



August 13, 2021

Binyoti Amungwafor
Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther king Jr. Dr.
Milwaukee, WI 53212

**Re: Semi-Annual Remediation Site Operation, Maintenance, Monitoring and Optimization Report
One Hour Martinizing
6737 W. Milwaukee Ave, Wauwatosa, Wisconsin
BRRTS# 02-41-551923**

Dear Mr. Amungwafor:

EnviroForensics LLC (EnviroForensics) is pleased to provide this Remediation Site Operation, Maintenance, Monitoring and Optimization Report for the One Hour Martinizing facility located at 6737 W. Milwaukee Avenue in Wauwatosa, Wisconsin (the Site). This report is being submitted in place of Department Form 4400-194 and covers the period of January 1 to June 30, 2021. The purpose of this report is to present operation, maintenance, and monitoring (OM&M) data related to a soil vapor extraction (SVE) system currently operating at the Site. One (1) year of SVE system OM&M was approved by WDNR in a letter dated October 28, 2019.

The SVE system was installed during December 2020. The system consists of a vacuum blower connected to two (2) extraction wells screened in unconsolidated soil. The blower and associated equipment and controls are housed inside an insulated aluminum enclosure positioned along the east wall of the Site building. The extraction well locations, conveyance line paths, and subsurface vacuum monitoring points are depicted on **Figure 1**. The extraction wells are connected to the SVE blower and associated equipment with individual conveyance lines that combine into a single inlet pipe just outside the system enclosure. System operation commenced on January 11, 2021. OM&M activities are being performed as described in the Operation, Maintenance, and Monitoring Plan dated February 10, 2021.

The estimated zone of influence of the SVE system based on subsurface vacuum measurements is shown on **Figure 2**. A minimum vacuum of 0.1 inches of water (in H₂O) is considered the threshold for influence. As can be seen in **Figure 2**, the zone of influence encompasses the majority of the contaminated soil area, including the area near the former dry cleaning machine location containing PCE concentrations above 500 micrograms per kilogram.

Operational data is summarized in **Table 1**. The system operated continuously since startup, with both extraction well valves fully open. The chlorinated volatile organic compound (CVOC) concentration in the system effluent is monitored by collecting samples in 1-liter vacuum canisters at a rate of 200 ml/minute. The samples are analyzed for tetrachloroethene (PCE) and its degradation compounds according to EPA Test Method TO-15. The effluent concentration trend is depicted in **Chart 1**.

CVOC mass removal is calculated using the flow rate, system run time, and concentrations detected in samples of the system effluent. Time versus cumulative mass removal is illustrated in **Chart 2**. The average contaminant removal rate for the system during the reporting period was 0.0026 pounds per day, and the total mass removed through June 9, 2021 was 0.36 pounds.

The approved *Remedial Action Plan and SVE System Design Report* specified one (1) year of SVE system OM&M, followed by confirmation vapor sampling. Therefore, OM&M activities will continue through the end of 2021. Given the low contaminant removal rate, EnviroForensics may begin operating the system intermittently to enhance recovery and reduce energy costs. Another Remediation Site Operation, Maintenance, Monitoring and Optimization Report will be prepared covering the period of July 1 to December 31, 2021.

If you have questions regarding the content of this report, please feel free to contact me at 262-745-5054 or bkappen@enviroforensics.com.

Sincerely,
EnviroForensics LLC

A handwritten signature in blue ink, appearing to read "Brian Kappen".

Brian Kappen, PG
Project Manager

Attachments

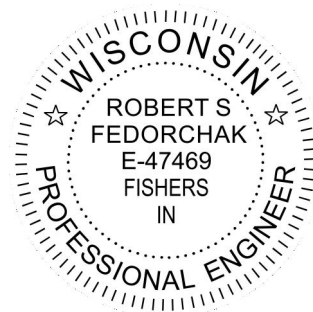
CERTIFICATIONS

I, Robert Fedorchak, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all 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.



Senior Engineer, Lic. No.

Signature, title and P.E. number



I, Brian Kappen, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 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.



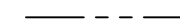

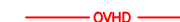







Project Manager

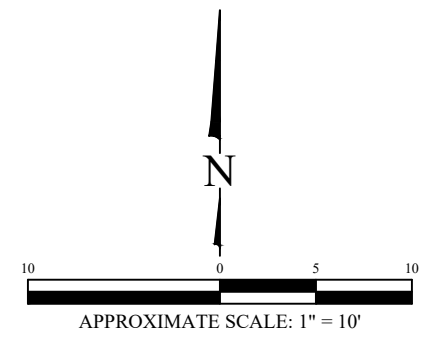
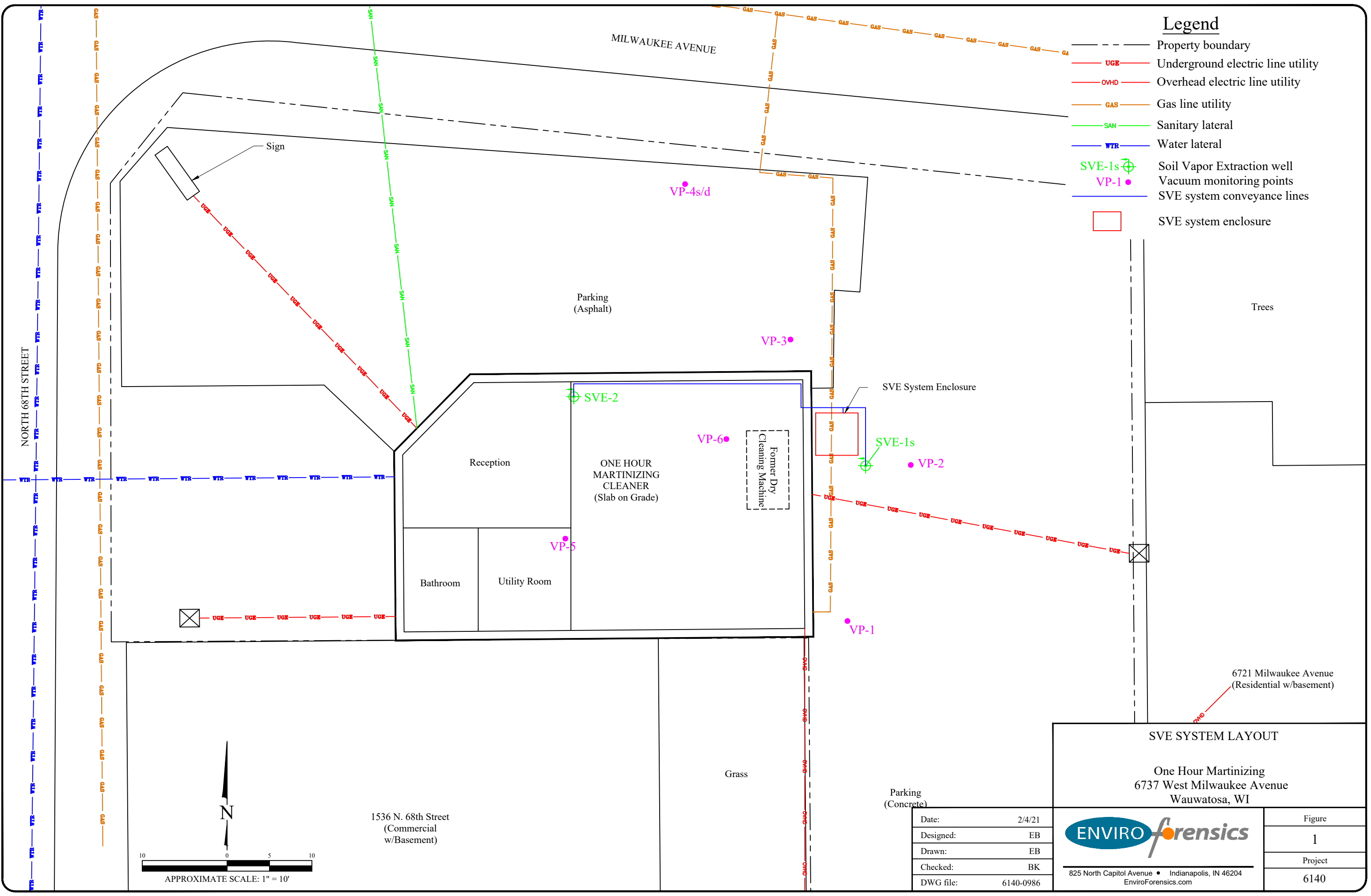
Signature and title

8/13/2021

Date

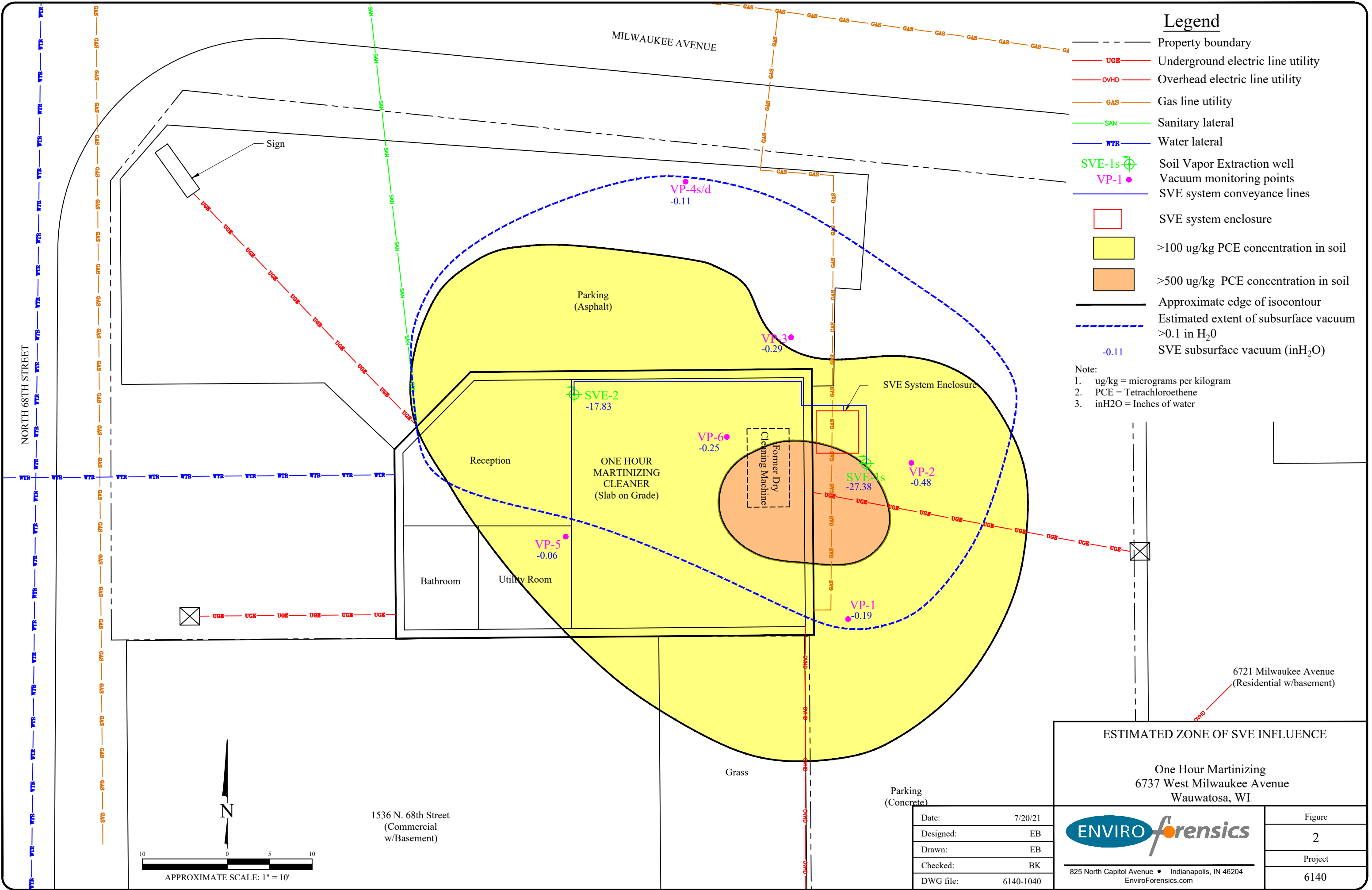
Legend

-  Property boundary
-  UGE Underground electric line utility
-  OVHD Overhead electric line utility
-  GAS Gas line utility
-  SAN Sanitary lateral
-  WTR Water lateral
-  SVE-1s Soil Vapor Extraction well
-  VP-1 Vacuum monitoring points
-  SVE system conveyance lines
-  SVE system enclosure



1536 N. 68th Street
(Commercial
w/Basement)

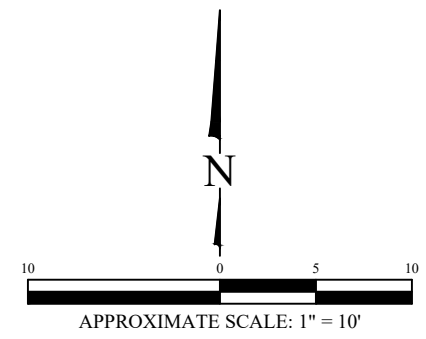
SVE SYSTEM LAYOUT											
One Hour Martinizing 6737 West Milwaukee Avenue Wauwatosa, WI											
	Figure 1										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>2/4/21</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>BK</td></tr> <tr><td>DWG file:</td><td>6140-0986</td></tr> </table>	Date:	2/4/21	Designed:	EB	Drawn:	EB	Checked:	BK	DWG file:	6140-0986	Project 6140
Date:	2/4/21										
Designed:	EB										
Drawn:	EB										
Checked:	BK										
DWG file:	6140-0986										
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com											



Legend

- Property boundary
- Underground electric line utility
- Overhead electric line utility
- Gas line utility
- Sanitary lateral
- Water lateral
- SVE-1s
- VP-1
- SVE system conveyance lines
- SVE system enclosure
- >100 ug/kg PCE concentration in soil
- >500 ug/kg PCE concentration in soil
- Approximate edge of isocontour
- Estimated extent of subsurface vacuum >0.1 in H₂O
- 0.11 SVE subsurface vacuum (inH₂O)

Note:
 1. ug/kg = micrograms per kilogram
 2. PCE = Tetrachloroethene
 3. inH₂O = Inches of water



1536 N. 68th Street
(Commercial w/Basement)

ESTIMATED ZONE OF SVE INFLUENCE

One Hour Martinizing
6737 West Milwaukee Avenue
Wauwatosa, WI

Date: 7/20/21	
Designed: EB	
Drawn: EB	
Checked: BK	
DWG file: 6140-1040	
825 North Capitol Avenue • Indianapolis, IN 46204 EnviroForensics.com	
Figure	2
Project	6140

TABLE 1
SOIL VAPOR EXTRACTION SYSTEM OPERATIONAL DATA

One Hour Martinizing
Wauwatosa, Wisconsin

Date	Time	System Run Time	System Vacuum	Effluent Differential Pressure	Effluent Air Temperature	Effluent Pressure	Dilution	Conveyance Line Vacuum		Calculated Flow Rate	Effluent CVOC Concentration
		Panel Display	VI-104	FI-101	TI-101	PI-101	Gate Valve	SVE-1s	SVE-2		Exhaust Port
		Hours	in H ₂ O	in H ₂ O	°F	in H ₂ O	Turns Open	in H ₂ O		SCFM	µg/m ³
1/11/2021	12:00	3.1	-44	3	115	9	0	-25	-25	139.8	174
1/12/2021	11:26	25.2	-46	3.5	105	10	0	-26	-26	164.8	75
1/13/2021	11:58	49.7	-46	3.5	105	8	0	-20	-27	147.4	287
1/20/2021	11:49	217.5	-48	3.2	108	9	0	-23	-28	147.9	218
1/28/2021	11:52	409.6	-47	3.5	100	9	0	-25	-26	159.2	280
2/3/2021	12:33	554.3	-47	3.5	105	9	0	-26	-26	156.3	127
3/4/2021	11:17	1,249.0	-48	3.2	110	9	0	-28	-28	146.9	81
4/6/2021	10:10	2,038.9	-49	3.5	110	9	0	-29	-28	153.6	161
5/5/2021	9:38	2,734.4	-49	3.25	120	9	0	-29	-28	143.2	149
6/9/2021	10:00	3,574.7	-48	3.2	130	9	0	-30	-28	137.7	75

Notes:

in H₂O = inches of water

µg/m³ = micrograms per cubic meter

CVOC = Chlorinated Volatile Organic Compound

SCFM = Standard cubic feet per minute

Chart 1
SVE System Effluent CVOC Concentration Trend
OHM Wauwatosa

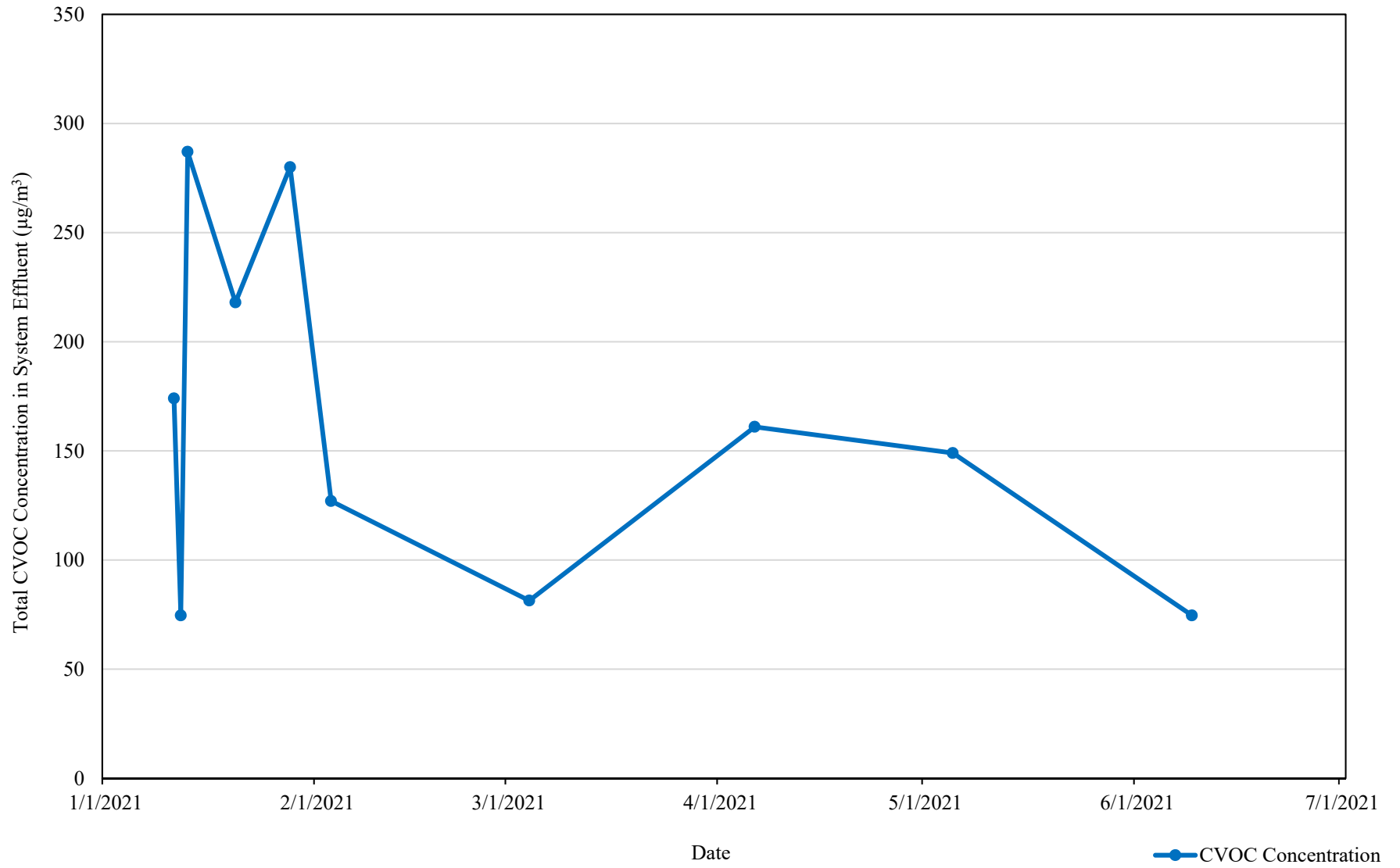


Chart 2
SVE System Cumulative CVOC Mass Removal
OHM Wauwatosa

