<u>I M P O R T A N T</u>

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GILES ENGINEERING ASSOCIATES, INC.







GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

Atlanta, GA
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• Manassas, VA

Milwaukee, WI

December 6, 2017

Wisconsin Department of Natural Resources 2984 Shawano Avenue Green Bay, WI 54313-6727

Attention: Mr. Robert Klauk

Subject: Site Investigation Report Addendum Smoke-Out Cleaners 1631 Brookfield Avenue, Unit D-4 Howard, Wisconsin BRRTS No. 02-05-552214 Giles Project No. 1E-1105023

Dear Mr. Klauk:

Giles Engineering Associates, Inc. (Giles) has prepared this Site Investigation (SI) Report Addendum for the Smoke-Out Cleaners (Site), located at 1631 Brookfield Avenue Unit D-4, in the Village of Howard, Brown County, Wisconsin. This addendum summarizes the activities conducted since the submittal of the Site Investigation Report (dated August 31, 2017). The numbering system used for the figures and tables in this addendum is a continuation of the system used in the SI report, and only new or updated figures and tables are included.

ADDITIONAL INVESTIGATIVE ACTIVITIES

Following receipt of the Site Investigation report, the Wisconsin Department of Natural Resources (WDNR) project manager contacted Giles and indicated that indoor air sampling was needed to complete the site investigation. The WDNR also requested that an additional subslab vapor sampling event be conducted. Giles outlined the additional investigative activities in the Request for Approval of Change in Scope (Change Order No. 04, dated October 5, 2017), which was approved by the WDNR. In addition to the indoor air and sub-slab sampling, groundwater elevations were measured in the monitoring wells, and a missing well cover was replaced.

Giles conducted the additional investigative field activities on October 25, 2017. Two eight-hour indoor air samples, IA-1 and IA-2, were collected in the office areas of Smoke-Out Cleaners and the south adjoining Badger Scale, respectively (Figure 2B). These samples were collected from the breathing zone by placing one end of a 6-foot length of Teflon tubing approximately four feet above the floor and connecting the other end to a negatively-pressured 6-liter Summa canister equipped with a 12.5 milliliter (mL) per minute flow regulator. The regulator valve was opened and air was drawn into the Summa canister for approximately eight hours.

In addition, 30-minute sub-slab soil gas samples were collected from vapor points VP-3 through VP-8 using Summa canisters equipped with 200 mL per minute regulators. The indoor air and

Site Investigation Report Addendum Smoke-Out Cleaners Howard, Wisconsin BRRTS # 02-05-552214 Giles Project No. 1E-1105023 Page 2

sub-slab samples were submitted to Pace Analytical Services, LLC (Pace) for analysis (by EPA Method TO-15) of the six chlorinated volatile organic compounds (VOCs) previously detected in the sub-slab vapor samples. Giles also measured the depth to water in the on-Site groundwater monitoring wells and piezometer, and replaced a missing flush-mount well cover.

RESULTS

Review of the indoor air sampling results indicates that tetrachloroethene (PCE) and trichloroethene (TCE) were detected in the sample from the Smoke-Out office, IA-1, and PCE was detected in sample IA-2, which was collected in the Badger Scale office. The concentration of PCE in sample IA-1 (Smoke-Out) was above the WDNR Vapor Action Level (VAL) for indoor air at a small commercial property. The indoor air sampling results are summarized in the attached Table 5, and the analytical lab report and chain-of-custody documentation is included as Attachment A.

Between one and four chlorinated VOCs were detected in each of the most recent sub-slab vapor samples from VP-3 through VP-8. The concentration of PCE, which was detected in each of these sub-slab samples, exceeded the Wisconsin Vapor Risk Screening Levels (VRSL) for sub-slab soil gas at a small commercial property in samples collected from VP-4, VP-5, VP-7, and VP-8. In addition, TCE was detected above its VRSL in sub-slab soil gas samples collected from VP-4 and VP-5. These results are generally consistent with the sub-slab soil gas samples collected throughout the site investigation. The sub-slab soil gas results are summarized in the attached Table 2, and on Figure 6. The analytical lab report and chain-of-custody documentation is included as Attachment A.

The depth to groundwater measured on October 25, 2017 ranged from approximately 2.2 to 3.0 feet below ground surface (bgs). Based upon these readings, the groundwater appears to flow to the east. The groundwater elevation data is presented in Table 4, and a groundwater flow map based upon the October 25, 2017 data is included as Figure 3.

CONCLUSIONS

The following conclusions are provided based upon findings of this additional investigation.

- Review of the indoor air sampling results indicates that PCE and TCE were detected in sample IA-1 collected in the Smoke-Out Cleaners office, and PCE was detected in sample IA-2 from the Badger Scale office. The concentration of PCE in sample IA-1 (Smoke-Out) exceeded the VAL for indoor air at a small commercial property.
- The most recent sub-slab sampling results are generally consistent with the results collected throughout the site investigation. The concentration of PCE, which was detected in each of the most recently collected sub-slab samples, exceeded its VRSL for sub-slab soil gas at a small commercial property in four samples, and TCE was detected above its VRSL in two sub-slab soil gas samples.
- Based upon the most recent depth to groundwater measurements, which ranged from approximately 2.2 and 3.0 feet bgs, the groundwater appears to flow to the east.

Site Investigation Report Addendum Smoke-Out Cleaners Howard, Wisconsin BRRTS # 02-05-552214 Giles Project No. 1E-1105023 Page 3

> It is Giles' opinion that by conducting the additional investigation activities requested by the WDNR, which included indoor air sampling, the site investigation has been completed.

CLOSING

If there are any questions regarding the information contained herein, please contact the undersigned at your convenience.

Very truly yours,

GILES ENGINEERING ASSOCIATES, INC.

Kelly M. Hayden Environmental Scientist II

kin M. Choeus

Stephen M. Owens, P.G. Project Manager

ENCLOSURES:

FIGURES

Figure	2B	Site	Plan

- Figure 4C Groundwater Flow Map (10/25/17)
- Figure 6 Sub-Slab Soil Gas Concentration Map

TABLES

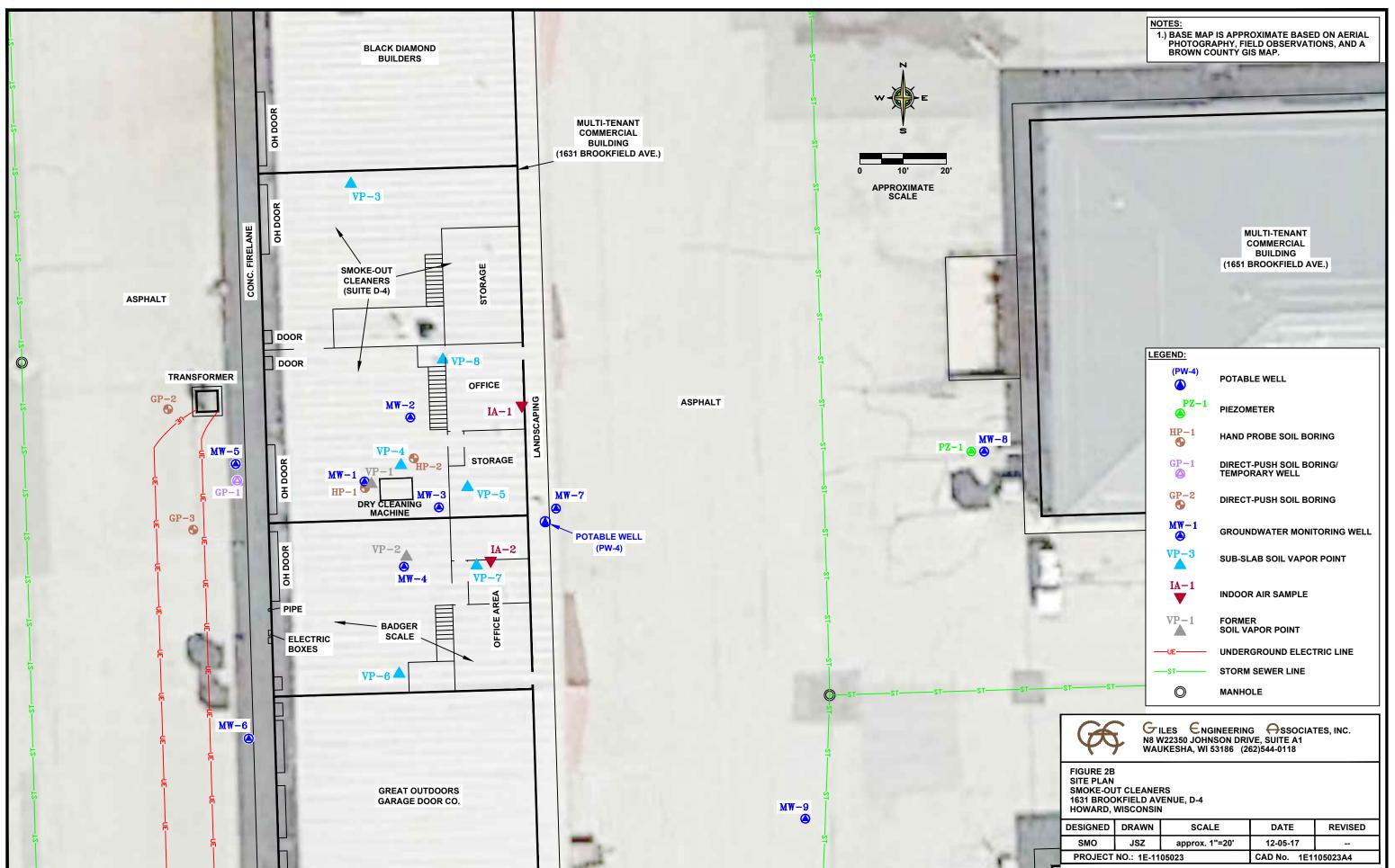
- Table 2Sub-Slab Vapor Analytical Results
- Table 4Groundwater Elevation Summary
- Table 5 Indoor Air Analytical Results

ATTACHMENTS

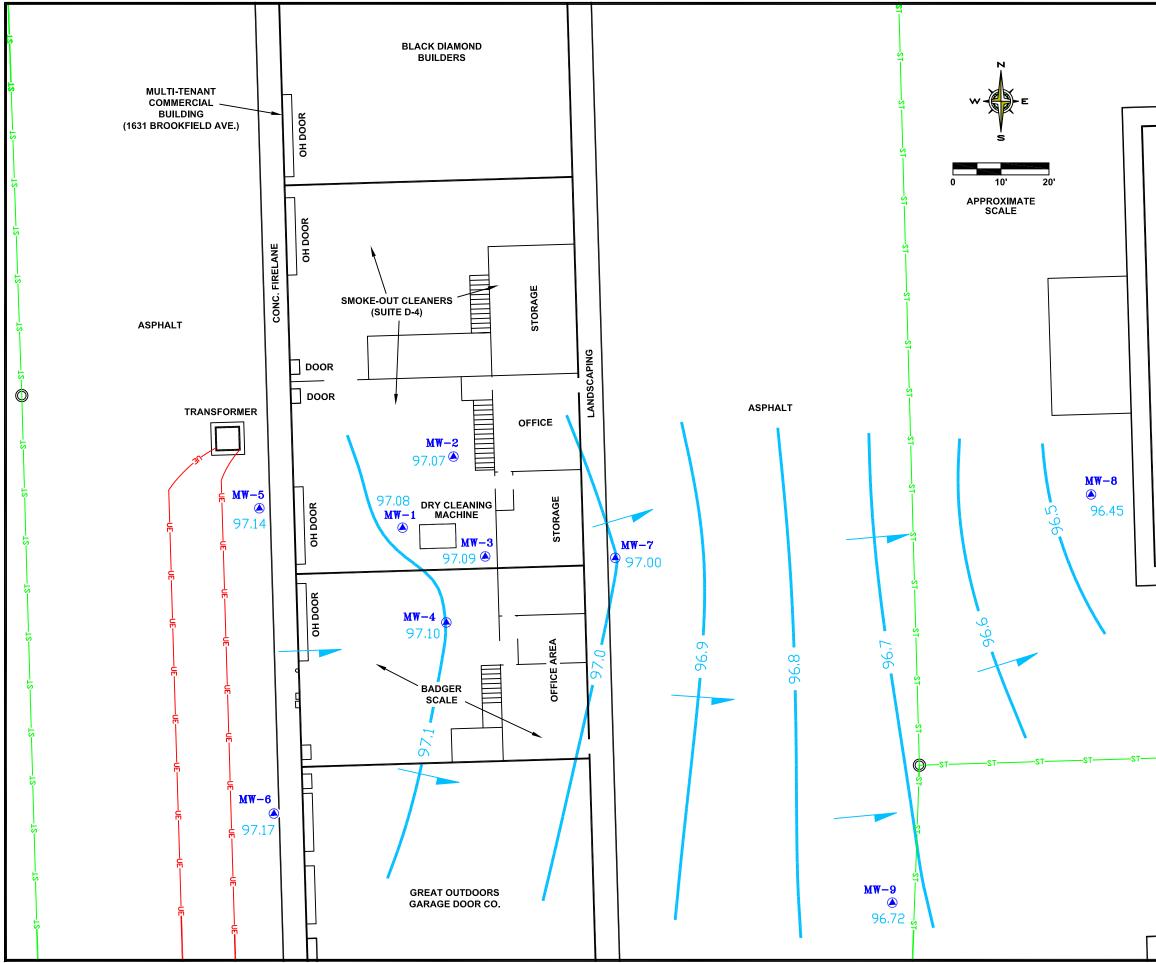
- Attachment A Sub-Slab Vapor and Indoor Air Laboratory Analytical Report & Chain of Custody Documentation
- Distribution: Wisconsin Department of Natural Resources Attn: Mr. Robert Klauk (1 copy via USPS and 1 via email: Robert.Klauk@Wisconsin.gov) Smoke-Out Cleaners, Ltd. Attn: Mr. Mark Woppert (1 copy via email: mark.woppert@smoke-out.net) Team Bay, LLC Attn: Mr. Chris Dockry (1 copy via email: chris@teamselfstorage.com)

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Figures

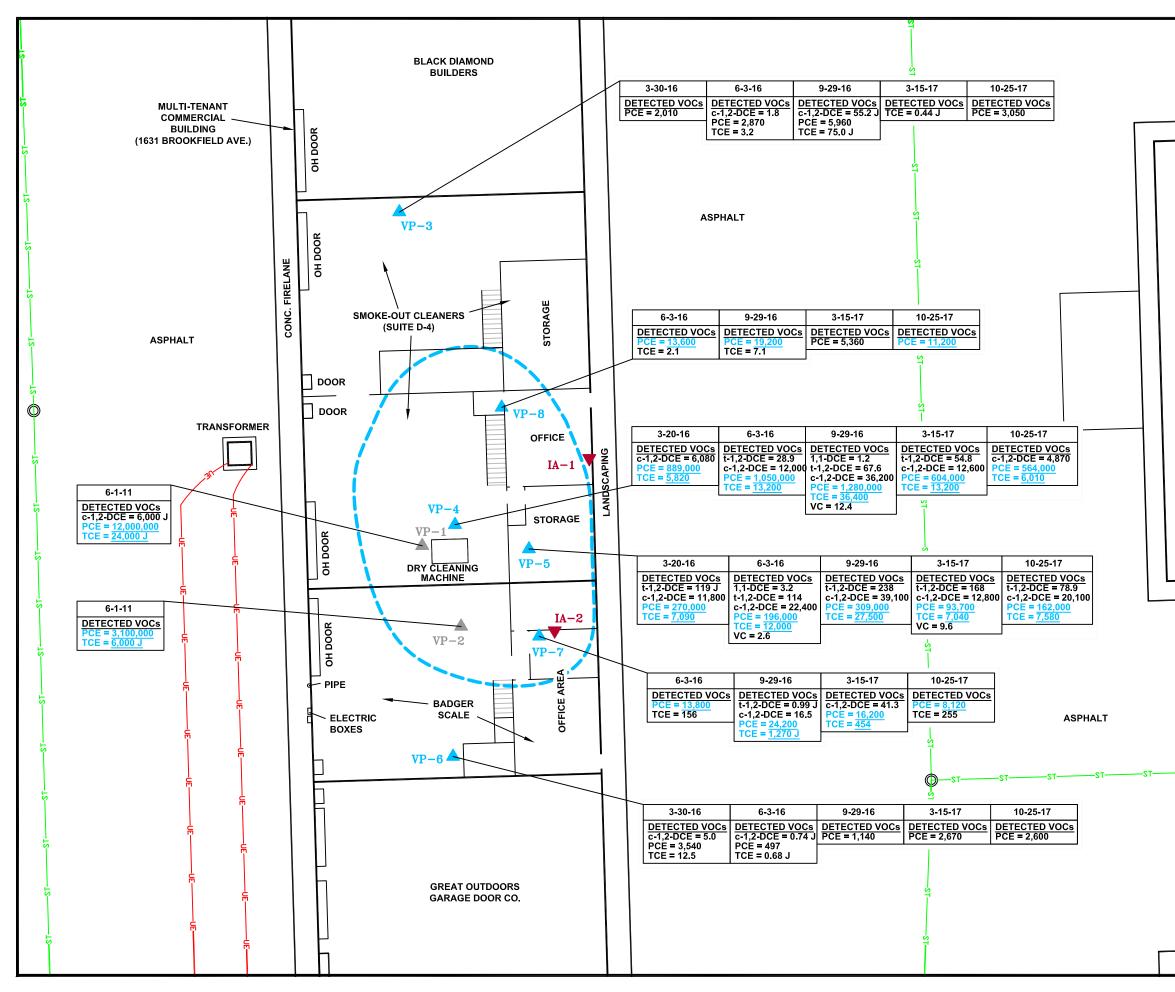


	1631 BROOKFIELD AVENUE, D-4 HOWARD, WISCONSIN									
1	DESIGNED	IED DRAWN SCALE DATE REVI								
	SMO	JSZ	approx. 1"=20'	12-05-17						
	PROJECT	NO.: 1E-11	05023	CAD No. 1E1105023A4						



MULTI-TENANT COMMERCIAL BUILDING (1651 BROOKFIELD AVE.)

	LE	GEND:								
		96,5		IDWATER CONT 'AL = 0.1'	OUR					
	-		GROUN	IDWATER FLOW						
		96.45	GROUNDWATER ELEVATION (IN FEET REFERENCED TO ARBITRARY BENCHMARK)							
	IDWATER MONI									
	-	UE	UNDERGROUND ELECTRIC LINE							
	-	—st——ts—	STORM SEWER LINE							
STST		Ø	MANHC	DLE						
FIGURE 4C GROUNDWATER FLOW MAP (10-25-17) SMOKE-OUT CLEANERS 1631 BROOKFIELD AVENUE, D-4 HOWARD, WISCONSIN										
DESIGNED DRA	WN	SCAL	E	DATE	REVISED					
SMO J:	δZ	approx. 1	"=20'	12-05-17						
PROJECT NO.:	1E-11	05023		CAD No. 1E1	105023K3					





DCE: DICHLOROETHENE PCE: TETRACHLOROETHENE TCE: TRICHLOROETHENE VC: VINYL CHLORIDE

ABBREVIATIONS:

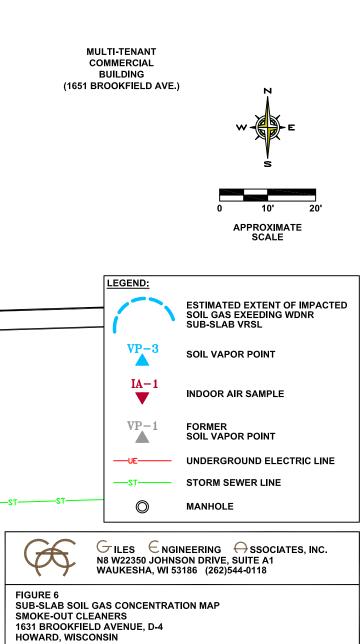
VOCs: VOLATILE ORGANIC COMPOUNDS VRSL: VAPOR RISK SCREENING LEVEL WDNR: WISCONSIN DEPARTMENT OF NATURAL RESOURCES

NOTES:

VOC RESULTS EXPRESSED IN MICROGRAMS PER CUBIC METER (ug/m3)

RESULTS INDICATED IN BLUE / (PARENTHESIS) EXCEED THE WDNR SOIL GAS SUB-SLAB VRSL, FOR SMALL COMMERCIAL

J: CONCENTRATION REPORTED BETWEEN THE LABORATORY METHOD DETECTION LIMIT AND THE REPORTING LIMIT



	DESIGNED	DRAWN	SCALE	DATE	REVISED		
	SMO	JSZ	approx. 1"=20'	12-05-17			
	PROJECT	NO: 1E-11	CAD No. 1E1105023M				
_							

Tables

TABLE 2SUB-SLAB VAPOR ANALYTICAL RESULTS

Smoke-Out Cleaners

1631 Brookfield Avenue, Suite D-4

Howard, Wisconsin

Project No. 1E-1105023

Analyte	Sample Location										WDNR Soil Gas Sub-		
Analyte	VP-1	VP-1 VP-2 VP-3						VP-4					Slab VRSLs ¹ (µg/m ³)
Sample Date	6/1/11	6/1/11	3/30/16	6/3/16	9/29/16	3/15/17	10/25/17	3/30/16	6/3/16	9/29/16	3/15/17	10/25/17	Small Commerical
Detected VOCs (µg/m ³)													
1,1-Dichloroethene	<59,000	<16,000	<0.35	<0.34	<7.1	<0.34	<18.4	<59.0	<0.34	1.2	<6.6	<17.1	29,000
trans-1,2-Dichloroethene	<59,000	<16,000	<0.57	<0.55	<11.4	<0.55	<22.9	<95.2	28.9	67.6	54.8	<21.2	NS
cis-1,2-Dichloroethene	6,000 J	<16,000	<0.37	1.8	55.2 J	<0.35	<26.4	6,080	12,000	36,200	12,600	4,870	NS
Tetrachloroethene	<u>12,000,000</u>	<u>3,100,000</u>	2,010	2,870	5,960	<0.40	3,050	<u>889,000</u>	<u>1,050,000</u>	<u>1,280,000</u>	<u>604,000</u>	<u>564,000</u>	6,000
Trichloroethene	<u>24,000 J</u>	<u>6,000 J</u>	<0.41	3.2	75.0 J	0.44 J	<20.8	<u>5,820</u>	<u>13,200</u>	<u>36,400</u>	<u>13,200</u>	<u>6,010</u>	290
Vinyl chloride	<38,000	<10,000	<0.29	<0.28	<5.8	<0.28	<9.8	<48.4	<0.28	12.4	<5.4	<9.1	930

Notes:

VOCs: Volatile Organic Compounds

µg/m³: Micrograms per cubic meter

J: Analyte detected between its laboratory detection and quantitation limits and the result is estimated.

NS: No Established Standard

<xx.x: Analyte detected below its laboratory limit of detection

xx.x: Analyte detected above VRSL for small commercial buildings with pertinent attenuation factor applied.

¹Wisconsin Department of Natural Resources (WDNR) Vapor Risk Screening Level (VRSL) for sub-slab soil gas with an applied attenuation factor of 0.03 for small commercial buildings (Source: "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin," WDNR Publication RR-800, Update: July 2012)

TABLE 2SUB-SLAB VAPOR ANALYTICAL RESULTS

Smoke-Out Cleaners

1631 Brookfield Avenue, Suite D-4

Howard, Wisconsin

Project No. 1E-1105023

Analyta		Sample Location										
Analyte		VP-5						Slab VRSLs ¹ (µg/m ³)				
Sample Date	3/30/16	6/3/16	9/29/16	3/15/17	10/25/17	3/30/16	6/3/16	9/29/16	3/15/17	10/25/17	Small Commerical	
Detected VOCs (µg/m ³)												
1,1-Dichloroethene	<59.0	3.2	<14.8	<6.9	<17.1	<0.35	<0.35	<0.35	<7.1	<18.4	29,000	
trans-1,2-Dichloroethene	119 J	114	238	168	78.9	<0.57	<0.57	<0.57	<11.4	<22.9	NS	
cis-1,2-Dichloroethene	11,800	22,400	39,100	12,800	20,100	5.0	0.74 J	<0.37	<7.3	<26.4	NS	
Tetrachloroethene	<u>270,000</u>	<u>196,000</u>	<u>309,000</u>	<u>93,700</u>	<u>162,000</u>	3,540	497	1,140	2,670	2,600	6,000	
Trichloroethene	<u>7,090</u>	<u>12,000</u>	<u>27,500</u>	<u>7,040</u>	<u>7,580</u>	12.5	0.68 J	<0.41	<8.2	<20.8	290	
Vinyl chloride	<48.4	2.6	<12.1	9.6	<9.1	<0.29	<0.29	<0.29	<5.8	<9.8	930	

Notes:

VOCs: Volatile Organic Compounds

µg/m3: Micrograms per cubic meter

J: Analyte detected between its laboratory detection and quantitation limits and the result is estimated.

NS: No Established Standard

<xx.x: Analyte detected below its laboratory limit of detection

xx.x: Analyte detected above VRSL for small commercial buildings with pertinent attenuation factor applied.

1Wisconsin Department of Natural Resources (WDNR) Vapor Risk Screening Level (VRSL) for sub-slab soil gas with an applied attenuation factor of 0.03 for small commercial buildings (Source: "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin," WDNR Publication RR-800, Update: July 2012)

TABLE 2 SUB-SLAB VAPOR ANALYTICAL RESULTS

Smoke-Out Cleaners

1631 Brookfield Avenue, Suite D-4

Howard, Wisconsin

Project No. 1E-1105023

Analyte		Sample Location								
Analyte		VP-7				VF	Slab VRSLs ¹ (µg/m ³)			
Sample Date	6/3/16	9/29/16	3/15/17	10/25/17	6/3/16	9/29/16	3/15/17	10/25/17	Small Commerical	
Detected VOCs (µg/m ³)										
1,1-Dichloroethene	<0.38	<0.35	<6.6	<17.7	<0.37	< 0.34	<6.9	<17.7	29,000	
trans-1,2-Dichloroethene	<0.62	0.99 J	<10.7	<22.0	<0.60	<0.55	<11.1	<22.0	NS	
cis-1,2-Dichloroethene	<0.40	16.5	41.3	<25.4	<0.38	<0.35	<7.1	<25.4	NS	
Tetrachloroethene	<u>13,800</u>	<u>24,200</u>	<u>16,200</u>	<u>11,200</u>	<u>13,600</u>	<u>19,200</u>	5,360	<u>11,200</u>	6,000	
Trichloroethene	156	<u>1,270 J</u>	<u>454</u>	<20.0	2.1	7.1	<7.9	<20.0	290	
Vinyl chloride	<0.31	<0.29	<5.4	<9.4	<0.30	<0.28	<5.6	<9.4	930	

Notes:

VOCs: Volatile Organic Compounds

µg/m³: Micrograms per cubic meter

J: Analyte detected between its laboratory detection and quantitation limits and the result is estimated.

NS: No Established Standard

<xx.x: Analyte detected below its laboratory limit of detection

xx.x: Analyte detected above VRSL for small commercial buildings with pertinent attenuation factor applied.

¹Wisconsin Department of Natural Resources (WDNR) Vapor Risk Screening Level (VRSL) for sub-slab soil gas with an applied attenuation factor of 0.03 for small commercial buildings (Source: "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin," WDNR Publication RR-800, Update: July 2012)

TABLE 4

GROUNDWATER ELEVATION SUMMARY

SMOKE-OUT CLEANERS

1631 Brookfield Avenue, Suite D-4 Howard, Wisconsin

Project No. 1E-1105023

Well ID	Elevation (TOC)*	Elevation Ground Surface	Well Depth	Screen Length	Groundwater Depth (TOC)	Calculated Groundwater Elevation	Date Groundwater Gauged
					3.01	96.91	6/1/11
					4.73	95.19	2/10/15
					1.32	98.60	3/31/16
MW-1	99.92	100.07	7.00	5.00	2.76	97.16	5/6/16
10100-1	99.9Z	100.07	7.00	5.00	2.63	97.29	6/2/16
					2.99	96.93	9/28/16
					2.91	97.01	3/15/17
					2.84	97.08	10/25/17
					2.96	97.08	6/1/11
					4.84	95.20	2/10/15
					2.05	97.99	3/31/16
MW-2	100.04	100.13	7.00	5.00	2.88	97.16	5/6/16
					2.76	97.28	6/2/16
					3.16	96.88	9/29/16
					3.06	96.98 97.07	3/15/17
					2.97		10/25/17
					3.00	96.94	6/1/11
					4.76	95.18	2/10/15
					1.97	97.97	3/31/16
MW-3	99.94	100.10	7.00	5.00	2.81	97.13	5/6/16
					2.66	97.28	6/2/16
					3.04 2.95	96.90 96.99	9/28/16 3/15/17
					2.95	97.09	10/25/17
					3.09	96.85	6/1/11
					4.83	95.11	2/10/15
					1.97	97.97	3/31/16
					2.79	97.15	5/6/16
MW-4	99.94	100.11	7.00	5.00	2.73	97.21	6/3/16
					3.08	96.86	9/29/16
					2.92	97.02	3/15/17
					2.84	97.10	10/25/17
					1.32	98.25	3/31/16
					2.33	97.24	5/6/16
		.			2.21	97.36	6/2/16
MW-5	99.57	99.73	6.00	5.00	2.50	97.07	9/28/16
					2.56	97.01	3/14/17
					2.43	97.14	10/25/17
					1.36	98.23	3/31/16
					2.37	97.22	5/6/16
	00.50	00 70	0.50	5 00	2.26	97.33	6/2/16
MW-6	99.59	99.73	6.50	5.00	2.58	97.01	9/28/16
					2.43	97.16	3/14/17
					2.42	97.17	10/25/17
					1.46	98.23	3/31/16
					2.66	97.03	5/6/16
MW-7	99.69	99.81	6.50	5.00	2.60	97.09	6/3/16
10100-1	33.03	33.01	0.00	5.00	2.94	96.75	9/28/16
					2.86	96.83	3/14/17
					2.69	97.00	10/25/17
					2.60	96.64	6/3/16
MW-8	99.24	99.43	6.50	5.00	2.70	96.54	9/28/16
10100-0	55.24	53.75	0.00	5.00	3.02	96.22	3/14/17
					2.79	96.45	10/25/17
					2.06	96.82	6/3/16
	00.00	00.44	6 50	E 00	2.32	96.56	9/28/16
MW-9	98.88	99.11	6.50	5.00	2.39	96.49	3/14/17
					2.16	96.72	10/25/17
<i>4</i> דם	00.47		06.04	E 00	11.61	87.86	3/15/17
PZ-1	99.47	99.57	26.31	5.00	2.74	96.73	10/25/17

Notes:

TOC: Top of Casing

All elevations were recorded in feet and referenced to an arbitrary 100 foot local benchmark (top of concrete at north side of the overhead door to the Smoke-Out unit, west side of the building)

TABLE 5INDOOR AIR ANALYTICAL RESULTSSmoke-Out Cleaners1631 Brookfield Avenue, Suite D-4Howard, WisconsinProject No. 1E-1105023

Analyta	Sample I	_ocation	WDNR Indoor Air		
Analyte	IA-1	IA-2	VAL ¹ (µg/m ³)		
Sample Date	10/25/17	10/25/17	Small Commerical		
Detected VOCs (μg/m ³)					
Tetrachloroethene	<u>3,990</u>	21.8	180		
Trichloroethene	1.1 J	<0.39	8.8		

Notes:

VAL: Vapor Action Level

VOCs: Volatile Organic Compounds

µg/m³: Micrograms per cubic meter

J: Analyte detected between its laboratory detection and quantitation limits and the result is estimated.

NS: No Established Standard

<xx.x: Analyte detected below its laboratory limit of detection

xx.x: Analyte detected above VAL for small commercial buildings

¹Wisconsin Department of Natural Resources (WDNR) Vapor Action Level (VAL) for indoor air for small commercial buildings (Source: "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin," WDNR Publication RR-800, Update: July 2012) **Attachments**



Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

November 06, 2017

Steve Owens Giles Engineering N8 W22350 S. Johnson Drive Waukesha, WI 53186

RE: Project: 1E-1105023 Smoke Out Green Bay Pace Project No.: 10408594

Dear Steve Owens:

Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2017. 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,

Mega Mc Cabe

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

Enclosures





Pace Analytical Services, LLC 1700 Elm Street - Suite 200 Minneapolis, MN 55414 (612)607-1700

CERTIFICATIONS

Project: 1E-1105023 Smoke Out Green Bay Pace Project No.: 10408594

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #:MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322 Massachusetts Certification #: M-MN064

Michigan Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon NwTPH Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DW Certification #: 9952 C West Virginia DEP Certification #: 382 Wisconsin Certification #: 999407970



SAMPLE SUMMARY

Project: 1E-1105023 Smoke Out Green Bay

Pace Project No.: 10408594

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10408594001	VP-3	Air	10/25/17 10:58	10/26/17 09:45
10408594002	VP-4	Air	10/25/17 09:57	10/26/17 09:45
10408594003	VP-5	Air	10/25/17 09:47	10/26/17 09:45
10408594004	VP-6	Air	10/25/17 11:10	10/26/17 09:45
10408594005	VP-7	Air	10/25/17 11:21	10/26/17 09:45
10408594006	VP-8	Air	10/25/17 09:35	10/26/17 09:45
10408594007	IA-1	Air	10/25/17 16:10	10/26/17 09:45
10408594008	IA-2	Air	10/25/17 16:00	10/26/17 09:45



SAMPLE ANALYTE COUNT

Project:1E-1105023 Smoke Out Green BayPace Project No.:10408594

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10408594001	– VP-3	 TO-15	AFV	6
10408594002	VP-4	TO-15	AFV	6
10408594003	VP-5	TO-15	AFV	6
10408594004	VP-6	TO-15	AFV	6
10408594005	VP-7	TO-15	AFV	6
10408594006	VP-8	TO-15	AFV	6
10408594007	IA-1	TO-15	AFV	6
10408594008	IA-2	TO-15	AFV	6



ANALYTICAL RESULTS

Project: 1E-1105023 Smoke Out Green Bay

Pace Project No.: 10408594

Sample: VP-3	Lab ID:	10408594001	Collected	d: 10/25/1	7 10:58	Received: 10	Received: 10/26/17 09:45 Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual		
TO15 MSV AIR	Analytical	Method: TO-15									
1,1-Dichloroethene	<18.4	ug/m3	156	18.4	77.5		11/01/17 17:45	75-35-4			
cis-1,2-Dichloroethene	<26.4	ug/m3	62.8	26.4	77.5		11/01/17 17:45	156-59-2			
trans-1,2-Dichloroethene	<22.9	ug/m3	62.8	22.9	77.5		11/01/17 17:45	156-60-5			
Tetrachloroethene	3050	ug/m3	53.4	22.2	77.5		11/01/17 17:45	127-18-4			
Trichloroethene	<20.8	ug/m3	84.6	20.8	77.5		11/01/17 17:45	79-01-6			
Vinyl chloride	<9.8	ug/m3	40.3	9.8	77.5		11/01/17 17:45	75-01-4			
Sample: VP-4	Lab ID:	10408594002	Collected	d: 10/25/1	7 09:57	Received: 10)/26/17 09:45 M	atrix: Air			
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual		
TO15 MSV AIR	Analytical	Method: TO-15									
1,1-Dichloroethene	<17.1	ug/m3	145	17.1	72		11/01/17 18:08	75-35-4			
cis-1,2-Dichloroethene	4870	ug/m3	58.3	24.6	72			156-59-2			
trans-1,2-Dichloroethene	<21.2	ug/m3	58.3	21.2	72		11/01/17 18:08				
Tetrachloroethene	564000	ug/m3	12700	2650	9216.1		11/03/17 13:15	127-18-4	A3		
Trichloroethene	6010	ug/m3	78.6	19.3	72		11/01/17 18:08				
Vinyl chloride	<9.1	ug/m3	37.4	9.1	72		11/01/17 18:08	75-01-4			
Sample: VP-5	Lab ID:	10408594003	Collected	d: 10/25/1	7 09:47	Received: 10	0/26/17 09:45 M	atrix: Air			
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual		
TO15 MSV AIR	Analytical	Method: TO-15						_			
1,1-Dichloroethene	<17.1	ug/m3	145	17.1	72		11/01/17 18:30	75-35-4			
cis-1,2-Dichloroethene	20100	ug/m3	233	98.2	288		11/02/17 11:39	156-59-2	A3		
trans-1,2-Dichloroethene	78.9	ug/m3	58.3	21.2	72		11/01/17 18:30		110		
Tetrachloroethene	162000	ug/m3	1590	331	1152		11/02/17 23:22		A3		
Trichloroethene	7580	ug/m3	78.6	19.3	72		11/01/17 18:30	-			
Vinyl chloride	<9.1	ug/m3	37.4	9.1	72		11/01/17 18:30	75-01-4			
Sample: VP-6	Lab ID:	10408594004	Collected	d: 10/25/1	7 11:10	Received: 10	0/26/17 09:45 M	atrix: Air			
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual		
TO15 MSV AIR	Analytical	Method: TO-15						_			
1.1-Dichloroethene	<18.4	ug/m3	156	18.4	77.5		11/01/17 18:52	75-35-4			
,	<26.4	ug/m3	62.8	26.4	77.5		11/01/17 18:52				
cis-1 2-Dichloroethene	N6V.T	ug/110	52.0	20.4	11.0		11/01/11 10.02	100 00 2			
		ua/m3	62.8	22.9	77.5		11/01/17 18:52	156-60-5			
cis-1,2-Dichloroethene trans-1,2-Dichloroethene Tetrachloroethene	<22.9 2600	ug/m3 ug/m3	62.8 53.4	22.9 22.2	77.5 77.5		11/01/17 18:52 11/01/17 18:52				

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Pace Project No.:	10408594
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Lab ID:	10408594004	Collected	d: 10/25/1	7 11:10	Received: 10)/26/17 09:45 Ma	atrix: Air	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytica	Method: TO-15							
<9.8	ug/m3	40.3	9.8	77.5		11/01/17 18:52	75-01-4	
Lab ID:	10408594005	Collected	d: 10/25/1	7 11:21	Received: 10)/26/17 09:45 Ma	atrix: Air	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytica	Method: TO-15							
<17.1	ug/m3	145	17.1	72		11/01/17 19:14	75-35-4	
<24.6	ug/m3	58.3	24.6	72		11/01/17 19:14	156-59-2	
<21.2	ug/m3	58.3	21.2	72		11/01/17 19:14	156-60-5	
8120	ug/m3	49.6	20.7	72		11/01/17 19:14	127-18-4	
255	ug/m3	78.6	19.3	72		11/01/17 19:14	79-01-6	
<9.1	ug/m3	37.4	9.1	72		11/01/17 19:14	75-01-4	
Lab ID:	10408594006	Collected	d: 10/25/1	7 09:35	Received: 10	0/26/17 09:45 Ma	atrix: Air	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytica	Method: TO-15							
<17.7	ug/m3	150	17.7	74.5		11/01/17 19:36	75-35-4	
<25.4	0	60.3	25.4	74.5				
<22.0	0	60.3	22.0	74.5		11/01/17 19:36	156-60-5	
11200	-	51.3	21.4	74.5		11/01/17 19:36	127-18-4	
	0		20.0	74.5			79-01-6	
<9.4	ug/m3	38.7	9.4	74.5				
Lab ID:	10408594007	Collected	d: 10/25/1	7 16:10	Received: 10)/26/17 09:45 Ma	atrix: Air	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytica	Method: TO-15							
~0 34	ua/m3	20	0.34	1 44		11/01/17 16-11	75-35-4	
	-							
<0.49	ug/m3	1.2	0.49	1.44		11/01/17 16:11		
	0							Δ3
<0.42 3990 1.1J	ug/m3 ug/m3	199 1.6	41.3 0.39	144 1.44		11/02/17 11:17 11/01/17 16:11	127-18-4	A3
	Results Analytical <9.8	Analytical Method: TO-15 <9.8	Results Units LOQ Analytical Wethod: TO-15 <9.8	Results Units LOQ LOD Analytical Method: TO-15 <9.8	Results Units LOQ LOD DF Analytical Method: TO-15 <9.8	Results Units LOQ LOD DF Prepared Analytical Method: TO-15	Results Units LOQ LOD DF Prepared Analyzed Analytical Method: TO-15 40.3 9.8 77.5 11/01/17 18:52 Lab ID: 10408594005 Collected: 10/25/17 11:21 Received: 10/26/17 09:45 Mailytical Results Units LOQ LOD DF Prepared Analyzed Analytical Method: TO-15 11/01/17 19:14 424.6 ug/m3 58.3 24.6 72 11/01/17 19:14 <21.2	Results Units LOQ LOD DF Prepared Analyzed CAS No. Analytical Method: TO-15 -



ANALYTICAL RESULTS

Project: 1E-1105023 Smoke Out Green Bay

Pace Project No.: 104085

: 1040859	Λ		

Sample: IA-2	Lab ID:	Lab ID: 10408594008			7 16:00	Received: 10	atrix: Air		
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15							
1,1-Dichloroethene	<0.34	ug/m3	2.9	0.34	1.44		11/01/17 16:39	75-35-4	
cis-1,2-Dichloroethene	<0.49	ug/m3	1.2	0.49	1.44		11/01/17 16:39	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.44		11/01/17 16:39	156-60-5	
Tetrachloroethene	21.8	ug/m3	0.99	0.41	1.44		11/01/17 16:39	127-18-4	
Trichloroethene	<0.39	ug/m3	1.6	0.39	1.44		11/01/17 16:39	79-01-6	
Vinyl chloride	<0.18	ug/m3	0.75	0.18	1.44		11/01/17 16:39	75-01-4	



QUALITY CONTROL DATA

Project:	1E-110	5023 Smoke O	ut Green Bay							
Pace Project No.:	10408	594								
QC Batch:	5059	71		Analysis Mo	ethod:	тс	D-15			
QC Batch Method:	TO-1	5		Analysis De		тс	015 MSV AIR	Low Level		
Associated Lab Sar	nples:	10408594001 10408594008		, 10408594003,		04, 10	0408594005,	10408594006,	10408594007,	
METHOD BLANK:	275004	49		Matrix	c: Air					
Associated Lab Sar	nples:	10408594001 10408594008		, 10408594003,	104085940	04, 10	0408594005,	10408594006,	10408594007,	
		10408394008		Blank	Reporti	na				
Parar	neter		Units	Result	Limit	-	Analyzed	l Quali	fiers	
1,1-Dichloroethene			ug/m3	<0.24		2.0	11/01/17 10			
cis-1,2-Dichloroethe	ene		ug/m3	<0.24		2.0 0.81	11/01/17 10			
Tetrachloroethene			ug/m3	<0.29		0.69	11/01/17 10			
trans-1,2-Dichloroet	thene		ug/m3	<0.30		0.81	11/01/17 10			
Trichloroethene			ug/m3	<0.27		1.1	11/01/17 10			
Vinyl chloride			ug/m3	<0.13	3	0.52	11/01/17 10	:30 MN		
LABORATORY COI Parar	-	SAMPLE: 27	50050 Units	Spike Conc.	LCS Result	c	LCS % Rec	% Rec Limits	Qualifiers	
1,1-Dichloroethene			ug/m3	40.3	41.9		104	70-130		
cis-1,2-Dichloroethe	ene		ug/m3	40.3	48.6		121	70-133		
Tetrachloroethene			ug/m3	68.9	78.6		114	70-130		
trans-1,2-Dichloroet	thene		ug/m3	40.3	51.3		127	70-131		
Trichloroethene			ug/m3	54.6	61.0		112	70-130		
Vinyl chloride			ug/m3	26	24.0		92	70-130		
SAMPLE DUPLICA	TE: 27	50951								
-				10408817001	Dup			Max		
Parar	neter		Units	Result	Resu	τ	RPD	RPD	Qualifiers	_
1,1-Dichloroethene			ug/m3	ND		<0.33			25	
cis-1,2-Dichloroethe	ene		ug/m3	ND		<0.47			25	
Tetrachloroethene			ug/m3	NE		<0.40			25	
trans-1,2-Dichloroet	thene		ug/m3	NE		< 0.41			25	
,				NIC	1	-U 32			25	
Trichloroethene Vinyl chloride			ug/m3 ug/m3	NC NC		<0.37			25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1E-1105023 Smoke Out Green Bay

Pace Project No.: 10408594

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.

ANALYTE QUALIFIERS

- A3 The sample was analyzed by serial dilution.
- MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	1E-1105023 Smoke Out Green Bay
Pace Project No .:	10408594

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10408594001	 VP-3	TO-15	505971		
10408594002	VP-4	TO-15	505971		
10408594003	VP-5	TO-15	505971		
10408594004	VP-6	TO-15	505971		
10408594005	VP-7	TO-15	505971		
10408594006	VP-8	TO-15	505971		
10408594007	IA-1	TO-15	505971		
10408594008	IA-2	TO-15	505971		

Pace Analytical www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

Required Client Information: Requ	tion B uired Project Informa	ation:	-	Section		:									÷	2	988	36	Page	: fof	1
Company Eiles Engineering Repo	ort To: Steur	Durens	>	Attention:				-					-	1	Program						
NO W32350	у То:	Company Name:										J UST J	Supe	rfund j	Emiss	ions 🗍	Clean /	- Air Act			
Johnson Drive				Address:										1.	Coluntary	Clean l	Jρ Г с	ry Clean	T RC	RA 🗂	Other
	hase Order No.:		\$	Pace Quo	te Refere	nce:									Location of	<u> </u>		-	Report	ing Units	-
Phone: Fax: O Project	ect Name: Snok	OA.	Green F	Pace Proje	ect Mana	ger/Sales F	lep.								Sampling b	y State			ug/m³ PPBV	mg/m³ PPMV	
Requested Due Date/TAT: 7 day Project	ect Name: Smok	1050	23	Pace Profi	ie #: 🧖	5797	\$0								Report Leve	IJ.	111.	IV.	Other_		
Section D Required Client Information		(Aluo		COLLEC			e (B	a (j)	T					_	Method: /		777	77	7.37	7	
	Bag TB Summa Can 1LC	lient o					Canister Pressure (InIttal Field - In Hg)	Canister Pressure (Final Field - In Hg)		umm	19	İ,	Flow		/	[[/ 3 / Đ	Lei je	/	
Low Val	Summa Can 6LC olume Puff LVP	REDIA CODE PID Reading (Client					r Pr	er Pre		Can			ontrol			S/ /	er la		5/3/		
High Vo E U L	olume Puff HVP PM10	MEDIA CODE PID Reading	COMPOSITE START	r	COM	POSITE -	Ittal F	iniste inal F	N	umbe	er	Νι	umbe	•				5/5/	offort .		
		- MEC	DATE	TIME	DATE	TIME	ΰĘ	υĒ							12 2 2	2/2	2/2/	10.15 9001 Line 005	7	Pace La	ab ID
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2 <u>UP-4</u>			4	<u>717</u>		957	30	4	1	26	5	28	82	Ÿ						002	
3 VY-5			Y	910		947	30	3		27	19	1	11	Ī				T		003	
4 <u>VP-6</u>				1035	,	1110	29	34	2		3	0	79	8				<u> </u>		004	-
5 <u>VP-7</u>				1039		1121	30	3	2	37	8		89							005	
6 VP-8			1	855		935	30			76			80							900	
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							-	•													

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/	Pace Analytic	า อ/*	Air Sa	Document N mple Condition Document	Upon R	eceipt			ent Revised: 16Oc Page 1 of 1 ssuing Authority:	t2017	
		ai		F-MN-A-106-			Office				
Air Sample Conditior Upon Receipt	Client Name Giles	Eng.		Pr	ojecti	#: [[] W	0#	:104	0859	4	
Courier:	Fed Ex		Speed								
Tracking Number:	Commercial	Pace	Other:	<u>haltco</u>		10	108594) = 11 1 = 7 4 }	••••••••••••••••••••••••••••••••••••••		
Custody Seal on Coo	oler/Box Present?	Yes	No	Seals Intact	? 🖂	Yes		Optional:	Proj. Due Date:	Proj. Name:	
Packing Material:	Bubble Wrap	🔲 Bubble Ba	ags 🖉 Foar	m 🛄None	è 🗌	Tin Can	Othe		Temp	Blank rec: []Yes 🛃 🕅 d
Temp. (TO17 and TO13	samples only) (°C):	<u> </u>	Corrected Tem	np (°C):	<u>×_</u>	Thermon	n. Used:			151401	
Temp should be above	freezing to 6°C	Correction Facto	or:>	<				Person Examini	ing Contents: /	G87A9155 ∂-26-17	
Type of ice Received	Blue Wet	None							- +	••••••••••••••••••••••••••••••••••••••	
						γ			Comments:		
Chain of Custody Pre			Yes]N/A	1.					
Chain of Custody Fill			Yes			Z.			<u></u>	<u> </u>	
Chain of Custody Re			<u> </u>			3.			. <u> </u>		
Sampler Name and/ Samples Arrived with		C?	Ves Ves			4.					
Short Hold Time An			<u>Ves</u>	_/	<u>]N/A</u>	5.					
Rush Turn Around T		<u></u> #.	Yes		<u>N/A</u>	6.			·		
Sufficient Volume?	ine Requested:		Yes ⊉Yes			7.				.	
Correct Containers L	lsed?				<u>]n/a</u>]n/a	8. 9.					
-Pace Containers			Z Tes Z Yes			9.					
Containers Intact?			Ves			10.					<u></u>
Media: Air Can	Airbag	Filter	TDT	Passive		11.	Individ	lually Certified	Cane V	Hist which so	
Sample Labels Match			- Yes]N/A	12.	marvie	tuany certified		ilist which sa	mpies)
Samples Received:			· · · ·								
	Car	isters							 Canisters		<u></u> _
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Sample Number	Can ID	Controller	Pressure	Pressure		Sample N	lumber	Can ID	Controller	Pressure	Pressure
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- 5			-2	ii .							
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CLIENT NOTIFICATION Person C Comments/R	Contacted:	ł 			C	Pate/Time	2:		a Required?		
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		·		··					-		
	44 -	11	n n 1								
Project Manager Rev	iew: <u>Meg</u>	2 No	12 Cal	M		i	Date: 1	0/26/17			

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)

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Geotechnical, Environmental & Construction Materials Consultants



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