

OM ENTERPRISES, INC.

124 W Scott Street

Fond du Lac, WI 54935

Tel: (262) 853 – 0712

raghuom@gmail.com

June 26, 2024

Ms. Margaret Brunette
Project Manager
Remediation & Redevelopment
Wisconsin Department of Natural Resources
1027 West St. Paul Avenue
Milwaukee, WI 53233

Subject: Shop Rite Grocery
3217 West Villard Avenue, Milwaukee, WI
FID # 241692110 BRRTS # 02-41-119925

Sub-slab Vapor Testing

Dear Ms. Brunette:

On behalf of Villard Foundation LLC, OM Enterprises, Inc., conducted sub-slab vapor sampling on June 14, 2024.

Sampling Procedure

A 1.5-inch (38 mm) diameter hammer drill bit and a five-eighths inch (16 mm) diameter hammer drill bit were used to install the standpipe vapor pin. OM Enterprises, Inc. removed the drill bits, brushed the hole with a bottle brush, and removed the loose concrete cuttings/debris with the vacuum.

The sampling vapor pin assembly consisted of a stainless-steel vapor pin with a few sharp edges and silicone sleeve. Therefore, the vapor pin was inserted into the cylindrical silicone sleeve to protect the sharp edges of the vapor pin. The top of the vapor pin was capped with a protective cap prior to indoor air sampling.

The space/areas surrounding the vapor pin was sealed with concrete to prevent exit of the vapors from the hole and entry of the atmospheric air into the hole.

A 1.5-inch diameter water dam was used to conduct the leak test. The area surrounding the water dam was also sealed with homemade play dough. The distilled water was used to check the leak. The level of water in the water dam remained constant.

The cap of the vapor pin was left open for 15 minutes and closed for 30 minutes prior to connecting the sub-slab vapors.

The lab had provided a calibrated 1.4-liter Summa canister (Initial Pressure 30 psi) . The ending pressure should be in the range of 1-4 psi. The pressure dropped to approximately 2 psi after 17 minutes. The sampling ended at 3.00 pm.

The summa canister was delivered to Synergy Environmental Lab, LLC, Appleton, Wisconsin, on June 17, 2024. The sub-slab vapor was evaluated for the presence of sixty-three (63) volatile organic compounds (VOCs) using “EPA Air Method, Toxic Organics-15 (TO-15)”. The laboratory report has been included in **Appendix A**.

Evaluation of Sub-slab Vapor Quality (February 2024 Sampling)

Vapor risk screening levels (VRSLs) of sub-slab vapors of residential, small commercial, and large commercial facilities have been listed in the Wisconsin Vapor Quick Look Tables of August 2023.

The EPA’s VRSLs standards and laboratory analytical data of the sub-slab sample have been summarized in **Table 1**.

- a) Nineteen chemicals have been listed in **Table 1**.
- b) Benzene was detected at 3.8 ug/m³ (between limit of detection and limit of quantification). The VRSL limit of benzene is 120 ug/m³.
- c) Dichlorodifluoromethane was reported at 9.9 ug/m³. The VRSL limit of dichlorodifluoromethane is 3,500 ug/m³.
- d) Ethylbenzene was detected at 6.1 ug/m³ (between limit of detection and limit of quantification). The VRSL limit of ethylbenzene is 370 ug/m³.
- e) Methylene chloride was detected at 8.0 ug/m³. The VRSL limit of methylene chloride is 21,000 ug/m³.
- f) PCE was detected at 1,090 ug/m³. The VRSL limit of PCE is 1,400 ug/m³.
- g) Xylenes were detected at 19.5 ug/m³. The VRSL limit of xylenes is 3,500 ug/m³.

Ms. Margaret Brunette
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Based on the evaluation, OM Enterprises, Inc. believed that the sub-slab vapor quality met the EPA's living VRSL standards.

The next round of sub-slab vapor sampling will be conducted in December 2024.

Thank you for your cooperation.

Sincerely,

OM ENTERPRISES, INC.



Raghu B. Singh, Ph. D.
Environmental Professional

Encls:

Table 1: Sub-slab Vapor Analytical Summary Results

Appendix A: Synergy Lab Report

Cc: Frank Jaber / Frank.Jaber@sbcglobal.net

Table 1

Sub-slab Vapor Analytical Summary at 3217 W Villard Ave nue, Milwaukee, WI 53209
BRRTS # 02-41-119925: Shop Rite Grocery
Sampling Date: 06-14-2024

Chemicals From WDNR Publication RR-0136 August: 2023	RESIDENTIAL			EPA Risk Screening Level (RSL) Basis Immediate Action Criteria Carcinogens (C) Non-Carcinogens (N)	Immediate Action Criteria Results	Synergy Lab Detected Chemical Concentration
	Attenuation Factor (AF) = 0.03					
	SUB-SLAB VAPOR					
	Vapor Risk Screening Level (VRSL)					
	ug/m ³	ppbV	Lab. (ug/m ³)		ug/m ³	ug/m ³
Benzene	120	37	3.8 "J"	C= 10 x VRSL	Not Quantified	Not Quantified
Carbon Tetrachloride	160	25	< 3.07	C= 10 x VRSL	Not Quantified	Not Quantified
Chloroform	41	8.3	< 3	C= 10 x VRSL	Not Quantified	Not Quantified
Chloromethane	3,100	1,500	< 8.31	N= 3 x VRSL	Not Quantified	Not Quantified
Dichlorodifluoromethane	3,500	700	9.9	N= 3 x VRSL	< VRSL	Quantified
1,1-Dichloroethane (1,1-DCA)	590	140	< 1.87	C= 10 x VRSL	Not Quantified	Not Quantified
1,2-Dichloroethane (1,2-DCA)	36	8.7	< 2.4	C= 10 x VRSL	Not Quantified	Not Quantified
1,1-Dichloroethylene (1,1-DCE)	7,000	1,700	< 2.1	N= 3 x VRSL	Not Quantified	Not Quantified
Dichloroethylene, cis-1,2-	1,400	350	< 1.97	N= 3 x VRSL	Not Quantified	Not Quantified
Dichloroethylene, trans-1,2-	1,400	350	< 2.31	N= 3 x VRSL	Not Quantified	Not Quantified
Ethylbenzene	370	84	6.1 "J"	C= 10 x VRSL	Not Quantified	Not Quantified
Methylene Chloride	21,000	5,900	8.00	N= 3 x VRSL	< VRSL	Quantified
Naphthalene	28	5.3	< 6.75	C= 10 x VRSL	Not Quantified	Not Quantified
Tetrachloroethylene (PCE)	1,400	200	1090	N= 3 x VRSL	< VRSL	Quantified
1,1,1-Trichloroethane (1,1,1-TCA)	170,000	31,000	< 2.49	N= 3 x VRSL	Not Quantified	Not Quantified
Trichloroethylene (TCE)	70	13	< 2.37	N= 3 x VRSL	Not Quantified	Not Quantified
Trichlorofluoromethane	-	-	< 3.37	-	-	-
Vinyl Chloride	56	22	< 2.03	C= 10 x VRSL	Not Quantified	Not Quantified
Xylene (mix)	3,500	790	19.5	N= 3 x VRSL	< VRSL	Quantified

Note:
 "J" denotes concentration between limit of detection (LOD) and limit of quantification (LOQ).

Detections in **bold font**

If detected, exceeded VRSL, in **bold font and underlined**.

Table References:

1. WDNR Guidance (RR-0136, August 2023): Wisconsin Vapor Quick Look-Up Table1, 2, 3 Indoor Air Vapor Action Levels (VALs) and Vapor Risk Screening Levels (VRSLs), August 2023.
2. EPA's Regional Screening Levels (RSLs) Resident Soil Table (TR=1E-06, HQ = 1), Pages 1-11, November 2023.
3. EPA's Regional Screening Levels (RSLs) Resident Ambient Air Table (TR=1E-06, HQ = 1), Pages 1-9, November 2023.

Appendix A

Synergy Lab Report

CHAIN OF STUDY RECORD



Chain # 53601

Page 01 of 01

Environmental Lab, LLC

www.synergy-lab.net
 1990 Prospect Ct. • Appleton, WI 54914
 920-830-2455 • mrsynergy@wi.lwcbc.com

Sample Handling Request

Rush Analysis Date Required:
 (Rushes accepted only with prior authorization)
 Normal Turn Around

Lab I.D. #

QUOTE # :

Project #: 3023 / Shop Rite Grocery

Sampler: (signature) *Rapha B. Singh*

Project (Name / Location): 3217 W Villard Avenue, Milwaukee, WI 53209

Reports To: Invoice To:

Company OM Enterprises, Inc. Company OM Enterprises, Inc.

Address 124 W Scott Street Address 124 W Scott Street

City State Zip Fond du Lac, WI 54935 City State Zip Fond du Lac, WI 54935

Phone (262) 853-0712 Phone (262) 853-0712

Email RACHUVOM@GMAIL.COM Email RACHUVOM@GMAIL.COM

Analysis Requested

Other Analysis

Lab I.D.	Sample I.D.	Collection Date	Time	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	VOC AIR (TO - 15)	8-RCRA METALS	PID/ FID	
	SC001104	Sub. slab vapor	6/14/14	3:15	N/A	01	Vapor	-																

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge, etc.)

2.20 pm to 2.37 pm
 3 sps. to 0-2 ft

Sample Integrity - To be completed by receiving lab.

Method of Shipment: Chest

Temp. of Temp. Blank: _____ °C On Ice: _____

Cooler seal intact upon receipt: Yes No

Relinquished By: (sign)

Rapha B. Singh

Time

Date

Received By: (sign)

Time

Date

Received in Laboratory By:

RBS

Time

0830

Date

06.17.24

Synergy Environmental Lab, LLC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

RAGHU B. SINGH, PH. D
 OM ENTERPRISES, INC.
 124 W. SCOTT STREET
 FOND DU LAC, WI 54935

Report Date 20-Jun-24

Project Name 3217 W. VILLARD AVE
 Project # 3023

Invoice # E44116

Lab Code 5044116A
 Sample ID SUB-SLAB VAPOR
 Sample Matrix Air
 Sample Date 6/14/2024

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	420	ug/m3	2.99	9.5	10	TO-15		6/19/2024	CJR	4 5
Benzene	3.8 "J"	ug/m3	1.36	4.33	10	TO-15		6/19/2024	CJR	1
Benzyl Chloride	< 2.09	ug/m3	2.09	6.65	10	TO-15		6/19/2024	CJR	1
Bromodichloromethane	< 3.74	ug/m3	3.74	11.9	10	TO-15		6/19/2024	CJR	1
Bromoform	< 4.14	ug/m3	4.14	13.2	10	TO-15		6/19/2024	CJR	1
Bromomethane	< 2	ug/m3	2	6.37	10	TO-15		6/19/2024	CJR	1
1,3-Butadiene	< 1.43	ug/m3	1.43	4.54	10	TO-15		6/19/2024	CJR	1
Carbon Disulfide	< 1.38	ug/m3	1.38	4.4	10	TO-15		6/19/2024	CJR	1
Carbon Tetrachloride	< 3.07	ug/m3	3.07	9.78	10	TO-15		6/19/2024	CJR	1
Chlorobenzene	< 2.51	ug/m3	2.51	7.98	10	TO-15		6/19/2024	CJR	1
Chloroethane	< 1.59	ug/m3	1.59	5.07	10	TO-15		6/19/2024	CJR	1
Chloroform	< 3	ug/m3	3	9.53	10	TO-15		6/19/2024	CJR	1
Chloromethane	< 8.31	ug/m3	8.31	26.4	10	TO-15		6/19/2024	CJR	1
Cyclohexane	< 2.12	ug/m3	2.12	6.74	10	TO-15		6/19/2024	CJR	1
Dibromochloromethane	< 3.76	ug/m3	3.76	12	10	TO-15		6/19/2024	CJR	1
1,4-Dichlorobenzene	< 3.02	ug/m3	3.02	9.6	10	TO-15		6/19/2024	CJR	1
1,3-Dichlorobenzene	< 3.02	ug/m3	3.02	9.6	10	TO-15		6/19/2024	CJR	1
1,2-Dichlorobenzene	< 2.35	ug/m3	2.35	7.49	10	TO-15		6/19/2024	CJR	1
Dichlorodifluoromethane	9.9	ug/m3	2.63	8.36	10	TO-15		6/19/2024	CJR	1
1,2-Dichloroethane	< 2.4	ug/m3	2.4	7.63	10	TO-15		6/19/2024	CJR	1
1,1-Dichloroethane	< 1.87	ug/m3	1.87	5.96	10	TO-15		6/19/2024	CJR	1
1,1-Dichloroethene	< 2.1	ug/m3	2.1	6.68	10	TO-15		6/19/2024	CJR	1
cis-1,2-Dichloroethene	< 1.97	ug/m3	1.97	6.26	10	TO-15		6/19/2024	CJR	1
trans-1,2-Dichloroethene	< 2.31	ug/m3	2.31	7.34	10	TO-15		6/19/2024	CJR	1
1,2-Dichloropropane	< 2.8	ug/m3	2.8	8.9	10	TO-15		6/19/2024	CJR	1
trans-1,3-Dichloropropene	< 1.98	ug/m3	1.98	6.3	10	TO-15		6/19/2024	CJR	1
cis-1,3-Dichloropropene	< 2.34	ug/m3	2.34	7.45	10	TO-15		6/19/2024	CJR	1
1,2-Dichlorotetrafluoroethane	< 4.46	ug/m3	4.46	14.2	10	TO-15		6/19/2024	CJR	1
1,4-Dioxane	< 1.57	ug/m3	1.57	5	10	TO-15		6/19/2024	CJR	1

Project Name 3217 W. VILLARD AVE
 Project # 3023

Invoice # E44116

Lab Code 5044116A
 Sample ID SUB-SLAB VAPOR
 Sample Matrix Air
 Sample Date 6/14/2024

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
EDB (1,2-Dibromoethane)	< 3.42	ug/m3	3.42	10.9	10	TO-15		6/19/2024	CJR	1
Ethanol	1080	ug/m3	1.52	4.82	10	TO-15		6/19/2024	CJR	1
Ethyl Acetate	< 1.76	ug/m3	1.76	5.59	10	TO-15		6/19/2024	CJR	1
Ethylbenzene	6.1 "J"	ug/m3	2.03	6.45	10	TO-15		6/19/2024	CJR	1
4-Ethyltoluene	< 2.14	ug/m3	2.14	6.81	10	TO-15		6/19/2024	CJR	1
Heptane	< 2.65	ug/m3	2.65	8.45	10	TO-15		6/19/2024	CJR	1
Hexachlorobutadiene	< 4.89	ug/m3	4.89	15.6	10	TO-15		6/19/2024	CJR	1
Hexane	5.6 "J"	ug/m3	2.35	7.48	10	TO-15		6/19/2024	CJR	1
2-Hexanone	< 2.22	ug/m3	2.22	7.07	10	TO-15		6/19/2024	CJR	1
Isopropyl Alcohol	940	ug/m3	1.09	3.47	10	TO-15		6/19/2024	CJR	4
Methyl ethyl ketone (MEK)	15	ug/m3	1.78	5.67	10	TO-15		6/19/2024	CJR	1
Methyl isobutyl ketone (MIBK)	< 1.68	ug/m3	1.68	5.36	10	TO-15		6/19/2024	CJR	1
Methyl Methacrylate	< 2.17	ug/m3	2.17	6.9	10	TO-15		6/19/2024	CJR	1
Methylene chloride	8.0	ug/m3	1.59	5.06	10	TO-15		6/19/2024	CJR	5
Methyl tert-butyl ether (MTBE)	< 1.6	ug/m3	1.6	5.09	10	TO-15		6/19/2024	CJR	1
Naphthalene	< 6.75	ug/m3	6.75	21.5	10	TO-15		6/19/2024	CJR	1
Propene	< 0.79	ug/m3	0.79	2.51	10	TO-15		6/19/2024	CJR	1
Styrene	< 1.81	ug/m3	1.81	5.77	10	TO-15		6/19/2024	CJR	1
1,1,2,2-Tetrachloroethane	< 3.25	ug/m3	3.25	10.3	10	TO-15		6/19/2024	CJR	1
Tetrachloroethene	1090	ug/m3	2.78	8.84	10	TO-15		6/19/2024	CJR	1
Tetrahydrofuran	< 1.31	ug/m3	1.31	4.17	10	TO-15		6/19/2024	CJR	1
Toluene	33	ug/m3	1.84	5.85	10	TO-15		6/19/2024	CJR	1
1,2,4-Trichlorobenzene	< 6.57	ug/m3	6.57	20.9	10	TO-15		6/19/2024	CJR	1
1,1,1-Trichloroethane	< 2.49	ug/m3	2.49	7.93	10	TO-15		6/19/2024	CJR	1
1,1,2-Trichloroethane	< 2.58	ug/m3	2.58	8.22	10	TO-15		6/19/2024	CJR	1
Trichloroethene (TCE)	< 2.37	ug/m3	2.37	7.54	10	TO-15		6/19/2024	CJR	1
Trichlorofluoromethane	< 3.37	ug/m3	3.37	10.7	10	TO-15		6/19/2024	CJR	1
Trichlorotrifluoroethane	< 4.02	ug/m3	4.02	12.8	10	TO-15		6/19/2024	CJR	1
1,2,4-Trimethylbenzene	4.9 "J"	ug/m3	2.83	8.99	10	TO-15		6/19/2024	CJR	1
1,3,5-Trimethylbenzene	< 2.32	ug/m3	2.32	7.39	10	TO-15		6/19/2024	CJR	1
Vinyl acetate	< 2.03	ug/m3	2.03	6.45	10	TO-15		6/19/2024	CJR	1
Vinyl Chloride	< 1.48	ug/m3	1.48	4.72	10	TO-15		6/19/2024	CJR	1
m&p-Xylene	19.5	ug/m3	3.77	12	10	TO-15		6/19/2024	CJR	1
o-Xylene	6.9 "J"	ug/m3	2.18	6.95	10	TO-15		6/19/2024	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

<i>Code</i>	<i>Comment</i>
1	Laboratory QC within limits.
4	The continuing calibration standard not within established limits.
5	The QC blank not within established limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature


