ENGINEERING ARCHITECTURE ENVIRONMENTAL PLANNING



ONE SYSTEMS DRIVE APPLETON, WI 54914 920-735-6900 FAX 920-830-6110

RECEIVED

Date: December 13, 2016

To: Tauren Beggs

**DNR Service Center** 

DEC 15 2016

Address: 2984 Shawano Ave.

Project No.: OMNNI N2162C15

Green Bay, WI 54313-6727 DNR - GREEN BAY

From: Don Brittnacher

Project: Vapor investigation at Allyn property

Last Dated	Item Description	Last Dated	Item Description
12/6/2016	Vapor investigation report		
	Vapor summary table		

Dear Tauren,

I'm sending a copy of Sigma's vapor investigation report, and a summary table of the results. Please call to discuss the installation of a vapor mitigation system. Thanks.

Don Brittnacher

Don Brittnacher



December 6, 2016

### RECEIVED

Sigma Project #16551

DEC 1 5 2016

WI DNR - GREEN BAY

Mr. Don Brittnacher OMNNI Associates One Systems Drive Appleton, WI 54914

Subject:

Sub-Slab Vapor and Air Sampling Former Algoma Dry Cleaning 111 Steel St.

Algoma, Wisconsin

Dear Mr. Brittnacher:

On November 11 & 12, 2016, Sigma completed sub-slab vapor and indoor / outdoor air sampling activities at the above referenced property. A summary of the vapor sampling activities is provided below.

#### **VAPOR SAMPLING ACTIVITIES**

On Thursday, November 11, 2016 Sigma mobilized to the property to initiate air sampling and subslab vapor sampling activities. In accordance with WDNR guidance document PUB-RR-800' Sigma collected indoor and outdoor air samples and a sub-slab vapor sample from the following locations via laboratory certified, flow-regulated, 6-liter SUMMA canisters:

- Indoor air sample V-1: Indoor air sample collected within the living room of the home. Indoor air sample V-1 was collected over an approximately 24-hour period between November 11 and 12, 2016.
- Sub-slab vapor sample V-2: Sub-slab vapor sample collected from beneath the floor slab of the former dry-cleaning processing room, specifically in the location of the former "perc" unit as identified in information provided to Sigma.

On November 11, 2016 Sigma installed one brass Vapor Pin® within the concrete floor slab of the former dry-cleaning processing room. A 5/8-inch diameter hole was drilled through the floor slab to accommodate the vapor pin. The hole was cleaned of concrete debris. The neck of the vapor pin was fitted with a silicon sleeve to create an air-tight seal around the vapor pin. The vapor pin was gently hammered into place and then capped. Following installation of the vapor pin, Sigma performed a water dam seal test on the vapor pin / floor slab to ensure there was no leakage at the surface seal around the sampling point. The water dam test was completed using a 1-1/2 inch diameter PVC pipe coupling placed around the location of the vapor pin and sealed to the floor slab with plumber's putty. A small volume of water was poured into the water dam, surrounding the vapor pin and vapor pin / floor slab penetration point. The water level within the water dam was subsequently monitored and no change (indicating leakage) was observed over a period of 10 minutes. The vapor pin was left in place overnight for sampling the following morning.

On November 12, 2016 Sigma returned to collect one sub-slab vapor sample (VP-2) from the installed vapor sampling pin. The SUMMA canister used to collect the vapor sample was set to collect over an approximately 30 minute time period (approximately 200 milliliters per minute or less). Rigid nylon tubing and new brass compression fittings were used to connect

<sup>\*</sup> Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin by the WDNR, dated December 2010 (updated December 2015) West Canal Street Milwaukee, WI 53233 I 414-643-4200 414-643-4210 www.thesigmagroup.com

SSV and Air Sampling – Former Algoma Dry Cleaning December 6, 2016 Page 2

the sampling canister to the vapor pin for sample collection. Prior to sampling, a shut-in (leak) test was performed on the nylon tubing to SUMMA can connections by use of a hand vacuum pump. The connection at the vapor pin was shut with a valve, creating a closed system between the vapor pin and SUMMA canister connection point. The hand vacuum pump was used to produce a minimum vacuum pressure of 25 inches of mercury within the closed sample train. The vacuum pressure held steady for approximately 2 minutes, which indicates no leakage in the sampling train tubing or connections. Upon completion of the shut-in test, the sample train and SUMMA canister valves were opened to begin sample collection. Following sample collection, the sample train was removed and the vapor pin tip was capped with an air tight rubber nipple cap and left securely in place.

 Outdoor air sample (background) V-3: Outdoor air sample collected just outside of the eastern wall of house. Outdoor air sample V-3 was collected over a 24-hour period between November 11 and 12, 2016.

Photos of the sampling activities are included in **Attachment A**. The vapor samples were submitted for laboratory analysis of select volatile organic compounds (VOCs) by EPA method TO-15. The locations of the indoor / outdoor air and sub-slab vapor samples are illustrated on the attached **Site Detail Map** (annotated by Sigma).

#### LABORATORY RESULTS

A copy of the laboratory analytical report from the collected samples is included as Attachment B.

Stephen Meer, P.E.

Senior Engineer

If you have any questions on this document, please call us at (414) 643-4200.

Sincerely,

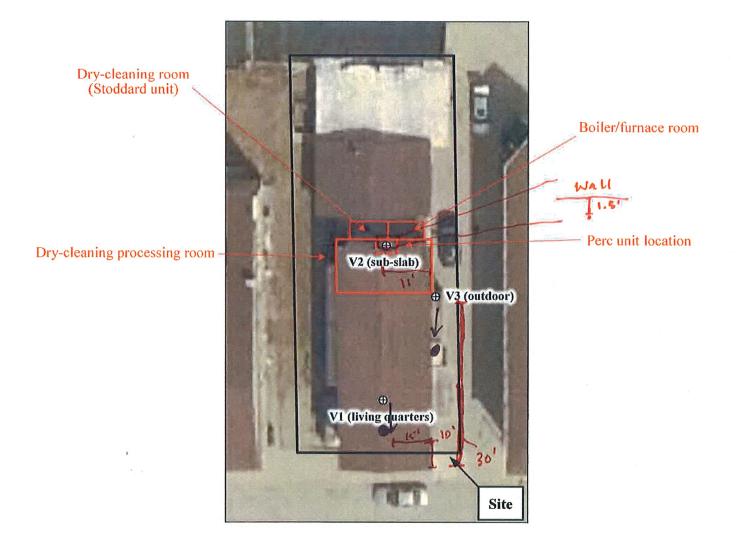
THE SIGMA GROUP, INC.

Cory Katzban, E.I.T.

Staff Engineer

Enclosure

### Site Detail Map



#### Attachment A



# **Photo Page 1**



Photo 1: Outdoor air sample collection location.

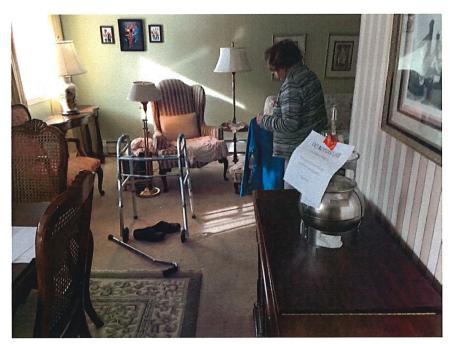


Photo 2: Indoor air sample collection location.

Former Algoma Dry Cleaning 111 Steele Street, Algoma, Wisconsin

Sigma Project Number: 16551



## **Photo Page 2**



Photo 3: Sub-slab sample point location and water dam test set up.



Photo 4: Sample train set up and shut-in test.

Former Algoma Dry Cleaning 111 Steele Street, Algoma, Wisconsin

Sigma Project Number: 16551



# **Photo Page 3**



Photo 5: Shut-in test on sub-slab sample train.

#### Attachment B





December 02, 2016

Steve Meer Sigma Environmental Services 1300 W. Canal St. Milwaukee, WI 53233

RE: Project: 16551 Algoma Dry Cleaning-Rev.

Pace Project No.: 10370792

#### Dear Steve Meer:

Enclosed are the analytical results for sample(s) received by the laboratory on November 21, 2016. 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.

Thsi report was revised to correct the compound list for sample 10370792001 and to correct reported results for samples 10370792002 and 10370792003.

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

Sincerely,

Carolynne That

Carolynne Trout carolynne.trout@pacelabs.com Project Manager

Enclosures

cc: JT Holcombe, The Sigma Group, Inc.







#### **CERTIFICATIONS**

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

10370792

#### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #. 2926.01
Alaska Certification #. UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #. E87605 Guam Certification #:14-008r Georgia Certification #: 959 Georgia EPD #: Pace Idaho Certification #: MN00064 Hawaii Certification #MN00064 Illinois Certification #. 200011 Indiana Certification#C-MN-01

Iowa Certification #: 368 Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062 Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification # 3086 Louisiana DHH #: LA140001 Maine Certification #: 2013011 Maryland Certification #: 322 Michigan DEPH Certification #: 9909 Minnesota Certification #: 027-053-137 Mississippi Certification #: Pace Montana Certification #: MT0092

Montana Certification #: MT0092 Nevada Certification #: MN\_00064 Nebraska Certification #: Pace New Jersey Certification #: MN-002 New York Certification #: 11647

North Carolina Certification #. 530 North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

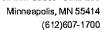
Ohio EPA#: 4150

Puerto Rico Certification

Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563

Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970





#### **SAMPLE SUMMARY**

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

10370792

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10370792001	V1-Living Area	Air	11/18/16 10:00	11/21/16 09:40
10370792002	V2-Sub-Slab	Air	11/18/16 11:00	11/21/16 09:40
10370792003	V3-Outdoor	Air	11/18/16 10:00	11/21/16 09:40

(612)607-1700



#### SAMPLE ANALYTE COUNT

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

10370792

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10370792001	V1-Living Area	TO-15	NCK	5	PASI-M
10370792002	V2-Sub-Slab	TO-15	NCK	5	PASI-M
10370792003	V3-Outdoor	TO-15	NCK	5	PASI-M



#### **ANALYTICAL RESULTS**

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

Date: 12/02/2016 09:00 AM

10370792

Sample: V1-Living Area	Lab ID:	10370792001	Collected:	11/18/1	6 10:00	Received: 11	/21/16 09:40 N	latrix: Air	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSVAIR	Analytical	Method: TO-15							
cis-1,2-Dichloroethene	<0.38	ug/m3	1.3	0.38	1.55		11/22/16 20:20	156-59-2	
trans-1,2-Dichloroethene	<0.60	ug/m3	1.3	0.60	1.55		11/22/16 20:20	156-60-5	
Tetrachloroethene	39.9	ug/m3	1.1	0.43	1.55		11/22/16 20:20	127-18-4	
Trichloroethene	30.3	ug/m3	0.85	0.43	1.55		11/22/16 20:20	79-01-6	
Vinyl chloride	<0.30	ug/m3	0.40	0.30	1.55		11/22/16 20:20	75-01-4	
Sample: V2-Sub-Slab	Lab ID:	10370792002	Collected:	11/18/1	6 11:00	Received: 11	/21/16 09:40 N	latrix: Air	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15							
cis-1,2-Dichloroethene	62.6	ug/m3	1.2	0.35	1.44		11/22/16 21:56	156-59-2	
trans-1,2-Dichloroethene	1.8	ug/m3	1.2	0.55	1.44		11/22/16 21:58	156-60-5	
Tetrachloroethene	2850000	ug/m3	31700	12800	46080		11/23/16 16:45	127-18-4	A3
Trichloroethene	260	ug/m3	0.79	0.40	1.44		11/22/16 21:58	79-01-6	Ε
Vinyl chloride	<0.28	ug/m3	0.37	0.28	1.44		11/22/16 21:58	75-01-4	
Sample: V3-Outdoor	Lab ID:	10370792003	Collected:	11/18/1	6 10:00	Received: 11	/21/16 09:40 N	Matrix: Air	
Parameters	Results	Units	LOQ	LÓD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15	;						
cis-1,2-Dichloroethene	<0.38	ug/m3	1.3	0.38	1.55		11/22/16 21:24	156-59-2	
trans-1,2-Dichloroethene	<0.60	ug/m3	1.3	0.60	1.55		11/22/16 21:24	156-60-5	
Tetrachloroethene	0.60J	ug/m3	1.1	0.43	1.55		11/22/16 21:24	127-18-4	
Trichloroethene	<0.43	ug/m3	0.85	0.43	1.55		11/22/16 21:24	79-01-6	
Vinyl chloride	<0.30	ug/m3	0.40	0.30	1.55		11/22/16 21:24		

#### **REPORT OF LABORATORY ANALYSIS**



#### **QUALITY CONTROL DATA**

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

10370792

QC Batch:

448616

Analysis Method:

TO-15

QC Batch Method:

TO-15

Analysis Description:

TO15 MSV AIR Low Level

Associated Lab Samples:

10370792001, 10370792002, 10370792003

METHOD BLANK: 2455651

Matrix: Air

Associated Lab Samples:

Date: 12/02/2016 09:00 AM

10370792001, 10370792002, 10370792003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.25	0.81	11/22/16 17:06	
Tetrachloroethene	ug/m3	<0.28	0.69	11/22/16 17:06	
trans-1,2-Dichloroethene	ug/m3	<0.38	0.81	11/22/16 17:06	
Trichloroethene	ug/m3	<0.28	0.55	11/22/16 17:06	
Vinyl chloride	ug/m3	<0.20	0.26	11/22/16 17:06	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	43.9	36.2	82	65-139	
Tetrachloroethene	ug/m3	72.4	57.5	79	60-142	
trans-1,2-Dichloroethene	ug/m3	41.9	36.6	87	67-137	
Trichloroethene	ug/m3	57.9	47.1	81	60-144	
Vinyl chloride	ug/m3	27	23.3	86	63-135	

SAMPLE DUPLICATE: 2456340						
		10370792001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.38	<0.38		25	
Tetrachloroethene	ug/m3	39.9	41.7	4	25	
trans-1,2-Dichloroethene	ug/m3	<0.60	<0.60		25	
Trichloroethene	ug/m3	30.3	31.4	4	25	
Vinyl chloride	ug/m3	<0.30	<0.30		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.





#### **QUALIFIERS**

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

10370792

#### **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

Date: 12/02/2016 09:00 AM

A3

The sample was analyzed by serial dilution.

Ε

Analyte concentration exceeded the calibration range. The reported result is estimated.





#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

16551 Algoma Dry Cleaning-Rev.

Pace Project No.:

Date: 12/02/2016 09:00 AM

10370792

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10370792001	V1-Living Area	TO-15	448616		
10370792002	V2-Sub-Slab	TO-15	448616		
10370792003	V3-Outdoor	TO-15	448616		



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

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

Section A Required Client Information:	Section B Required Project laton	nation:		Section	n C Information:												2	2	25	90	F	Page: #	/ of	
Company: The Sygna Coup Address: 1300 W. Cane St	Report To: Steve Me Copy To: Copy To: Copy Ket:	es cban		Attentio Compar Address	n: St ny Neme: 7	eve he s	14 M	ام (	ายน	ηβ ·	<u>En</u>	<u>د</u>	>>7	2	1		•	perfur		" Emi		s / (	Clean Air	
Milwankee, W= 5323. Ensel To: SMEATO THE SISMA 9 TO LA CON Phone: 414-643-420 Fey 14-643-420 Requested Duo Data/TAT: Normal	Purchase Order No.: Project Name: Algoma 5 Project Number: 16	>ry C	leaning	Pace Q	ote Referen oject Manaç	ice:	ъ. (a	•					3 43	2	Sam	tion of pling b	y Sta		<u>ئى</u>	I L N.	 0	Reporting	Units mg/m² PPMY	
*Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Vaid Media Codes MEDIA CODE Tedior Rog TE 1 User Summa Can 8:C Low Volume Pull High Volume Pull PMP Other FM16	ACODE	Remarks (Ciled Orly)	COLL	ECTED	P J J	Canister Pressure (Initial Fleid - pelg)	Canister Pressure (Final Fleid * psig)	(	mma San mber	G	F	low I Nu	mbe	Methy		(E)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					7	
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Air Sample Condition Upon Receipt Client Name:	Eyv.ro.	Project #:	O#:103707	
Courier: Fed Ex UCommercial P	PS Speedee Cli ace Other:	ent · III	370792	
Custody Seal on Copler/Box Present?	es XXVo Seals Inta	et? Yes 🔀	No Optional: Proj. Due Date:	<sup>p</sup> roj. Name:
Packing Material: Bubble Wrap Bub	oon . No	ne Tin Can	Other: Ten	ip Blank rec: Yes 🔀 🗖 o
Temp. (TO17 and TO13 samples only) (°C):  Temp should be above freezing to 6°C Correction  Type of ice Received Blue Wet Who			als of Person Examining Contents:	☐151401163 ☐151401164 ☐2 [[7,t] [6
Chain of Custody Present?	"∭Yes □No	□N/A 1.	Comments:	
Chain of Custody Filled Out?		□N/A 1.		
Chain of Custody Relinquished?	Yes No	□N/A   2. □N/A   3.		
Sampler Name and/or Signature on COC?	Yes No	□N/A   4.	· · · · · · · · · · · · · · · · · · ·	
Samples Arrived Within Hold Time?		□N/A 5.		
Short Hold Time Analysis (<72 hr)?	Yes No	□N/A 6.		
Rush Turn Around Time Requested?	Yes No	□N/A 7.		
Sufficient Volume?	∑Yes □No	□N/A 8.		4.0000000
Correct Containers Used?	[3]Yes □No	□N/A 9.	70 y von	
-Pace Containers Used <sup>3</sup>	ŊYes □No	□N/A		
Containers Intact?	Yes No	□N/A 10.		
Media: Air Can Airbag Filte		11.		
Sample Labels Match COC?	<b>Д</b> Уs □No	□N/A 12.		
Samples Received:	1	Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.Α.	, ,,	TO THE PERSON NAMED IN COLUMN 1
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Comments/Resolution:		***************************************		
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Document Name:

Document Revised: 26APR2016

Project Manager Review: Color of the 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)

### RECEIVED

DEC 1 5 2016

WI DNR - GREEN BAY

# Summary of Laboratory Analysis - Vapor Samples (11/18/2016)

		SAMPLES	Residential					
	V1	V2	V3	Vapor Action	Sub-Slab Vapor Risk Screening			
PARAMETER (μg/m³)	Living Area	Sub-Slab	Outdoor	Level (ug/m <sup>3</sup> ) <sup>1</sup>	Level (ug/m <sup>3</sup> ) <sup>2</sup>			
cis-1,2-Dichloroethene	< 0.38	62.6	< 0.38	-	-			
trans-1,2-Dichloroethene	< 0.60	1.8	< 0.60	-	-			
Tetrachloroethene	39.9	2,850,000	0.60 "J"	42	1,400			
Trichloroethene	30.3	260	< 0.43	2.1	70			
Vinyl chloride	< 0.30	< 0.28	< 0.30	1.7	57			

#### Notes:

ug/m<sup>3</sup> = micrograms per cubic meter

- = no standard established

**Bold** = concentration detected above applicable action level or screening level

<sup>&</sup>quot;J" = concentration between laboratory limit of detection and limit of quantitation

<sup>&</sup>lt;sup>1</sup> applies to sample V1

<sup>&</sup>lt;sup>2</sup> applies to sample V2