichloroethane	ug/L	20	20.3	101	70-131	
1,2-Dichloropropane	ug/L	20	19.3	97	80-120	
1,3-Dichlorobenzene	ug/L	20	19.1	95	70-130	
1,4-Dichlorobenzene	ug/L	20	19.7	99	70-130	
Benzene	ug/L	20	18.8	94	73-145	
Bromodichloromethane	ug/L	20	20.3	101	70-130	
Bromoform	ug/L	20	20.6	103	67-130	
Bromomethane	ug/L	20	11.9	60	26-128	

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## QUALITY CONTROL DATA

Project: 6546 BANDBOX-SPARTA

Pace Project No.: 40163965

**LABORATORY CONTROL SAMPLE: 1643179**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	20	20.8	104	70-133	
Chlorobenzene	ug/L	20	19.9	99	70-130	
Chloroethane	ug/L	20	17.1	85	58-120	
Chloroform	ug/L	20	19.6	98	80-121	
Chloromethane	ug/L	20	13.4	67	40-127	
cis-1,2-Dichloroethene	ug/L	20	17.7	88	70-130	
cis-1,3-Dichloropropene	ug/L	20	18.1	90	70-130	
Dibromochloromethane	ug/L	20	19.5	98	70-130	
Dichlorodifluoromethane	ug/L	20	15.5	77	20-135	
Ethylbenzene	ug/L	20	19.1	96	87-129	
Isopropylbenzene (Cumene)	ug/L	20	19.6	98	70-130	
m&p-Xylene	ug/L	40	40.3	101	70-130	
Methyl-tert-butyl ether	ug/L	20	18.2	91	66-143	
Methylene Chloride	ug/L	20	18.5	92	70-130	
o-Xylene	ug/L	20	20.0	100	70-130	
Styrene	ug/L	20	19.3	96	70-130	
Tetrachloroethene	ug/L	20	19.8	99	70-130	
Toluene	ug/L	20	19.8	99	82-130	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	75-132	
trans-1,3-Dichloropropene	ug/L	20	17.6	88	70-130	
Trichloroethene	ug/L	20	20.9	104	70-130	
Trichlorofluoromethane	ug/L	20	18.1	90	76-133	
Vinyl chloride	ug/L	20	16.6	83	57-136	
4-Bromofluorobenzene (S)	%			99	61-130	
Dibromofluoromethane (S)	%			97	67-130	
Toluene-d8 (S)	%			94	70-130	

**MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1643349      1643350**

Parameter	Units	MS		MSD		MS Result	% Rec	MSD % Rec	% Rec Limits	RPD RPD	Max Qual
		40163965002 Result	Spike Conc.	Spike Conc.	MS Result						
1,1,1-Trichloroethane	ug/L	<0.50	50	50	54.5	51.3	109	103	70-134	6	20
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	43.2	43.8	86	88	70-130	1	20
1,1,2-Trichloroethane	ug/L	<0.20	50	50	51.1	49.3	102	99	70-130	4	20
1,1-Dichloroethane	ug/L	<0.24	50	50	48.9	44.3	98	89	71-133	10	20
1,1-Dichloroethene	ug/L	<0.41	50	50	48.2	46.1	96	92	75-136	4	20
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	51.4	52.4	103	105	70-130	2	20
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	45.4	42.1	91	84	63-123	7	20
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	53.8	50.5	108	101	70-130	6	20
1,2-Dichlorobenzene	ug/L	<0.50	50	50	50.6	52.4	101	105	70-130	4	20
1,2-Dichloroethane	ug/L	<0.17	50	50	48.2	45.5	96	91	70-131	6	20
1,2-Dichloropropane	ug/L	<0.23	50	50	53.6	48.9	107	98	80-120	9	20
1,3-Dichlorobenzene	ug/L	<0.50	50	50	49.3	50.6	99	101	70-130	3	20
1,4-Dichlorobenzene	ug/L	<0.50	50	50	50.3	53.1	101	106	70-130	5	20

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## QUALITY CONTROL DATA

Project: 6546 BANDBOX-SPARTA  
Pace Project No.: 40163965

Parameter	Units	40163965002		MS		MSD		1643349		1643350			
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	MSD % Rec	% Rec	Limits	RPD	RPD	Max Qual
Benzene	ug/L	<0.50	50	50	49.3	45.5	99	91	73-145	8	20		
Bromodichloromethane	ug/L	<0.50	50	50	54.7	51.3	109	103	70-130	6	20		
Bromoform	ug/L	<0.50	50	50	54.5	49.0	109	98	67-130	11	20		
Bromomethane	ug/L	<2.4	50	50	34.6	35.1	69	70	26-129	1	20		
Carbon tetrachloride	ug/L	<0.50	50	50	56.9	53.1	114	106	70-134	7	20		
Chlorobenzene	ug/L	<0.50	50	50	54.3	53.0	109	106	70-130	2	20		
Chloroethane	ug/L	<0.37	50	50	43.4	40.0	87	80	58-120	8	20		
Chloroform	ug/L	<2.5	50	50	49.1	46.4	98	93	80-121	6	20		
Chloromethane	ug/L	<0.50	50	50	35.3	35.8	71	72	40-128	1	20		
cis-1,2-Dichloroethene	ug/L	0.64J	50	50	50.1	46.3	99	91	70-130	8	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	49.7	48.0	99	96	70-130	3	20		
Dibromochloromethane	ug/L	<0.50	50	50	51.5	49.9	103	100	70-130	3	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	42.4	43.0	85	86	20-146	2	20		
Ethylbenzene	ug/L	<0.50	50	50	53.7	51.9	107	104	87-129	3	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	58.1	55.6	116	111	70-130	4	20		
m&p-Xylene	ug/L	<1.0	100	100	112	109	112	109	70-130	2	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	46.8	42.2	94	84	66-143	10	20		
Methylene Chloride	ug/L	<0.23	50	50	45.4	42.3	91	85	70-130	7	20		
o-Xylene	ug/L	<0.50	50	50	54.6	51.7	109	103	70-130	6	20		
Styrene	ug/L	<0.50	50	50	55.5	52.4	111	105	70-130	6	20		
Tetrachloroethene	ug/L	1.4	50	50	53.9	52.7	105	103	70-130	2	20		
Toluene	ug/L	<0.50	50	50	54.1	52.7	108	105	82-131	3	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	49.4	47.5	99	95	75-135	4	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	48.0	46.1	96	92	70-130	4	20		
Trichloroethene	ug/L	0.45J	50	50	55.1	51.6	109	102	70-130	7	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	49.2	46.7	98	93	76-150	5	20		
Vinyl chloride	ug/L	<0.18	50	50	44.7	42.5	89	85	56-143	5	20		
4-Bromofluorobenzene (S)	%						103	101	61-130				
Dibromofluoromethane (S)	%							99	89	67-130			
Toluene-d8 (S)	%							98	95	70-130			

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## QUALIFIERS

Project: 6546 BANDBOX-SPARTA

Pace Project No.: 40163965

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6546 BANDBOX-SPARTA  
 Pace Project No.: 40163965

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40163965001	MW-1	EPA 8260	279973		
40163965002	MW-3	EPA 8260	279973		
40163965003	MW-5	EPA 8260	279973		

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(Please Print Clearly)

Company Name:	REI	
Branch/Location:	Wausau	
Project Contact:	Briam Bailey	
Phone:	715 675 9784	
Project Number:	6546	
Project Name:	Bandbox-Sparta	
Project State:	WI	
Sampled By (Print):	Jed Kosch	
Sampled By (Sign):		
PO #:		Regulatory Program:

Data Package Options (billable)	<b>MS/MSD</b>	<b>Matrix Codes</b>
<input type="checkbox"/> EPA Level III	<input type="checkbox"/> On your sample (billable)	A = Air      W = Water B = Biota      DW = Drinking Water C = Charcoal      GW = Ground Water O = Oil      SW = Surface Water S = Soil      WW = Waste Water SI = Sludge      WP = Wipe
<input type="checkbox"/> EPA Level IV	<input type="checkbox"/> NOT needed on your sample	

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	MW-1	1/23/18	9:45 AM	
002	MW-3	11	10:00	W
003	<del>MW-4</del> MW-5	11	10:30	W



## CHAIN OF CUSTODY

\*Preservation Codes  
A=None    B=HCl    C=H<sub>2</sub>SO<sub>4</sub>    D=HNO<sub>3</sub>    E=DI Water    F=Methanol    G=NaOH  
H=Sodium Bisulfate Solution    I=Sodium Thiosulfate    J=Other

Y/N PRESERVATION (CODE)*	Y/N Pick Letter	N												
	Analyses Requested													
VOC														

UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

Page 1 of

40163965

Page 16 of 17

Quote #:					
Mail To Contact:	Briam Bailey				
Mail To Company:	REI				
Mail To Address:	Bbailey@reinengineering.com				
Invoice To Contact:	Sff				
Invoice To Company:					
Invoice To Address:					
Invoice To Phone:					
CLIENT COMMENTS (Lab Use Only)	LAB COMMENTS (Lab Use Only)	Profile #			
	3-40ml VB				
		↓			
Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By:	Date/Time:	Received By:	Date/Time:	PACE Project No.
Transmit Prelim Rush Results by (complete what you want):		1/25/18 2:00		1/26/18 8:00 AM	40163965
Email #1:	Relinquished By:	Date/Time:	Received By:	Date/Time:	Receipt Temp = Red °C
Email #2:		1/26/18 8:00 AM		1/26/18 8:00 AM	Sample Receipt pH
Telephone:	Relinquished By:	Date/Time:	Received By:	Date/Time:	OK / Adjusted
Fax:		1/26/18 8:00 AM		1/26/18 8:00 AM	Cooler Custody Seal
Samples on HOLD are subject to special pricing and release of liability	Relinquished By:	Date/Time:	Received By:	Date/Time:	Present / Not Present Intact / Not Intact



# Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI  
1241 Bellevue Street, Suite 9  
Green Bay, WI 54302

Project

WO# : 40163965



40163965

Client Name: RTI

Courier:  FedEx  UPS  Client  Pace Other: WIC HCO

Tracking #: 1625180

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  noCustody Seal on Samples Present:  yes  no Seals intact:  yes  noPacking Material:  Bubble Wrap  Bubble Bags  None  OtherThermometer Used N/A Type of Ice: Wet Blue Dry None  Samples on ice, cooling process has begunCooler Temperature Uncorr: 40 /Corr: 40 Biological Tissue is Frozen:  yes  noTemp Blank Present:  yes  no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C.

Comments:

Person examining contents:  
Date: 1/26/18  
Initials: OK

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.		
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.		
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.		
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:		
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.		
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.		
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>NO MSL/MSLP</u> <u>OK</u> 1/26/18		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.		
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.		
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.		
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.		
-Includes date/time/ID/Analysis Matrix:	<u>W</u>			
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH +ZnAct		
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 <2, NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
exceptions: VOA, Coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed	Lab Std #ID of preservative	Date/ Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.		
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.		
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Pace Trip Blank Lot # (if purchased):				

## Client Notification/ Resolution:

If checked, see attached form for additional comments 

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_Project Manager Review: OKDate: 1/26/18

## **APPENDIX B**

### **COPY OF SUB-SLAB LABORATORY ANALYTICAL RESULTS**



February 07, 2018

Brian Bailey  
REI  
4080 N. 20th. Ave  
Wausau, WI 54401

RE: Project: 6546 Band Box  
Pace Project No.: 10418259

Dear Brian Bailey:

Enclosed are the analytical results for sample(s) received by the laboratory on January 25, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Megan McCabe  
megan.mccabe@pacelabs.com  
(612)607-1700  
Project Manager

Enclosures

cc: D Peters, REI Eng



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 6546 Band Box  
 Pace Project No.: 10418259

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### Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485	Michigan Certification #: 9909
A2LA Certification #: 2926.01	Minnesota Certification #: 027-053-137
Alabama Certification #: 40770	Mississippi Certification #: MN00064
Alaska Contaminated Sites Certification #: 17-009	Montana Certification #: CERT0092
Alaska DW Certification #: MN00064	Nebraska Certification #: NE-OS-18-06
Arizona Certification #: AZ0014	Nevada Certification #: MN00064
Arkansas Certification #: 88-0680	New Hampshire Certification #: 2081
California Certification #: 2929	New Jersey Certification #: MN002
CNMI Saipan Certification #: MP0003	New York Certification #: 11647
Colorado Certification #: MN00064	North Carolina DW Certification #: 27700
Connecticut Certification #: PH-0256	North Carolina WW Certification #: 530
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137	North Dakota Certification #: R-036
Florida Certification #: E87605	Ohio DW Certification #: 41244
Georgia Certification #: 959	Ohio VAP Certification #: CL101
Guam EPA Certification #: MN00064	Oklahoma Certification #: 9507
Hawaii Certification #: MN00064	Oregon NwTPH Certification #: MN300001
Idaho Certification #: MN00064	Oregon Secondary Certification #: MN200001
Illinois Certification #: 200011	Pennsylvania Certification #: 68-00563
Indiana Certification #: C-MN-01	Puerto Rico Certification #: MN00064
Iowa Certification #: 368	South Carolina Certification #: 74003001
Kansas Certification #: E-10167	Tennessee Certification #: TN02818
Kentucky DW Certification #: 90062	Texas Certification #: T104704192
Kentucky WW Certification #: 90062	Utah Certification #: MN00064
Louisiana DEQ Certification #: 03086	Virginia Certification #: 460163
Louisiana DW Certification #: MN00064	Washington Certification #: C486
Maine Certification #: MN00064	West Virginia DW Certification #: 9952 C
Maryland Certification #: 322	West Virginia DEP Certification #: 382
Massachusetts Certification #: M-MN064	Wisconsin Certification #: 999407970

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 6546 Band Box  
Pace Project No.: 10418259

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10418259001	SS-4	Air	01/23/18 11:42	01/25/18 12:45
10418259002	SS-1	Air	01/23/18 12:26	01/25/18 12:45

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## SAMPLE ANALYTE COUNT

Project: 6546 Band Box  
Pace Project No.: 10418259

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10418259001	SS-4	TO-15	MLS	61	PASI-M
10418259002	SS-1	TO-15	MLS	61	PASI-M

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## ANALYTICAL RESULTS

Project: 6546 Band Box  
Pace Project No.: 10418259

Sample: SS-4	Lab ID: 10418259001	Collected: 01/23/18 11:42	Received: 01/25/18 12:45	Matrix: Air					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>	Analytical Method: TO-15								
Acetone	<b>62.0J</b>	ug/m3	86.3	53.7	35.8		02/06/18 18:23	67-64-1	
Benzene	<5.4	ug/m3	11.6	5.4	35.8		02/06/18 18:23	71-43-2	
Benzyl chloride	<8.4	ug/m3	37.6	8.4	35.8		02/06/18 18:23	100-44-7	
Bromodichloromethane	<12.7	ug/m3	48.7	12.7	35.8		02/06/18 18:23	75-27-4	
Bromoform	<24.7	ug/m3	75.2	24.7	35.8		02/06/18 18:23	75-25-2	
Bromomethane	<7.4	ug/m3	28.2	7.4	35.8		02/06/18 18:23	74-83-9	
1,3-Butadiene	<7.4	ug/m3	40.2	7.4	35.8		02/06/18 18:23	106-99-0	
2-Butanone (MEK)	<7.3	ug/m3	107	7.3	35.8		02/06/18 18:23	78-93-3	
Carbon disulfide	<6.4	ug/m3	22.7	6.4	35.8		02/06/18 18:23	75-15-0	
Carbon tetrachloride	<11.4	ug/m3	22.9	11.4	35.8		02/06/18 18:23	56-23-5	
Chlorobenzene	<6.4	ug/m3	33.5	6.4	35.8		02/06/18 18:23	108-90-7	
Chloroethane	<7.3	ug/m3	48.0	7.3	35.8		02/06/18 18:23	75-00-3	
Chloroform	<8.3	ug/m3	17.8	8.3	35.8		02/06/18 18:23	67-66-3	
Chloromethane	<4.8	ug/m3	15.0	4.8	35.8		02/06/18 18:23	74-87-3	
Cyclohexane	<b>13.0J</b>	ug/m3	25.1	8.1	35.8		02/06/18 18:23	110-82-7	
Dibromochloromethane	<15.8	ug/m3	61.9	15.8	35.8		02/06/18 18:23	124-48-1	
1,2-Dibromoethane (EDB)	<11.9	ug/m3	55.8	11.9	35.8		02/06/18 18:23	106-93-4	
1,2-Dichlorobenzene	<b>21.1J</b>	ug/m3	43.7	11.7	35.8		02/06/18 18:23	95-50-1	
1,3-Dichlorobenzene	<16.7	ug/m3	43.7	16.7	35.8		02/06/18 18:23	541-73-1	
1,4-Dichlorobenzene	<b>29.0J</b>	ug/m3	43.7	7.8	35.8		02/06/18 18:23	106-46-7	
Dichlorodifluoromethane	<b>951</b>	ug/m3	36.2	14.9	35.8		02/06/18 18:23	75-71-8	
1,1-Dichloroethane	<7.6	ug/m3	29.5	7.6	35.8		02/06/18 18:23	75-34-3	
1,2-Dichloroethane	<7.1	ug/m3	14.7	7.1	35.8		02/06/18 18:23	107-06-2	
1,1-Dichloroethene	<8.5	ug/m3	28.9	8.5	35.8		02/06/18 18:23	75-35-4	
cis-1,2-Dichloroethene	<12.2	ug/m3	28.9	12.2	35.8		02/06/18 18:23	156-59-2	
trans-1,2-Dichloroethene	<10.6	ug/m3	28.9	10.6	35.8		02/06/18 18:23	156-60-5	
1,2-Dichloropropane	<11.0	ug/m3	33.6	11.0	35.8		02/06/18 18:23	78-87-5	
cis-1,3-Dichloropropene	<8.8	ug/m3	33.0	8.8	35.8		02/06/18 18:23	10061-01-5	
trans-1,3-Dichloropropene	<15.0	ug/m3	33.0	15.0	35.8		02/06/18 18:23	10061-02-6	
Dichlorotetrafluoroethane	<15.8	ug/m3	50.8	15.8	35.8		02/06/18 18:23	76-14-2	
Ethanol	<16.6	ug/m3	68.6	16.6	35.8		02/06/18 18:23	64-17-5	
Ethyl acetate	<7.0	ug/m3	26.2	7.0	35.8		02/06/18 18:23	141-78-6	
Ethylbenzene	<6.1	ug/m3	31.6	6.1	35.8		02/06/18 18:23	100-41-4	
4-Ethyltoluene	<7.7	ug/m3	35.8	7.7	35.8		02/06/18 18:23	622-96-8	
n-Heptane	<7.5	ug/m3	29.8	7.5	35.8		02/06/18 18:23	142-82-5	
Hexachloro-1,3-butadiene	<31.1	ug/m3	77.7	31.1	35.8		02/06/18 18:23	87-68-3	
n-Hexane	<11.9	ug/m3	25.6	11.9	35.8		02/06/18 18:23	110-54-3	
2-Hexanone	<21.9	ug/m3	149	21.9	35.8		02/06/18 18:23	591-78-6	
Methylene Chloride	<54.4	ug/m3	126	54.4	35.8		02/06/18 18:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	<12.7	ug/m3	149	12.7	35.8		02/06/18 18:23	108-10-1	
Methyl-tert-butyl ether	<23.9	ug/m3	131	23.9	35.8		02/06/18 18:23	1634-04-4	
Naphthalene	<21.4	ug/m3	95.2	21.4	35.8		02/06/18 18:23	91-20-3	
2-Propanol	<44.8	ug/m3	89.5	44.8	35.8		02/06/18 18:23	67-63-0	
Propylene	<5.6	ug/m3	12.5	5.6	35.8		02/06/18 18:23	115-07-1	
Styrene	<6.0	ug/m3	31.0	6.0	35.8		02/06/18 18:23	100-42-5	
1,1,2,2-Tetrachloroethane	<10.4	ug/m3	25.0	10.4	35.8		02/06/18 18:23	79-34-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6546 Band Box  
Pace Project No.: 10418259

Sample: SS-4	Lab ID: 10418259001	Collected: 01/23/18 11:42	Received: 01/25/18 12:45	Matrix: Air					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>	Analytical Method: TO-15								
Tetrachloroethene	<b>2420</b>	ug/m3	24.7	10.3	35.8		02/06/18 18:23	127-18-4	
Tetrahydrofuran	<b>&lt;9.8</b>	ug/m3	21.5	9.8	35.8		02/06/18 18:23	109-99-9	
Toluene	<b>14.0J</b>	ug/m3	27.4	5.7	35.8		02/06/18 18:23	108-88-3	
1,2,4-Trichlorobenzene	<b>&lt;34.3</b>	ug/m3	270	34.3	35.8		02/06/18 18:23	120-82-1	
1,1,1-Trichloroethane	<b>&lt;12.2</b>	ug/m3	39.7	12.2	35.8		02/06/18 18:23	71-55-6	
1,1,2-Trichloroethane	<b>&lt;8.1</b>	ug/m3	19.9	8.1	35.8		02/06/18 18:23	79-00-5	
Trichloroethene	<b>10.6J</b>	ug/m3	19.5	9.6	35.8		02/06/18 18:23	79-01-6	
Trichlorofluoromethane	<b>&lt;15.0</b>	ug/m3	40.8	15.0	35.8		02/06/18 18:23	75-69-4	
1,1,2-Trichlorotrifluoroethane	<b>&lt;13.2</b>	ug/m3	55.8	13.2	35.8		02/06/18 18:23	76-13-1	
1,2,4-Trimethylbenzene	<b>99.0</b>	ug/m3	35.8	6.2	35.8		02/06/18 18:23	95-63-6	
1,3,5-Trimethylbenzene	<b>50.1</b>	ug/m3	35.8	14.7	35.8		02/06/18 18:23	108-67-8	
Vinyl acetate	<b>&lt;5.9</b>	ug/m3	25.6	5.9	35.8		02/06/18 18:23	108-05-4	
Vinyl chloride	<b>&lt;4.5</b>	ug/m3	18.6	4.5	35.8		02/06/18 18:23	75-01-4	
m&p-Xylene	<b>42.0J</b>	ug/m3	63.4	12.5	35.8		02/06/18 18:23	179601-23-1	
o-Xylene	<b>42.2</b>	ug/m3	31.6	13.3	35.8		02/06/18 18:23	95-47-6	
<b>Sample: SS-1</b>	<b>Lab ID: 10418259002</b>	Collected: 01/23/18 12:26	Received: 01/25/18 12:45	Matrix: Air					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>	Analytical Method: TO-15								
Acetone	<b>6.7</b>	ug/m3	4.7	2.9	1.96		02/06/18 17:17	67-64-1	
Benzene	<b>&lt;0.30</b>	ug/m3	0.64	0.30	1.96		02/06/18 17:17	71-43-2	
Benzyl chloride	<b>&lt;0.46</b>	ug/m3	2.1	0.46	1.96		02/06/18 17:17	100-44-7	
Bromodichloromethane	<b>&lt;0.70</b>	ug/m3	2.7	0.70	1.96		02/06/18 17:17	75-27-4	
Bromoform	<b>&lt;1.4</b>	ug/m3	4.1	1.4	1.96		02/06/18 17:17	75-25-2	
Bromomethane	<b>&lt;0.41</b>	ug/m3	1.5	0.41	1.96		02/06/18 17:17	74-83-9	
1,3-Butadiene	<b>&lt;0.40</b>	ug/m3	2.2	0.40	1.96		02/06/18 17:17	106-99-0	
2-Butanone (MEK)	<b>2.1J</b>	ug/m3	5.9	0.40	1.96		02/06/18 17:17	78-93-3	
Carbon disulfide	<b>&lt;0.35</b>	ug/m3	1.2	0.35	1.96		02/06/18 17:17	75-15-0	
Carbon tetrachloride	<b>&lt;0.62</b>	ug/m3	1.3	0.62	1.96		02/06/18 17:17	56-23-5	
Chlorobenzene	<b>&lt;0.35</b>	ug/m3	1.8	0.35	1.96		02/06/18 17:17	108-90-7	
Chloroethane	<b>&lt;0.40</b>	ug/m3	2.6	0.40	1.96		02/06/18 17:17	75-00-3	
Chloroform	<b>&lt;0.45</b>	ug/m3	0.97	0.45	1.96		02/06/18 17:17	67-66-3	
Chloromethane	<b>&lt;0.26</b>	ug/m3	0.82	0.26	1.96		02/06/18 17:17	74-87-3	
Cyclohexane	<b>&lt;0.44</b>	ug/m3	1.4	0.44	1.96		02/06/18 17:17	110-82-7	
Dibromochloromethane	<b>&lt;0.87</b>	ug/m3	3.4	0.87	1.96		02/06/18 17:17	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.65</b>	ug/m3	3.1	0.65	1.96		02/06/18 17:17	106-93-4	
1,2-Dichlorobenzene	<b>&lt;0.64</b>	ug/m3	2.4	0.64	1.96		02/06/18 17:17	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.91</b>	ug/m3	2.4	0.91	1.96		02/06/18 17:17	541-73-1	
1,4-Dichlorobenzene	<b>3.8</b>	ug/m3	2.4	0.43	1.96		02/06/18 17:17	106-46-7	
Dichlorodifluoromethane	<b>3.0</b>	ug/m3	2.0	0.82	1.96		02/06/18 17:17	75-71-8	
1,1-Dichloroethane	<b>&lt;0.42</b>	ug/m3	1.6	0.42	1.96		02/06/18 17:17	75-34-3	
1,2-Dichloroethane	<b>&lt;0.39</b>	ug/m3	0.81	0.39	1.96		02/06/18 17:17	107-06-2	

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## ANALYTICAL RESULTS

Project: 6546 Band Box  
Pace Project No.: 10418259

Sample: SS-1	Lab ID: 10418259002	Collected: 01/23/18 12:26	Received: 01/25/18 12:45	Matrix: Air					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>	Analytical Method: TO-15								
1,1-Dichloroethene	<0.46	ug/m3	1.6	0.46	1.96		02/06/18 17:17	75-35-4	
cis-1,2-Dichloroethene	<0.67	ug/m3	1.6	0.67	1.96		02/06/18 17:17	156-59-2	
trans-1,2-Dichloroethene	<0.58	ug/m3	1.6	0.58	1.96		02/06/18 17:17	156-60-5	
1,2-Dichloropropane	<0.60	ug/m3	1.8	0.60	1.96		02/06/18 17:17	78-87-5	
cis-1,3-Dichloropropene	<0.48	ug/m3	1.8	0.48	1.96		02/06/18 17:17	10061-01-5	
trans-1,3-Dichloropropene	<0.82	ug/m3	1.8	0.82	1.96		02/06/18 17:17	10061-02-6	
Dichlorotetrafluoroethane	<0.87	ug/m3	2.8	0.87	1.96		02/06/18 17:17	76-14-2	
Ethanol	<0.91	ug/m3	3.8	0.91	1.96		02/06/18 17:17	64-17-5	
Ethyl acetate	<0.38	ug/m3	1.4	0.38	1.96		02/06/18 17:17	141-78-6	
Ethylbenzene	6.0	ug/m3	1.7	0.34	1.96		02/06/18 17:17	100-41-4	
4-Ethyltoluene	12.2	ug/m3	2.0	0.42	1.96		02/06/18 17:17	622-96-8	
n-Heptane	14.0	ug/m3	1.6	0.41	1.96		02/06/18 17:17	142-82-5	
Hexachloro-1,3-butadiene	<1.7	ug/m3	4.3	1.7	1.96		02/06/18 17:17	87-68-3	
n-Hexane	1.9	ug/m3	1.4	0.65	1.96		02/06/18 17:17	110-54-3	
2-Hexanone	<1.2	ug/m3	8.2	1.2	1.96		02/06/18 17:17	591-78-6	
Methylene Chloride	<3.0	ug/m3	6.9	3.0	1.96		02/06/18 17:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.70	ug/m3	8.2	0.70	1.96		02/06/18 17:17	108-10-1	
Methyl-tert-butyl ether	<1.3	ug/m3	7.2	1.3	1.96		02/06/18 17:17	1634-04-4	
Naphthalene	6.1	ug/m3	5.2	1.2	1.96		02/06/18 17:17	91-20-3	
2-Propanol	<2.4	ug/m3	4.9	2.4	1.96		02/06/18 17:17	67-63-0	
Propylene	<0.31	ug/m3	0.69	0.31	1.96		02/06/18 17:17	115-07-1	
Styrene	<0.33	ug/m3	1.7	0.33	1.96		02/06/18 17:17	100-42-5	
1,1,2,2-Tetrachloroethane	<0.57	ug/m3	1.4	0.57	1.96		02/06/18 17:17	79-34-5	
Tetrachloroethene	147	ug/m3	1.4	0.56	1.96		02/06/18 17:17	127-18-4	
Tetrahydrofuran	<0.54	ug/m3	1.2	0.54	1.96		02/06/18 17:17	109-99-9	
Toluene	12.7	ug/m3	1.5	0.31	1.96		02/06/18 17:17	108-88-3	
1,2,4-Trichlorobenzene	<1.9	ug/m3	14.8	1.9	1.96		02/06/18 17:17	120-82-1	
1,1,1-Trichloroethane	<0.67	ug/m3	2.2	0.67	1.96		02/06/18 17:17	71-55-6	
1,1,2-Trichloroethane	<0.44	ug/m3	1.1	0.44	1.96		02/06/18 17:17	79-00-5	
Trichloroethene	<0.53	ug/m3	1.1	0.53	1.96		02/06/18 17:17	79-01-6	
Trichlorofluoromethane	<0.82	ug/m3	2.2	0.82	1.96		02/06/18 17:17	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.72	ug/m3	3.1	0.72	1.96		02/06/18 17:17	76-13-1	
1,2,4-Trimethylbenzene	146	ug/m3	2.0	0.34	1.96		02/06/18 17:17	95-63-6	
1,3,5-Trimethylbenzene	77.9	ug/m3	2.0	0.81	1.96		02/06/18 17:17	108-67-8	
Vinyl acetate	<0.33	ug/m3	1.4	0.33	1.96		02/06/18 17:17	108-05-4	
Vinyl chloride	<0.25	ug/m3	1.0	0.25	1.96		02/06/18 17:17	75-01-4	
m&p-Xylene	52.1	ug/m3	3.5	0.68	1.96		02/06/18 17:17	179601-23-1	
o-Xylene	59.0	ug/m3	1.7	0.73	1.96		02/06/18 17:17	95-47-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6546 Band Box

Pace Project No.: 10418259

QC Batch: 521536

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10418259001, 10418259002

METHOD BLANK: 2831502

Matrix: Air

Associated Lab Samples: 10418259001, 10418259002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.34	1.1	02/06/18 12:06	
1,1,2,2-Tetrachloroethane	ug/m3	<0.29	0.70	02/06/18 12:06	
1,1,2-Trichloroethane	ug/m3	<0.22	0.56	02/06/18 12:06	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.37	1.6	02/06/18 12:06	
1,1-Dichloroethane	ug/m3	<0.21	0.82	02/06/18 12:06	
1,1-Dichloroethene	ug/m3	<0.24	0.81	02/06/18 12:06	
1,2,4-Trichlorobenzene	ug/m3	<0.96	7.5	02/06/18 12:06	MN
1,2,4-Trimethylbenzene	ug/m3	<0.17	1.0	02/06/18 12:06	
1,2-Dibromoethane (EDB)	ug/m3	<0.33	1.6	02/06/18 12:06	
1,2-Dichlorobenzene	ug/m3	<0.33	1.2	02/06/18 12:06	
1,2-Dichloroethane	ug/m3	<0.20	0.41	02/06/18 12:06	
1,2-Dichloropropane	ug/m3	<0.31	0.94	02/06/18 12:06	
1,3,5-Trimethylbenzene	ug/m3	<0.41	1.0	02/06/18 12:06	
1,3-Butadiene	ug/m3	<0.21	1.1	02/06/18 12:06	MN
1,3-Dichlorobenzene	ug/m3	<0.47	1.2	02/06/18 12:06	
1,4-Dichlorobenzene	ug/m3	<0.22	1.2	02/06/18 12:06	
2-Butanone (MEK)	ug/m3	<0.20	3.0	02/06/18 12:06	
2-Hexanone	ug/m3	<0.61	4.2	02/06/18 12:06	
2-Propanol	ug/m3	<1.2	2.5	02/06/18 12:06	
4-Ethyltoluene	ug/m3	<0.21	1.0	02/06/18 12:06	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.36	4.2	02/06/18 12:06	
Acetone	ug/m3	<1.5	2.4	02/06/18 12:06	
Benzene	ug/m3	<0.15	0.32	02/06/18 12:06	
Benzyl chloride	ug/m3	<0.24	1.0	02/06/18 12:06	
Bromodichloromethane	ug/m3	<0.36	1.4	02/06/18 12:06	
Bromoform	ug/m3	<0.69	2.1	02/06/18 12:06	
Bromomethane	ug/m3	<0.21	0.79	02/06/18 12:06	
Carbon disulfide	ug/m3	<0.18	0.63	02/06/18 12:06	
Carbon tetrachloride	ug/m3	<0.32	0.64	02/06/18 12:06	
Chlorobenzene	ug/m3	<0.18	0.94	02/06/18 12:06	
Chloroethane	ug/m3	<0.20	1.3	02/06/18 12:06	MN
Chloroform	ug/m3	<0.23	0.50	02/06/18 12:06	
Chloromethane	ug/m3	<0.13	0.42	02/06/18 12:06	
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	02/06/18 12:06	
cis-1,3-Dichloropropene	ug/m3	<0.24	0.92	02/06/18 12:06	
Cyclohexane	ug/m3	<0.23	0.70	02/06/18 12:06	
Dibromochloromethane	ug/m3	<0.44	1.7	02/06/18 12:06	
Dichlorodifluoromethane	ug/m3	<0.42	1.0	02/06/18 12:06	
Dichlorotetrafluoroethane	ug/m3	<0.44	1.4	02/06/18 12:06	
Ethanol	ug/m3	<0.46	1.9	02/06/18 12:06	MN
Ethyl acetate	ug/m3	<0.20	0.73	02/06/18 12:06	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6546 Band Box

Pace Project No.: 10418259

METHOD BLANK: 2831502

Matrix: Air

Associated Lab Samples: 10418259001, 10418259002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/m3	<0.17	0.88	02/06/18 12:06	
Hexachloro-1,3-butadiene	ug/m3	<0.87	2.2	02/06/18 12:06	
m&p-Xylene	ug/m3	<0.35	1.8	02/06/18 12:06	
Methyl-tert-butyl ether	ug/m3	<0.67	3.7	02/06/18 12:06	
Methylene Chloride	ug/m3	<1.5	3.5	02/06/18 12:06	
n-Heptane	ug/m3	<0.21	0.83	02/06/18 12:06	
n-Hexane	ug/m3	<0.33	0.72	02/06/18 12:06	
Naphthalene	ug/m3	<0.60	2.7	02/06/18 12:06	
o-Xylene	ug/m3	<0.37	0.88	02/06/18 12:06	
Propylene	ug/m3	<0.16	0.35	02/06/18 12:06	
Styrene	ug/m3	<0.17	0.87	02/06/18 12:06	
Tetrachloroethene	ug/m3	<0.29	0.69	02/06/18 12:06	
Tetrahydrofuran	ug/m3	<0.27	0.60	02/06/18 12:06	
Toluene	ug/m3	<0.16	0.77	02/06/18 12:06	
trans-1,2-Dichloroethene	ug/m3	<0.30	0.81	02/06/18 12:06	
trans-1,3-Dichloropropene	ug/m3	<0.42	0.92	02/06/18 12:06	
Trichloroethene	ug/m3	<0.27	0.55	02/06/18 12:06	
Trichlorofluoromethane	ug/m3	<0.42	1.1	02/06/18 12:06	
Vinyl acetate	ug/m3	<0.17	0.72	02/06/18 12:06	
Vinyl chloride	ug/m3	<0.13	0.52	02/06/18 12:06	MN

LABORATORY CONTROL SAMPLE: 2831503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	51.7	93	70-135	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	74.0	106	70-146	
1,1,2-Trichloroethane	ug/m3	55.5	58.4	105	70-135	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	82.5	106	63-139	
1,1-Dichloroethane	ug/m3	41.1	45.2	110	70-134	
1,1-Dichloroethene	ug/m3	40.3	46.6	116	70-137	
1,2,4-Trichlorobenzene	ug/m3	75.4	75.1	100	60-133	
1,2,4-Trimethylbenzene	ug/m3	50	43.5	87	70-137	
1,2-Dibromoethane (EDB)	ug/m3	78.1	80.9	104	70-140	
1,2-Dichlorobenzene	ug/m3	61.1	60.1	98	70-137	
1,2-Dichloroethane	ug/m3	41.1	42.2	103	70-136	
1,2-Dichloropropane	ug/m3	47	56.1	119	70-136	
1,3,5-Trimethylbenzene	ug/m3	50	44.6	89	70-133	
1,3-Butadiene	ug/m3	22.5	29.2	130	64-141 CH	
1,3-Dichlorobenzene	ug/m3	61.1	64.9	106	70-137	
1,4-Dichlorobenzene	ug/m3	61.1	63.8	104	70-134	
2-Butanone (MEK)	ug/m3	30	31.5	105	65-143	
2-Hexanone	ug/m3	104	114	110	60-148	
2-Propanol	ug/m3	125	156	125	65-135	
4-Ethyltoluene	ug/m3	50	46.0	92	70-132	

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## QUALITY CONTROL DATA

Project: 6546 Band Box

Pace Project No.: 10418259

LABORATORY CONTROL SAMPLE: 2831503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/m3	104	117	112	70-135	
Acetone	ug/m3	121	137	114	59-132	
Benzene	ug/m3	32.5	33.9	104	70-134	
Benzyl chloride	ug/m3	52.6	56.4	107	56-150	
Bromodichloromethane	ug/m3	68.1	68.2	100	70-142	
Bromoform	ug/m3	105	102	98	69-150	
Bromomethane	ug/m3	39.5	45.5	115	61-141	
Carbon disulfide	ug/m3	31.6	37.3	118	66-134	
Carbon tetrachloride	ug/m3	64	59.3	93	60-145	
Chlorobenzene	ug/m3	46.8	45.3	97	70-130	
Chloroethane	ug/m3	26.8	34.1	127	65-143	
Chloroform	ug/m3	49.6	50.0	101	70-132	
Chloromethane	ug/m3	21	25.5	121	58-140	
cis-1,2-Dichloroethene	ug/m3	40.3	41.0	102	70-136	
cis-1,3-Dichloropropene	ug/m3	46.1	47.7	103	70-136	
Cyclohexane	ug/m3	35	36.7	105	70-133	
Dibromochloromethane	ug/m3	86.6	86.0	99	68-149	
Dichlorodifluoromethane	ug/m3	50.3	47.7	95	69-130	
Dichlorotetrafluoroethane	ug/m3	71	74.1	104	68-130	
Ethanol	ug/m3	91.6	134	146	65-146	CH
Ethyl acetate	ug/m3	36.6	43.6	119	68-136	
Ethylbenzene	ug/m3	44.1	42.7	97	70-133	
Hexachloro-1,3-butadiene	ug/m3	108	88.5	82	59-140	
m&p-Xylene	ug/m3	88.3	81.9	93	70-133	
Methyl-tert-butyl ether	ug/m3	91.6	90.9	99	70-132	
Methylene Chloride	ug/m3	177	228	129	67-132	
n-Heptane	ug/m3	41.6	50.5	121	64-136	
n-Hexane	ug/m3	35.8	41.0	114	70-130	
Naphthalene	ug/m3	53.3	53.9	101	55-136	
o-Xylene	ug/m3	44.1	40.6	92	70-132	
Propylene	ug/m3	17.5	22.2	127	37-150	
Styrene	ug/m3	43.3	44.4	103	70-139	
Tetrachloroethene	ug/m3	68.9	68.4	99	70-133	
Tetrahydrofuran	ug/m3	30	37.8	126	62-141	
Toluene	ug/m3	38.3	35.2	92	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	42.2	105	70-132	
trans-1,3-Dichloropropene	ug/m3	46.1	48.8	106	70-135	
Trichloroethene	ug/m3	54.6	54.4	100	70-135	
Trichlorofluoromethane	ug/m3	57.1	57.3	100	59-140	
Vinyl acetate	ug/m3	35.8	43.8	122	57-150	
Vinyl chloride	ug/m3	26	31.8	122	70-141	

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## QUALITY CONTROL DATA

Project: 6546 Band Box  
Pace Project No.: 10418259

SAMPLE DUPLICATE: 2832398

Parameter	Units	10418297005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.75		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.63		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.49		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<0.80		25	
1,1-Dichloroethane	ug/m3	ND	<0.46		25	
1,1-Dichloroethene	ug/m3	ND	<0.52		25	
1,2,4-Trichlorobenzene	ug/m3	ND	<2.1		25	
1,2,4-Trimethylbenzene	ug/m3	2.7	2.6	1	25	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.73		25	
1,2-Dichlorobenzene	ug/m3	1270	1280	1	25	
1,2-Dichloroethane	ug/m3	ND	<0.43		25	
1,2-Dichloropropane	ug/m3	ND	<0.67		25	
1,3,5-Trimethylbenzene	ug/m3	ND	1.1J		25	
1,3-Butadiene	ug/m3	ND	<0.45		25	
1,3-Dichlorobenzene	ug/m3	120	124	3	25	
1,4-Dichlorobenzene	ug/m3	1320	1300	1	25	
2-Butanone (MEK)	ug/m3	ND	2.1J		25	
2-Hexanone	ug/m3	ND	<1.3		25	
2-Propanol	ug/m3	ND	4.2J		25	
4-Ethyltoluene	ug/m3	ND	<0.47		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<0.78		25	
Acetone	ug/m3	12.0	11.9	1	25	
Benzene	ug/m3	ND	<0.33		25	
Benzyl chloride	ug/m3	ND	<0.51		25	
Bromodichloromethane	ug/m3	ND	<0.78		25	
Bromoform	ug/m3	ND	<1.5		25	
Bromomethane	ug/m3	ND	<0.45		25	
Carbon disulfide	ug/m3	ND	<0.39		25	
Carbon tetrachloride	ug/m3	ND	<0.69		25	
Chlorobenzene	ug/m3	3.9	4.0	2	25	
Chloroethane	ug/m3	ND	<0.44		25	
Chloroform	ug/m3	ND	<0.50		25	
Chloromethane	ug/m3	ND	<0.29		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.74		25	
cis-1,3-Dichloropropene	ug/m3	ND	<0.53		25	
Cyclohexane	ug/m3	ND	<0.49		25	
Dibromochloromethane	ug/m3	ND	<0.96		25	
Dichlorodifluoromethane	ug/m3	2.9	2.8	2	25	
Dichlorotetrafluoroethane	ug/m3	ND	<0.96		25	
Ethanol	ug/m3	8.4	8.5	1	25 CH	
Ethyl acetate	ug/m3	ND	<0.43		25	
Ethylbenzene	ug/m3	ND	0.72J		25	
Hexachloro-1,3-butadiene	ug/m3	ND	<1.9		25	
m&p-Xylene	ug/m3	ND	3.0J		25	
Methyl-tert-butyl ether	ug/m3	ND	<1.5		25	
Methylene Chloride	ug/m3	ND	<3.3		25	
n-Heptane	ug/m3	ND	<0.46		25	

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## QUALITY CONTROL DATA

Project: 6546 Band Box  
Pace Project No.: 10418259

SAMPLE DUPLICATE: 2832398

Parameter	Units	10418297005 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	ND	1.2J		25	
Naphthalene	ug/m3	ND	<1.3		25	
o-Xylene	ug/m3	ND	1.1J		25	
Propylene	ug/m3	ND	<0.34		25	
Styrene	ug/m3	ND	<0.36		25	
Tetrachloroethene	ug/m3	ND	<0.63		25	
Tetrahydrofuran	ug/m3	ND	<0.60		25	
Toluene	ug/m3	3.3	3.1	4	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.64		25	
trans-1,3-Dichloropropene	ug/m3	ND	<0.92		25	
Trichloroethene	ug/m3	ND	<0.58		25	
Trichlorofluoromethane	ug/m3	ND	<0.91		25	
Vinyl acetate	ug/m3	ND	<0.36		25	
Vinyl chloride	ug/m3	ND	<0.27		25	

SAMPLE DUPLICATE: 2832402

Parameter	Units	10418259002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.67	<0.67		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.57	<0.57		25	
1,1,2-Trichloroethane	ug/m3	<0.44	<0.44		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.72	<0.72		25	
1,1-Dichloroethane	ug/m3	<0.42	<0.42		25	
1,1-Dichloroethene	ug/m3	<0.46	<0.46		25	
1,2,4-Trichlorobenzene	ug/m3	<1.9	<1.9		25	
1,2,4-Trimethylbenzene	ug/m3	146	150	3	25	
1,2-Dibromoethane (EDB)	ug/m3	<0.65	<0.65		25	
1,2-Dichlorobenzene	ug/m3	<0.64	<0.64		25	
1,2-Dichloroethane	ug/m3	<0.39	<0.39		25	
1,2-Dichloropropane	ug/m3	<0.60	<0.60		25	
1,3,5-Trimethylbenzene	ug/m3	77.9	80.8	4	25	
1,3-Butadiene	ug/m3	<0.40	<0.40		25	
1,3-Dichlorobenzene	ug/m3	<0.91	<0.91		25	
1,4-Dichlorobenzene	ug/m3	3.8	2.7	32	25 R1	
2-Butanone (MEK)	ug/m3	2.1J	2.1J		25	
2-Hexanone	ug/m3	<1.2	<1.2		25	
2-Propanol	ug/m3	<2.4	<2.4		25	
4-Ethyltoluene	ug/m3	12.2	12.7	4	25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.70	<0.70		25	
Acetone	ug/m3	6.7	6.6	2	25	
Benzene	ug/m3	<0.30	0.72		25	
Benzyl chloride	ug/m3	<0.46	<0.46		25	
Bromodichloromethane	ug/m3	<0.70	<0.70		25	
Bromoform	ug/m3	<1.4	<1.4		25	
Bromomethane	ug/m3	<0.41	<0.41		25	

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## QUALITY CONTROL DATA

Project: 6546 Band Box  
Pace Project No.: 10418259

SAMPLE DUPLICATE: 2832402

Parameter	Units	10418259002 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m <sup>3</sup>	<0.35	<0.35		25	
Carbon tetrachloride	ug/m <sup>3</sup>	<0.62	<0.62		25	
Chlorobenzene	ug/m <sup>3</sup>	<0.35	<0.35		25	
Chloroethane	ug/m <sup>3</sup>	<0.40	<0.40		25	
Chloroform	ug/m <sup>3</sup>	<0.45	<0.45		25	
Chloromethane	ug/m <sup>3</sup>	<0.26	<0.26		25	
cis-1,2-Dichloroethene	ug/m <sup>3</sup>	<0.67	<0.67		25	
cis-1,3-Dichloropropene	ug/m <sup>3</sup>	<0.48	<0.48		25	
Cyclohexane	ug/m <sup>3</sup>	<0.44	17.0		25	
Dibromochloromethane	ug/m <sup>3</sup>	<0.87	<0.87		25	
Dichlorodifluoromethane	ug/m <sup>3</sup>	3.0	3.7	21	25	
Dichlorotetrafluoroethane	ug/m <sup>3</sup>	<0.87	<0.87		25	
Ethanol	ug/m <sup>3</sup>	<0.91	<0.91		25	
Ethyl acetate	ug/m <sup>3</sup>	<0.38	<0.38		25	
Ethylbenzene	ug/m <sup>3</sup>	6.0	<0.34		25	
Hexachloro-1,3-butadiene	ug/m <sup>3</sup>	<1.7	<1.7		25	
m&p-Xylene	ug/m <sup>3</sup>	52.1	53.4	3	25	
Methyl-tert-butyl ether	ug/m <sup>3</sup>	<1.3	<1.3		25	
Methylene Chloride	ug/m <sup>3</sup>	<3.0	<3.0		25	
n-Heptane	ug/m <sup>3</sup>	14.0	14.9	6	25	
n-Hexane	ug/m <sup>3</sup>	1.9	1.9	0	25	
Naphthalene	ug/m <sup>3</sup>	6.1	6.9	12	25	
o-Xylene	ug/m <sup>3</sup>	59.0	60.7	3	25	
Propylene	ug/m <sup>3</sup>	<0.31	<0.31		25	
Styrene	ug/m <sup>3</sup>	<0.33	<0.33		25	
Tetrachloroethene	ug/m <sup>3</sup>	147	152	3	25	
Tetrahydrofuran	ug/m <sup>3</sup>	<0.54	<0.54		25	
Toluene	ug/m <sup>3</sup>	12.7	12.6	1	25	
trans-1,2-Dichloroethene	ug/m <sup>3</sup>	<0.58	<0.58		25	
trans-1,3-Dichloropropene	ug/m <sup>3</sup>	<0.82	<0.82		25	
Trichloroethene	ug/m <sup>3</sup>	<0.53	<0.53		25	
Trichlorofluoromethane	ug/m <sup>3</sup>	<0.82	<0.82		25	
Vinyl acetate	ug/m <sup>3</sup>	<0.33	<0.33		25	
Vinyl chloride	ug/m <sup>3</sup>	<0.25	<0.25		25	

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## QUALIFIERS

Project: 6546 Band Box  
Pace Project No.: 10418259

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

### ANALYTE QUALIFIERS

- |    |   |
|----|---|
| CH | The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.         |
| MN | The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule. |
| R1 | RPD value was outside control limits.   |

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6546 Band Box  
Pace Project No.: 10418259

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10418259001	SS-4	TO-15	521536		
10418259002	SS-1	TO-15	521536		

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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10418259

**Section A**  
Required Client Information:

**Section B**  
Required Project Information:

**Section C**  
Invoice Information:

30899

Page: of

Company: REI  
Address: 4080 N 20th Ave  
Waukesha, WI 54401  
Email To: Brian.Bailey@reengineering.com  
Phone: 715-675-8784  
Requested Due Date/TAT:

Report To: Brian Bailey  
Copy To:  
Purchase Order No.:  
Project Name: Band Box  
Project Number: 6546

Attention: Brian Bailey  
Company Name: REI  
Address: 4080 N 20th Ave.  
Pace Quote Reference:  
Pace Project Manager/Sales Rep.  
Pace Profile #: 34422

Program

UST  Superfund  Emissions  Clean Air Act  
 Voluntary Clean Up  Dry Clean  RCRA  Other

Reporting Units  
Location of Sampling by State \_\_\_\_\_  
ug/m³ mg/m³  
PPBV PPMV  
Other \_\_\_\_\_

Report Level II. III. IV. Other

Method:  
PM10  
SC - Fixed Gas (%)  
TO-3 BETX  
TO-3M (Methane)  
TO-14  
TO-15 Full List VOCs  
TO-15 Short List BETX  
TO-15 Short List Chlorinated  
TO-15 Short List Other

Pace Lab ID  
001  
002

**'Section D Required Client Information**

**AIR SAMPLE ID**

Sample IDs MUST BE UNIQUE

ITEM #

Valid Media Codes  
MEDIA CODE  
Teflon Bag TB  
1 Liter Summa Can 1LC  
6 Liter Summa Can 6LC  
Low Volume Puff LVP  
High Volume Puff HVP  
Other PM10

MEDIA CODE  
PID Reading (Client only)

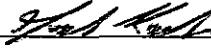
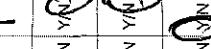
**COLLECTED**

COMPOSITE START COMPOSITE - END/GRAB

DATE TIME DATE TIME

1	SS-4																		
2	SS-1																		
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	1/23/18	4:15PM		1/25/18	12:45	- 
						Y/N Y/N Y/N Y/N Y/N Y/N Y/N
						Y/N Y/N Y/N Y/N Y/N Y/N Y/N
						Y/N Y/N Y/N Y/N Y/N Y/N Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE OF SAMPLER:

DATE Signed (MM / DD / YY)

Temp in °C	Received on ice	Custody Sealed	Samples Intact
Y/N	Y/N	Y/N	Y/N

ORIGINAL



Document Name:  
Air Sample Condition Upon Receipt  
Document No.:  
F-MN-A-106-rev.14

Document Revised: 28Dec2017  
Page 1 of 1  
Issuing Authority:  
Pace Minnesota Quality Office

Air Sample Condition  
Upon Receipt

Client Name:

*REF*

Project #:

WO# : 10418259

Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_

Tracking Number: *747630041165*



10418259

Custody Seal on Cooler/Box Present?  Yes  No Seals Intact?  Yes  No Optional: Proj. Due Date: Proj. Name:

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_ Temp Blank rec:  Yes  No

Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  151401163  
 G87A9#55100847

Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: *RGL/25/18*

Type of ice Received  Blue  Wet  None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Media: <i>Air Can</i> Airbag Filter TDT Passive				11. Individually Certified Cans Y <i>N</i> (list which samples)
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	12.

Samples Received:		Pressure Gauge # 10AIR26							
Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<i>SS-4</i>			-7	5					
<i>-1</i>			-9.5	"					

CLIENT NOTIFICATION/RESOLUTION

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Project Manager Review: *Megan McCalve*

Date: 1/26/18

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

## **APPENDIX C**

### **CPIES OF SVE SYSTEM VAPOR LABORATORY ANALYTICAL RESULTS**



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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-84255-1

Client Project/Site: Band Box, #6546, PCE Analysis

For:

REI Engineering, Inc.

4080 North 20th Avenue

Wausau, Wisconsin 54401

Attn: Mr. Dave Larsen

Authorized for release by:

7/18/2016 12:42:32 PM

Brian Graettinger, Manager of Project Management

(319)277-2401

brian.graettinger@testamericainc.com

### LINKS

Review your project  
results through

TotalAccess

Have a Question?

Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

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.

Unless otherwise noted , analyses included in this report were performed by TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613.

TestAmerica Cedar Falls (Lab ID 101044) is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs (AIHA-LAP),LLC in the industrial hygiene program for the analytical techniques noted on the scope of accreditation for the following methods: NIOSH 0500, NIOSH 0600, NIOSH 1003, NIOSH 1005, NIOSH 1022, NIOSH 1300, NIOSH 1500, NIOSH 1501, NIOSH 1615, OSHA 07, NIOSH 7300, NIOSH 7303 and NIOSH 9102. Volatile Organic Compounds accredited for Solid Sorbent Tubes and 3M Organic Vapor Monitors.

Method Modifications: TestAmerica Cedar Falls performs NIOSH 7300 Elements by ICP with the following method modification – the ashing acid and digestion acid are Nitric Acid (HNO<sub>3</sub>) with no Perchloric Acid (HClO<sub>4</sub>) utilized at any time during the analysis. TestAmerica Cedar Falls performs NIOSH 9102 Elements on Wipes with the following method modification – HNO<sub>3</sub> is used as the digestion acid with no HClO<sub>4</sub> utilized at any time during the analysis.

Unless otherwise noted, all method blanks and laboratory control spikes met method and/or laboratory quality control objectives for the analyses included in this report. Gravimetric analyses are not mathematically adjusted for blank values. Unless otherwise noted, all other sample results have been mathematically adjusted for blank values. The methods utilized for the analyses are fit for the intended use.



---

Brian Graettinger  
Manager of Project Management  
7/18/2016 12:42:32 PM

# Case Narrative

Client: REI Engineering, Inc.

Project/Site: Band Box, #6546, PCE Analysis

TestAmerica Job ID: 310-84255-1

## Job ID: 310-84255-1

Laboratory: TestAmerica Cedar Falls

### Narrative

Job Narrative  
310-84255-1

### Comments

No additional comments.

### Receipt

The sample was received on 7/6/2016 9:25 AM in good condition.

### Industrial Hygiene

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

### Lab Admin

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

## Sample Summary

Client: REI Engineering, Inc.

Project/Site: Band Box, #6546, PCE Analysis

TestAmerica Job ID: 310-84255-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-84255-1	Off-Gas	Air	06/17/16 16:40	07/06/16 09:25

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TestAmerica Cedar Falls

# Client Sample Results

Client: REI Engineering, Inc.

TestAmerica Job ID: 310-84255-1

Project/Site: Band Box, #6546, PCE Analysis

## Client Sample ID: Off-Gas

Lab Sample ID: 310-84255-1

Date Collected: 06/17/16 16:40

Matrix: Air

Date Received: 07/06/16 09:25

Sample Air Volume: 3 L

Sample Container: IH - Coconut Shell Charcoal Tube, 150 mg

### Method: 1003 Sum - NIOSH Method 1003 (Modified)

Analyte	Result ug/Sample	Result mg/m3	Result ppm	Qualifier	RL ug/Sample	Analyzed 07/18/16 11:07	Dil Fac 1	Analyst JCM
	<20	<6.8	<1.0		20			
Tetrachloroethene								

TestAmerica Cedar Falls

# Certification and Definitions Summary

Client: REI Engineering, Inc.

TestAmerica Job ID: 310-84255-1

Project/Site: Band Box, #6546, PCE Analysis

## Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-16
Illinois	NELAP	5	200024	11-29-16
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-15 *
Minnesota	NELAP	5	019-999-319	12-31-16
Minnesota (Petrofund)	State Program	1	3349	08-22-16
North Dakota	State Program	8	R-186	09-29-16
Oregon	NELAP	10	IA100001	09-29-16

## 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 renewal pending - certification considered valid.

## Method Summary

Client: REI Engineering, Inc.

Project/Site: Band Box, #6546, PCE Analysis

TestAmerica Job ID: 310-84255-1

Method	Method Description	Protocol	Laboratory
1003 Sum	NIOSH Method 1003 (Modified)	NIOSH	TAL CF

**Protocol References:**

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

704 Enterprise Drive • Cedar Falls, IA 50613

Tel 319-277-2401 • Fax 319-277-2425

## IH Sample Receipt Form

Client: REI Engineering Project: Band Box

City: Wausau, WI

Date: 7-06-16 Receiver's Initials: GL Time (Delivered): 9:25

COC completed correctly?  Yes  No  
(Cite inconsistencies below)

### Sample Checklist (Mark non-conformance or acceptance)

Received Broken	Information Missing
Improper Media	Missing Sample
Missing Label	Sample Past Hold Date
Temperature	Extra Sample
COC Discrepancy	Insufficient Sample Volume
Other:	

The samples, as received, are acceptable for analysis

### Couriers

UPS	TA Courier
<input checked="" type="checkbox"/>	FedEx
<input checked="" type="checkbox"/>	FedEx Ground
<input type="checkbox"/>	USPS
<input type="checkbox"/>	Spee-Dee

<input checked="" type="checkbox"/>	Samples not received in a cooler
<input checked="" type="checkbox"/>	Temperature not taken

Reviewed by: SL Date: 7/6/16

*SL*  
*7/6/16*

Comments the

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-86399-1

Client Project/Site: Band Box, #6546

For:

REI Engineering, Inc.

4080 North 20th Avenue

Wausau, Wisconsin 54401

Attn: Mr. Dave Larsen



Authorized for release by:

8/15/2016 12:53:39 PM

Brian Graettinger, Manager of Project Management

(319)277-2401

brian.graettinger@testamericainc.com

### LINKS

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results through

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Have a Question?

Ask  
The  
Expert

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

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.

Unless otherwise noted, analyses included in this report were performed by TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613.

TestAmerica Cedar Falls (Lab ID 101044) is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs (AIHA-LAP),LLC in the industrial hygiene program for the analytical techniques noted on the scope of accreditation for the following methods: NIOSH 0500, NIOSH 0600, NIOSH 1003, NIOSH 1005, NIOSH 1022, NIOSH 1300, NIOSH 1500, NIOSH 1501, NIOSH 1615, OSHA 07, NIOSH 7303 and NIOSH 9102. Volatile Organic Compounds accredited for Solid Sorbent Tubes and 3M Organic Vapor Monitors.

Method Modifications: TestAmerica Cedar Falls performs NIOSH 9102 Elements on Wipes with the following method modification – HNO<sub>3</sub> is used as the digestion acid with no HClO<sub>4</sub> utilized at any time during the analysis.

Unless otherwise noted, all method blanks and laboratory control spikes met method and/or laboratory quality control objectives for the analyses included in this report. Gravimetric analyses are not mathematically adjusted for blank values. Unless otherwise noted, all other sample results have been mathematically adjusted for blank values. The methods utilized for the analyses are fit for the intended use.



---

Brian Graettinger  
Manager of Project Management  
8/15/2016 12:53:39 PM

# Case Narrative

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-86399-1

## Job ID: 310-86399-1

Laboratory: TestAmerica Cedar Falls

### Narrative

Job Narrative  
310-86399-1

### Comments

No additional comments.

### Receipt

The sample was received on 8/4/2016 8:55 AM in good condition.

### Industrial Hygiene

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

### Lab Admin

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

## Sample Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-86399-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-86399-1	Off-Gas	Air	07/15/16 16:25	08/04/16 08:55

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TestAmerica Cedar Falls

# Client Sample Results

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-86399-1

**Client Sample ID: Off-Gas**  
**Date Collected: 07/15/16 16:25**  
**Date Received: 08/04/16 08:55**  
**Sample Air Volume: 3 L**

**Lab Sample ID: 310-86399-1**

Matrix: Air

**Sample Container: IH - Coconut Shell Charcoal Tube, 150 mg**

**Method: 1003 Sum - NIOSH Method 1003 (Modified)**

Analyte	Result ug/Sample	Result mg/m3	Result ppm	Qualifier	RL	Analyzed	Dil Fac	Analyst
	<20	<6.8	<1.0		20			
Tetrachloroethene								

TestAmerica Cedar Falls

# Certification and Definitions Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-86399-1

## Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-16
Illinois	NELAP	5	200024	11-29-16
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-16 *
Minnesota	NELAP	5	019-999-319	12-31-16
Minnesota (Petrofund)	State Program	1	3349	08-22-16
North Dakota	State Program	8	R-186	09-29-16
Oregon	NELAP	10	IA100001	09-29-16

## 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 renewal pending - certification considered valid.

## Method Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-86399-1

Method	Method Description	Protocol	Laboratory
1003 Sum	NIOSH Method 1003 (Modified)	NIOSH	TAL CF

**Protocol References:**

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

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310-86399 Chain of Custody

Ph: 1-800-750-2401 or (319) 277-2401

Fax: (319) 277-2425

www.testamericainc.com

Page: 1 of 1Sampler: DLProject Name: Band BoxProject No.: 6546

P.O. #:

Lab Number (Internal use Only)	Date Sampled	Sample Identification	Media Type (Filter, Tube, Passive Monitor)	Analysis Method(s)/Analytes(s)	Passive Monitor Time (Minutes)	Air Volume (Liters)	Pump ID
	<u>7/15/16</u> <u>4:25pm</u>	<u>off-GAS</u>		<u>PCP</u>		<u>3L</u>	

**Sample Receipt****Reporting/Deliverables****Turn Around Time Requested**

Temperature _____ °C	Hardcopy Results: Yes _____ No _____	Next Day by 6pm _____ 2 Business Days _____
Sample Seals: Yes _____ No _____	E-Mail Results: Yes _____ No _____	3 Business Days _____ 4 Business Days _____
Sample Seals Intact: Yes _____ No _____	EDD: Yes _____ No _____ Type: _____	Standard 5 Business Days _____
Total # of Samples: _____	Data Package: Standard Level II: _____ Level III: _____ Level IV: _____	RUSH Charges Authorized _____ Yes _____ No _____ Subject to scheduling and availability (RUSH surcharges apply)

Instructions / Special Requirements:

Date	Time	Samples Relinquished By	Received By
<u>8-8-16</u>	<u>8:45 am</u>	<u>David Larsen</u>	<u>David Dalle</u> UPS <u>Ground</u> <u>855</u> <u>8/4/16</u>

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
704 Enterprise Drive • Cedar Falls, IA 50613  
Tel 319-277-2401 • Fax 319-277-2425

## TestAmerica Sample Receipt Form – Industrial Hygiene Cedar Falls Facility

Client: REI Project: \_\_\_\_\_

City: \_\_\_\_\_

Date: 8/4/16 Receiver's Initials: SL Time (Delivered): 855

COC completed correctly?  Yes  No  
(Cite inconsistencies below)

### Sample Checklist (Mark non-conformance or acceptance)

Received Broken	Information Missing
Improper Media	Missing Sample
Missing Label	Sample Past Hold Date
Temperature	Extra Sample
COC Discrepancy	Insufficient Sample Volume
Other:	

### Couriers

<input checked="" type="checkbox"/> UPS	<input checked="" type="checkbox"/> Ground	TA Courier
<input type="checkbox"/> FedEx		Client
<input type="checkbox"/> FedEx Ground		Other:
<input type="checkbox"/> USPS		
<input type="checkbox"/> Spee-Dee		

The samples are acceptable for analysis

Reviewed by: SL Date: 8/4/16

<input type="checkbox"/>	Samples not received in a cooler
<input type="checkbox"/>	Temperature not taken

Comments SL

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-88146-1

Client Project/Site: Band Box, #6546

For:

REI Engineering, Inc.

4080 North 20th Avenue

Wausau, Wisconsin 54401

Attn: Mr. Dave Larsen



Authorized for release by:

9/9/2016 11:13:08 AM

Brian Graettinger, Manager of Project Management

(319)277-2401

brian.graettinger@testamericainc.com

### LINKS

Review your project  
results through

TotalAccess

Have a Question?

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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.

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Method Modifications: TestAmerica Cedar Falls performs NIOSH 9102 Elements on Wipes with the following method modification – HNO<sub>3</sub> is used as the digestion acid with no HClO<sub>4</sub> utilized at any time during the analysis.

Unless otherwise noted, all method blanks and laboratory control spikes met method and/or laboratory quality control objectives for the analyses included in this report. Gravimetric analyses are not mathematically adjusted for blank values. Unless otherwise noted, all other sample results have been mathematically adjusted for blank values. The methods utilized for the analyses are fit for the intended use.



---

Brian Graettinger  
Manager of Project Management  
9/9/2016 11:13:08 AM

# Case Narrative

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-88146-1

**Job ID: 310-88146-1**

**Laboratory: TestAmerica Cedar Falls**

## Narrative

**Job Narrative  
310-88146-1**

## Comments

No additional comments.

## Receipt

The sample was received on 8/30/2016 9:15 AM in good condition.

## Industrial Hygiene

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

## Lab Admin

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

## Sample Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-88146-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-88146-1	Off-Gas	Air	08/15/16 07:45	08/30/16 09:15

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TestAmerica Cedar Falls

# Client Sample Results

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-88146-1

**Client Sample ID: Off-Gas**  
**Date Collected: 08/15/16 07:45**  
**Date Received: 08/30/16 09:15**  
**Sample Air Volume: 3 L**

**Lab Sample ID: 310-88146-1**

Matrix: Air

**Sample Container: IH - Coconut Shell Charcoal Tube, 150 mg**

**Method: 1003 Sum - NIOSH Method 1003 (Modified)**

Analyte	Result ug/Sample	Result mg/m3	Result ppm	Qualifier	RL	Analyzed	Dil Fac	Analyst
	<20	<6.8	<1.0		20			
Tetrachloroethene								

TestAmerica Cedar Falls

# Certification and Definitions Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-88146-1

## Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-16
Illinois	NELAP	5	200024	11-29-16
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-17
Minnesota	NELAP	5	019-999-319	12-31-16
Minnesota (Petrofund)	State Program	1	3349	08-22-16 *
North Dakota	State Program	8	R-186	09-29-16
Oregon	NELAP	10	IA100001	09-29-16

## 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 renewal pending - certification considered valid.

## Method Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-88146-1

Method	Method Description	Protocol	Laboratory
1003 Sum	NIOSH Method 1003 (Modified)	NIOSH	TAL CF

**Protocol References:**

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

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310-88146 Chain of Custody

Fax: (319) 277-2425

www.testamericainc.com

Page: 1 of 1

Sampler: DL

Project Name: Band Box

## Laboratory Chain of Custody Form

Send Report To: David Larsen

Send Invoice To: David Larsen

Company: REI Engineering, Inc.

Address: 4080 N 20th Avenue

City, State, Zip: Wausau, WI 54401

Phone: 715-675-9784 Fax: Email Address: dlarsen@reiengineering.com

Project No.: 10546 P.O. #:

Lab Number (Internal use Only)	Date Sampled	Sample Identification	Media Type (Filter, Tube, Passive Monitor)	Analysis Method(s)/Analytes(s)	Passive Monitor Time (Minutes)	Air Volume (Liters)	Pump ID
	8/15/16 7:45 AM	OFF-GAS		SH PCP		3L	

Sample Receipt	Reporting/Deliverables	Turn Around Time Requested
Temperature _____ °C	Hardcopy Results: Yes _____ No _____	Next Day by 6pm _____ 2 Business Days _____
Sample Seals: Yes _____ No _____	E-Mail Results: Yes _____ No _____	3 Business Days _____ 4 Business Days _____
Sample Seals Intact: Yes _____ No _____	EDD: Yes _____ No _____ Type: _____	Standard 5 Business Days _____
Total # of Samples: _____	Data Package: Standard Level II: _____ Level III: _____ Level IV: _____	RUSH Charges Authorized _____ Yes _____ No _____ Subject to scheduling and availability (RUSH surcharges apply)

Instructions / Special Requirements:

Date	Time	Samples Relinquished By	Received By
9/20/16	9:00 AM		David Larsen 8-30-16 915

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

704 Enterprise Drive • Cedar Falls, IA 50613

Tel 319-277-2401 • Fax 319-277-2425

## IH Sample Receipt Form

Client: REI Engineering Project: \_\_\_\_\_

City: \_\_\_\_\_

Date: 8-30-16 Receiver's Initials: KP Time (Delivered): 915

COC completed correctly?  Yes  No  
(Cite inconsistencies below)

### Sample Checklist (Mark non-conformance or acceptance)

Received Broken	Information Missing
Improper Media	Missing Sample
Missing Label	Sample Past Hold Date
Temperature	Extra Sample
COC Discrepancy	Insufficient Sample Volume
Other:	

The samples, as received, are acceptable for analysis

### Couriers

<input checked="" type="checkbox"/> UPS	TA Courier
<input type="checkbox"/> FedEx	Client
<input type="checkbox"/> FedEx Ground	Other:
<input type="checkbox"/> USPS	
<input type="checkbox"/> Spee-Dee	

<input checked="" type="checkbox"/> Samples not received in a cooler
<input checked="" type="checkbox"/> Temperature not taken

Reviewed by: SLR Date: 8/30/16

Comments SLR

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-90616-1

Client Project/Site: Band Box, #6546

For:

REI Engineering, Inc.

4080 North 20th Avenue

Wausau, Wisconsin 54401

Attn: Mr. Dave Larsen

A handwritten signature in black ink, appearing to read "Brian C. Graettinger".

Authorized for release by:

10/12/2016 9:12:20 AM

Brian Graettinger, Manager of Project Management

(319)277-2401

brian.graettinger@testamericainc.com

### LINKS

Review your project  
results through

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Have a Question?

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Expert

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[www.testamericainc.com](http://www.testamericainc.com)

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.

Unless otherwise noted, analyses included in this report were performed by TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613.

TestAmerica Cedar Falls (Lab ID 101044) is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs (AIHA-LAP),LLC in the industrial hygiene program for the analytical techniques noted on the scope of accreditation for the following methods: NIOSH 0500, NIOSH 0600, NIOSH 1003, NIOSH 1005, NIOSH 1022, NIOSH 1300, NIOSH 1500, NIOSH 1501, NIOSH 1615, OSHA 07, NIOSH 7303 and NIOSH 9102. Volatile Organic Compounds accredited for Solid Sorbent Tubes and 3M Organic Vapor Monitors.

Method Modifications: TestAmerica Cedar Falls performs NIOSH 9102 Elements on Wipes with the following method modification – HNO<sub>3</sub> is used as the digestion acid with no HClO<sub>4</sub> utilized at any time during the analysis.

Unless otherwise noted, all method blanks and laboratory control spikes met method and/or laboratory quality control objectives for the analyses included in this report. Gravimetric analyses are not mathematically adjusted for blank values. Unless otherwise noted, all other sample results have been mathematically adjusted for blank values. The methods utilized for the analyses are fit for the intended use.



---

Brian Graettinger  
Manager of Project Management  
10/12/2016 9:12:20 AM

# Case Narrative

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-90616-1

## Job ID: 310-90616-1

Laboratory: TestAmerica Cedar Falls

### Narrative

Job Narrative  
310-90616-1

### Comments

No additional comments.

### Receipt

The sample was received on 9/30/2016 9:00 AM in good condition.

### Industrial Hygiene

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

### Lab Admin

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

## Sample Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-90616-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-90616-1	Off-Gas	Air	09/14/16 11:55	09/30/16 09:00

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TestAmerica Cedar Falls

# Client Sample Results

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-90616-1

**Client Sample ID: Off-Gas**  
**Date Collected: 09/14/16 11:55**  
**Date Received: 09/30/16 09:00**  
**Sample Air Volume: 3 L**

**Lab Sample ID: 310-90616-1**

Matrix: Air

**Sample Container: IH - Coconut Shell Charcoal Tube, 150 mg**

**Method: 1003 Sum - NIOSH Method 1003 (Modified)**

Analyte	Result ug/Sample	Result mg/m3	Result ppm	Qualifier	RL	Analyzed	Dil Fac	Analyst
	<20	<6.8	<1.0		20			
Tetrachloroethene								

TestAmerica Cedar Falls

# Certification and Definitions Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-90616-1

## Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-17
Illinois	NELAP	5	200024	11-29-16
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-17
Minnesota	NELAP	5	019-999-319	12-31-16
Minnesota (Petrofund)	State Program	1	3349	08-22-17
North Dakota	State Program	8	R-186	09-29-16 *
Oregon	NELAP	10	IA100001	09-29-17

## Glossary

### Abbreviation      These commonly used abbreviations may or may not be present in this report.

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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 renewal pending - certification considered valid.

## Method Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-90616-1

Method	Method Description	Protocol	Laboratory
1003 Sum	NIOSH Method 1003 (Modified)	NIOSH	TAL CF

**Protocol References:**

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401



310-90616 Chain of Custody

Cedar Falls, IA 50613  
Ph: 1-800-750-2401 or (319) 277-2401  
Fax: (319) 277-2425  
[www.testamericainc.com](http://www.testamericainc.com)

Page: 1 of 1

Sampler: DL Project Name: Panel Box Project No.: 6546 P.O. #:

# Laboratory Chain of Custody Form

Send Report To: David Larsen

Send Invoice To: David Larsen

Company: REI Engineering, Inc.

Address: 4080 N 20th Avenue

City, State, Zip: Wausau, WI 54401

Phone: 715-675-9784 Fax: \_\_\_\_\_ Email Address: dlarsen@reengineering.com

Lab Number (Internal use Only)	Date Sampled	Sample Identification	Media Type (Filter, Tube, Passive Monitor)	Analysis Method(s)/Analytes(s)	Passive Monitor Time (Minutes)	Air Volume (Liters)	Pump ID
	<u>9-14-16</u> <u>11:55 AM</u>	<u>off-Gas</u>		<u>PCE</u>		<u>3L</u>	
Sample Receipt	Reporting/Deliverables			Turn Around Time Requested			
Temperature _____ °C	Hardcopy Results: Yes <u>      </u> No <u>      </u>			Next Day by 6pm <u>      </u> 2 Business Days <u>      </u>			
Sample Seals: Yes <u>      </u> No <u>      </u>	E-Mail Results: Yes <u>      </u> No <u>      </u>			3 Business Days <u>      </u> 4 Business Days <u>      </u>			
Sample Seals Intact: Yes <u>      </u> No <u>      </u>	EDD: Yes <u>      </u> No <u>      </u> Type: <u>                </u>			Standard 5 Business Days			
Total # of Samples: _____	Data Package: Standard Level II: <u>                </u> Level III: <u>                </u> Level IV: <u>                </u>			RUSH Charges Authorized <u>      </u> Yes <u>      </u> No <u>      </u> Subject to scheduling and availability (RUSH surcharges apply)			
Instructions / Special Requirements:							
Date	Time	Samples Relinquished By			Received By		
<u>9/14/16</u>	<u>8:45 AM</u>	<u>David Larsen</u>					

Instructions / Special Requirements:

Date	Time	Samples Relinquished By	Received By
<u>9/14/16</u>	<u>8:45 AM</u>	<u>David Larsen</u>	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
704 Enterprise Drive • Cedar Falls, IA 50613  
Tel 319-277-2401 • Fax 319-277-2425

## IH Sample Receipt Form

Client: R21 Project: MERIDIAN

City: WAUSAU WI

Date: 9/30/16 Receiver's Initials: BY Time (Delivered): 0900

COC completed correctly?  Yes  No  
(Cite inconsistencies below)

### Sample Checklist (Mark non-conformance or acceptance)

Received Broken	Information Missing
Improper Media	Missing Sample
Missing Label	Sample Past Hold Date
Temperature	Extra Sample
COC Discrepancy	Insufficient Sample Volume
Other:	

### Couriers

<input checked="" type="checkbox"/> UPS	TA Courier
<input type="checkbox"/> FedEx	Client
<input type="checkbox"/> FedEx Ground	Other:
<input type="checkbox"/> USPS	
<input type="checkbox"/> Spee-Dee	

<input checked="" type="checkbox"/>	Samples not received in a cooler
<input checked="" type="checkbox"/>	Temperature not taken

Reviewed by: SLR Date: 10/3/16

Comments de

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-91250-1

Client Project/Site: Band Box, #6546

For:

REI Engineering, Inc.

4080 North 20th Avenue

Wausau, Wisconsin 54401

Attn: Mr. Dave Larsen



Authorized for release by:

10/12/2016 9:15:36 AM

Brian Graettinger, Manager of Project Management

(319)277-2401

brian.graettinger@testamericainc.com

### LINKS

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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.

Unless otherwise noted, analyses included in this report were performed by TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613.

TestAmerica Cedar Falls (Lab ID 101044) is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs (AIHA-LAP),LLC in the industrial hygiene program for the analytical techniques noted on the scope of accreditation for the following methods: NIOSH 0500, NIOSH 0600, NIOSH 1003, NIOSH 1005, NIOSH 1022, NIOSH 1300, NIOSH 1500, NIOSH 1501, NIOSH 1615, OSHA 07, NIOSH 7303 and NIOSH 9102. Volatile Organic Compounds accredited for Solid Sorbent Tubes and 3M Organic Vapor Monitors.

Method Modifications: TestAmerica Cedar Falls performs NIOSH 9102 Elements on Wipes with the following method modification – HNO<sub>3</sub> is used as the digestion acid with no HClO<sub>4</sub> utilized at any time during the analysis.

Unless otherwise noted, all method blanks and laboratory control spikes met method and/or laboratory quality control objectives for the analyses included in this report. Gravimetric analyses are not mathematically adjusted for blank values. Unless otherwise noted, all other sample results have been mathematically adjusted for blank values. The methods utilized for the analyses are fit for the intended use.



---

Brian Graettinger  
Manager of Project Management  
10/12/2016 9:15:36 AM

# Case Narrative

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-91250-1

**Job ID: 310-91250-1**

**Laboratory: TestAmerica Cedar Falls**

## Narrative

**Job Narrative  
310-91250-1**

## Comments

No additional comments.

## Receipt

The sample was received on 10/10/2016 8:55 AM in good condition.

## Industrial Hygiene

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

## Lab Admin

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

## Sample Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-91250-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-91250-1	Off-Gas	Air	10/04/16 11:40	10/10/16 08:55

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TestAmerica Cedar Falls

# Client Sample Results

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-91250-1

**Client Sample ID: Off-Gas**  
**Date Collected: 10/04/16 11:40**  
**Date Received: 10/10/16 08:55**  
**Sample Air Volume: 3 L**

**Lab Sample ID: 310-91250-1**

Matrix: Air

**Sample Container: IH - Coconut Shell Charcoal Tube, 150 mg**

**Method: 1003 Sum - NIOSH Method 1003 (Modified)**

Analyte	Result ug/Sample	Result mg/m3	Result ppm	Qualifier	RL	Analyzed	Dil Fac	Analyst
	<20	<6.8	<1.0		20			
Tetrachloroethene								

TestAmerica Cedar Falls

# Certification and Definitions Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-91250-1

## Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-16
Georgia	State Program	4	N/A	09-29-17
Illinois	NELAP	5	200024	11-29-16
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-17
Minnesota	NELAP	5	019-999-319	12-31-16
Minnesota (Petrofund)	State Program	1	3349	08-22-17
North Dakota	State Program	8	R-186	09-29-16 *
Oregon	NELAP	10	IA100001	09-29-17

## Glossary

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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 renewal pending - certification considered valid.

## Method Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box, #6546

TestAmerica Job ID: 310-91250-1

Method	Method Description	Protocol	Laboratory
1003 Sum	NIOSH Method 1003 (Modified)	NIOSH	TAL CF

**Protocol References:**

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

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310-91250 Chain of Custody

Cedar Falls, IA 50613  
 Ph: 1-800-750-2401 or (319) 277-2401  
 Fax: (319) 277-2425  
[www.testamericainc.com](http://www.testamericainc.com)

Page: 1 of 1

Sampler: DL Project Name: Band Box Phone: 715-675-9784 Fax: Email Address: [dlarsen@reiengineering.com](mailto:dlarsen@reiengineering.com)

Project No.: 0546 P.O. #: \_\_\_\_\_

Lab Number (Internal use Only)	Date Sampled	Sample Identification	Media Type (Filter, Tube, Passive Monitor)	Analysis Method(s)/Analytes(s)	Passive Monitor Time (Minutes)	Air Volume (Liters)	Pump ID
	10-4-16 11:40 AM	Off-Gas		PCE	-	3L	

Sample Receipt	Reporting/Deliverables	Turn Around Time Requested
Temperature _____ °C	Hardcopy Results: Yes _____ No _____	Next Day by 6pm _____ 2 Business Days _____
Sample Seals: Yes _____ No _____	E-Mail Results: Yes _____ No _____	3 Business Days _____ 4 Business Days _____
Sample Seals Intact: Yes _____ No _____	EDD: Yes _____ No _____ Type: _____	Standard 5 Business Days _____
Total # of Samples: _____	Data Package: Standard Level II: _____ Level III: _____ Level IV: _____	RUSH Charges Authorized Yes _____ No _____ Subject to scheduling and availability (RUSH surcharges apply)

Instructions / Special Requirements:

\_\_\_\_\_

\_\_\_\_\_

Date	Time	Samples Relinquished By	Received By
10/04/16	9:40 AM	<i>[Signature]</i>	<i>[Signature]</i>
10-04-16	855		

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

704 Enterprise Drive • Cedar Falls, IA 50613

Tel 319-277-2401 • Fax 319-277-2425

## IH Sample Receipt Form

Client: Rei Engineering

Project: Band Box

City: Waukesha

Date: 10-07-16 Receiver's Initials: GL Time (Delivered): 855

COC completed correctly?  Yes  No  
(Cite inconsistencies below)

### Sample Checklist (Mark non-conformance or acceptance)

Received Broken	Information Missing
Improper Media	Missing Sample
Missing Label	Sample Past Hold Date
Temperature	Extra Sample
COC Discrepancy	Insufficient Sample Volume
Other:	

The samples, as received, are acceptable for analysis

Reviewed by: SL Date: 10/10/16

### Couriers

<input checked="" type="checkbox"/> UPS	TA Courier
<input type="checkbox"/> FedEx	Client
<input type="checkbox"/> FedEx Ground	Other:
<input type="checkbox"/> USPS	
<input type="checkbox"/> Spee-Dee	

<input checked="" type="checkbox"/> Samples not received in a cooler
<input checked="" type="checkbox"/> Temperature not taken

Comments SL

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Cedar Falls

704 Enterprise Drive

Cedar Falls, IA 50613

Tel: (319)277-2401

TestAmerica Job ID: 310-95368-1

TestAmerica Sample Delivery Group: #6546

Client Project/Site: Band Box - Sparta

For:

REI Engineering, Inc.

4080 North 20th Avenue

Wausau, Wisconsin 54401

Attn: Mr. Dave Larsen



Authorized for release by:

12/21/2016 1:08:10 PM

Brian Graettinger, Manager of Project Management

(319)277-2401

[brian.graettinger@testamericainc.com](mailto:brian.graettinger@testamericainc.com)

### LINKS

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Expert

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Method Modifications: TestAmerica Cedar Falls performs NIOSH 9102 Elements on Wipes with the following method modification – HNO<sub>3</sub> is used as the digestion acid with no HClO<sub>4</sub> utilized at any time during the analysis.

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---

Brian Graettinger  
Manager of Project Management  
12/21/2016 1:08:10 PM

# Case Narrative

Client: REI Engineering, Inc.  
Project/Site: Band Box - Sparta

TestAmerica Job ID: 310-95368-1  
SDG: #6546

## Job ID: 310-95368-1

Laboratory: TestAmerica Cedar Falls

### Narrative

Job Narrative  
310-95368-1

### Comments

No additional comments.

### Receipt

The sample was received on 12/7/2016 9:25 AM in good condition.

### Industrial Hygiene

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

### Lab Admin

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

## Sample Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box - Sparta

TestAmerica Job ID: 310-95368-1  
SDG: #6546

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-95368-1	Off-Gas	Air	11/25/16 13:35	12/07/16 09:25

1

2

3

4

5

6

7

TestAmerica Cedar Falls

# Client Sample Results

Client: REI Engineering, Inc.  
Project/Site: Band Box - Sparta

TestAmerica Job ID: 310-95368-1  
SDG: #6546

## Client Sample ID: Off-Gas

Lab Sample ID: 310-95368-1

Date Collected: 11/25/16 13:35

Matrix: Air

Date Received: 12/07/16 09:25

Sample Air Volume: 3 L

Sample Container: IH - Coconut Shell Charcoal Tube, 150 mg

### Method: 1003 Sum - NIOSH Method 1003 (Modified)

Analyte	Result	Result	Result	RL		Analyzed	Dil Fac	Analyst
	ug/Sample	mg/m3	ppm	Qualifier	ug/Sample			
Tetrachloroethene	<20	<6.8	<1.0		20	12/21/16 12:30	1	JCM

TestAmerica Cedar Falls

# Certification and Definitions Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box - Sparta

TestAmerica Job ID: 310-95368-1  
SDG: #6546

## Laboratory: TestAmerica Cedar Falls

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
AIHA-LAP, LLC	IHLAP		101044	11-01-18
Georgia	State Program	4	N/A	09-29-17
Illinois	NELAP	5	200024	11-29-17
Iowa	State Program	7	007	12-01-17
Kansas	NELAP	7	E-10341	01-31-18
Minnesota	NELAP	5	019-999-319	12-31-16 *
Minnesota (Petrofund)	State Program	1	3349	08-22-17
North Dakota	State Program	8	R-186	09-29-17
Oregon	NELAP	10	IA100001	09-29-17

## 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 renewal pending - certification considered valid.

## Method Summary

Client: REI Engineering, Inc.  
Project/Site: Band Box - Sparta

TestAmerica Job ID: 310-95368-1  
SDG: #6546

Method	Method Description	Protocol	Laboratory
1003 Sum	NIOSH Method 1003 (Modified)	NIOSH	TAL CF

**Protocol References:**

NIOSH = NIOSH Manual Of Analytical Methods, National Institute For Occupational Safety And Health, 4th Edition, August 1994.

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



310-95368 Chain of Custody

## Laboratory Chain of Custody Form

Send Report To: David LarsenSend Invoice To: David LarsenCompany: REI Engineering, Inc.Address: 4080 N 20th AvenueCity, State, Zip: Wausau, WI 54401Page: 1 of 1Phone: 715-675-9784 Fax: \_\_\_\_\_ Email Address: dlarsen@reiengineering.comSampler: DLProject Name: Bond Box - Sparta Project No.: 6546 P.O. #: \_\_\_\_\_

Lab Number (Internal use Only)	Date Sampled	Sample Identification	Media Type (Filter, Tube, Passive Monitor)	Analysis Method(s)/Analytes(s)	Passive Monitor Time (Minutes)	Air Volume (Liters)	Pump ID
	11/25/16 1:35pm	1fl - Gas		PCE		3L	

### Sample Receipt

### Reporting/Deliverables

### Turn Around Time Requested

Temperature _____ °C	Hardcopy Results: Yes _____ No _____	Next Day by 6pm _____ 2 Business Days _____
Sample Seals: Yes _____ No _____	E-Mail Results: Yes _____ No _____	3 Business Days _____ 4 Business Days _____
Sample Seals Intact: Yes _____ No _____	EDD: Yes _____ No _____ Type: _____	Standard 5 Business Days _____
Total # of Samples: _____	Data Package: Standard Level II: _____ Level III: _____ Level IV: _____	RUSH Charges Authorized _____ Yes _____ No _____ Subject to scheduling and availability (RUSH surcharges apply)

Instructions / Special Requirements:

Date	Time	Samples Relinquished By	Received By
12/5/16	1:37 pm	<u>DL</u>	
12-7-16	9:25		<u>Yenna Leif</u>

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

704 Enterprise Drive • Cedar Falls, IA 50613

Tel 319-277-2401 • Fax 319-277-2425

## IH Sample Receipt Form

Client: REI Engineering Project: Band Box -

City: Wausau WI

Date: 12-07-16 Receiver's Initials: GL Time (Delivered): 925

COC completed correctly?  Yes  No  
(Cite Inconsistencies below)

### Sample Checklist (Mark non-conformance or acceptance)

Received Broken	Information Missing
Improper Media	Missing Sample
Missing Label	Sample Past Hold Date
Temperature	Extra Sample
COC Discrepancy	Insufficient Sample Volume
Other:	

The samples, as received, are acceptable for analysis

### Couriers

<input checked="" type="checkbox"/>	UPS	TA Courier
<input type="checkbox"/>	FedEx	Client
<input type="checkbox"/>	FedEx Ground	Other:
<input type="checkbox"/>	USPS	
<input type="checkbox"/>	Spee-Dee	

<input checked="" type="checkbox"/>	Samples not received in a cooler
<input checked="" type="checkbox"/>	Temperature not taken

Reviewed by: BCW Date: 12/7/16

### Comments

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