# REMEDIATION PROGRESS REPORT

**BADGER CLEANERS**
**616 OAK STREET**
**BARABOO, WISCONSIN**
**WDNR BRRTS# 02-57-548538**

November 29, 2021

*Prepared By:*

EnviroForensics, LLC
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
Phone: (317) 972-7870
www.enviroforensics.com

ENVIRO forensics

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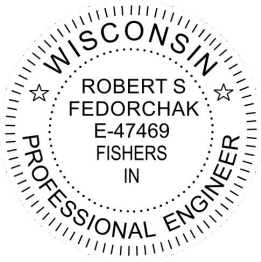
**CERTIFICATIONS**

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. E-47469

Signature, title and P.E. number

I, Robert Hoverman, 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.

Senior Project Manager 11/29/2021

Signature and title Date

## 1.0 INTRODUCTION

EnviroForensics, LLC (EnviroForensics) has prepared this Remediation Progress Report on behalf of Badger Cleaners dry cleaning facility located at 616 Oak Street, Baraboo, Wisconsin (Site). EnviroForensics prepared this report per Wisconsin Administrative Code (WAC) Chapter NR 724 and other associated State of Wisconsin Chapter NR 700 series rules in lieu of the Wisconsin Department of Natural Resources (WDNR) Form 4400-194 for Remediation Site Operation, Maintenance, Monitoring & Optimization Reports (Form 4400-194). This report documents soil vapor extraction (SVE) system operations from July 2020 through September 2021.

Downtown Baraboo, Wisconsin, near the Site, is a mix of residential and commercial land use. The Site consists of a single parcel of approximately 2,740 square feet with a single-story commercial building of about 2,420 square feet. The building was primarily constructed between 1913 and 1922 and subsequently added on to after 1947. The building is slab on grade on the east and west ends with a basement beneath the central portion, and the remainder of the property is a paved asphalt parking area. Commercial buildings to the north, east, and south, and Oak Street to the west surround the Site. **Figure 1** presents the Site layout. Soil gas and vapor intrusion assessments identified PCE concentrations above sub-slab, indoor air, and soil gas screening levels in the area immediately surrounding the Site. An SVE pilot test was conducted in 2018, followed by system design and infrastructure installation activities throughout 2019, with final equipment connections and startup of the full-scale system installation in January 2020 per WAC Chapter 419.07.

The primary objective of SVE is to remove contaminant mass from unsaturated soil. SVE may provide the additional benefit of vapor intrusion mitigation at the Site building during operation. EnviroForensics submitted a Remediation Implementation Report dated July 27, 2020, to document the design and compliance with Chapter NR 724 and other associated State of Wisconsin Chapter NR 700 series rules. **Figure 1** shows the locations of the extraction wells and vacuum monitoring points. **Figure 2** depicts the conveyance piping and system layout.

## 2.0 OPERATION, MAINTENANCE, AND MONITORING

Operation, Maintenance, and Monitoring (OM&M) activities are conducted by EnviroForensics personnel to:

- Maximize system efficiency and contaminant mass removal rates;
- Keep the mechanical equipment in good working order; and
- Collect data to track system performance and determine a timeframe for shutdown.

Routine activities performed during OM&M Site visits include the following:

- Service the blower as recommended by the manufacturer
- Record operational parameters and vapor concentrations to evaluate the efficiency
    - Effluent VOC vapor concentration
    - System runtime
    - System vacuum
    - Wellhead vacuums
    - Vacuum at monitoring points
    - Flow rates
    - Exhaust temperature

Samples of the SVE system air emissions are collected from a port in the exhaust stack and analyzed for VOCs to track mass removal and determine operational changes to optimize system performance. Samples were occasionally collected from individual extraction lines to help understand where extraction was greatest. **Table 1** presents the individual extraction line and effluent sample concentration results and **Appendix A** contains the laboratory reports. A commissioning phase was completed per WAC Chapter 419.07 to confirm that system emissions are below permitting thresholds and ambient air standards and documented in the implementation report. Performance monitoring has been conducted monthly per WAC Chapter 419.07.

SVE operational data collected during Site visits are tabulated and presented in **Table 2**. SVE mass removal data is presented in **Table 3** and graphs depicting SVE effluent VOC concentration trends and cumulative VOC mass removal are presented in **Appendix B.**

On May 6, 2021, an additional monitoring point was installed in the basement of the Site as shown on **Figure 1**. The monitoring point construction form is located in **Appendix C.**

Vacuum measurements were collected from the monitoring points with a digital manometer during normal SVE operations. **Figure 3** and **Figure 4** present the estimated radius of influence (ROI) of the SVE system based on vacuum measurements for the shallow and deep intervals, respectively. The sub-slab vapor points vacuum data collected were not used in determining SVE ROI.

## 3.0 RESULTS

Approximately 29 pounds of VOCs were removed through September 2021 from the subsurface by the SVE system since startup in January 2020. Overall, the concentrations have decreased since operations began in January 2020. The concentrations rebounded after a brief shutdown in February due to extreme cold temperatures and leveled out at approximately 1500 ug/$m^3$. Evaluation of the individual extraction line concentrations is on-going to maximize the extraction rates and potentially pulse the SVE operation.

The implemented remedial action is addressing VOC impacts in unsaturated soil. Mass removal via SVE is in progress, and the system will be adjusted and operated to maximize efficiency. The SVE system has likely interrupted vapor transport mechanisms and mitigated the Site building's vapor exposure pathway. Additional testing and evaluation of the exposure pathways is being implemented to evaluate the SVE effectiveness.

**TABLES**

**TABLE 1**

**SVE SAMPLE CONCENTRATION SUMMARY**

Badger Cleaners

616 Oak Street, Baraboo, Wisconsin

| Sample ID | Date Sampled | Tetrachloroethene | Trichloroethene | cis-1,2-Dichloroethene | trans-1,2-Dichloroethene | Vinyl chloride |
|---|---|---|---|---|---|---|
| 6492-SVE-EX | 1/14/2020 | 63000 | 37.1 | <198 | <396 | <12.8 |
| | 1/15/2020 | 82,300 | 26.3 | <198 | <396 | <12.8 |
| | 1/16/2020 | 58,200 | 18.8 | <198 | <396 | <12.8 |
| | 1/23/2020 | 25,100 | 130 | <198 | <396 | <12.8 |
| | 1/30/2020 | 18,900 | <10.7 | <198 | <396 | <12.8 |
| | 2/5/2020 | 16,100 | <10.7 | <198 | <396 | <12.8 |
| | 3/13/2020 | 4,210 | <10.7 | <198 | <396 | <12.8 |
| | 4/15/2020 | 3,510 | <10.7 | <198 | <396 | <12.8 |
| | 5/13/2020 | 1,300 | <10.7 | <198 | <396 | <12.8 |
| | 6/22/2020 | 3,750 | 16.1 | <198 | <396 | <12.8 |
| | 7/30/2020 | 2,710 | 68.2 | <198 | <396 | <12.8 |
| | 8/26/2020 | 5,940 | <10.7 | <198 | <396 | <12.8 |
| | 9/29/2020 | 2,650 | 556 | <198 | <396 | <12.8 |
| | 10/28/2020 | 5,430 | <10.7 | <198 | <396 | <12.8 |
| | 11/23/2020 | 2,320 | <10.7 | <198 | <396 | <12.8 |
| | 12/17/2020 | 969 | <10.7 | <198 | <396 | <12.8 |
| | 1/14/2021 | 568 | <10.7 | <198 | <396 | <12.8 |
| | 1/27/2021 | 1,150 | <10.7 | <198 | <396 | <12.8 |
| | 3/30/2021 | 1,360 | <10.7 | <198 | <396 | <12.8 |
| | 4/20/2021 | 2,350 | <10.7 | <198 | <396 | <12.8 |
| | 5/26/2021 | 1,340 | <10.7 | <198 | <396 | <12.8 |
| | 6/29/2021 | 2,210 | <10.7 | <198 | <396 | <12.8 |
| | 7/30/2021 | 1,700 | <10.7 | <198 | <396 | <12.8 |
| | 8/19/2021 | 1,310 | <10.7 | <198 | <396 | <12.8 |
| | 9/20/2021 | 423 | <10.7 | <198 | <396 | <12.8 |
| 6492-SVE-1S | 1/23/2020 | 20,400 | 48.9 | <198 | <396 | <12.8 |
| | 6/22/2020 | 3,590 | <10.7 | <198 | <396 | <12.8 |
| | 10/28/2020 | 27,000 | <10.7 | <198 | <396 | <12.8 |
| | 11/23/2020 | 5,250 | <10.7 | <198 | <396 | <12.8 |
| | 12/17/2020 | 669 | <10.7 | <198 | <396 | <12.8 |
| | 1/14/2021 | 445 | <10.7 | <198 | <396 | <12.8 |
| | 1/27/2021 | 437 | <10.7 | <198 | <396 | <12.8 |
| | 4/20/2021 | 1,300 | <10.7 | <198 | <396 | <12.8 |
| | 5/26/2021 | 144 | <10.7 | <198 | <396 | <12.8 |
| | 8/19/2021 | 127 | <10.7 | <198 | <396 | <12.8 |
| | 9/20/2021 | 96 | <10.7 | <198 | <396 | <12.8 |
| 6492-SVE-1d | 1/23/2020 | 15,000 | <10.7 | <198 | <396 | <12.8 |
| | 6/22/2020 | 2,970 | <10.7 | <198 | <396 | <12.8 |
| | 10/28/2020 | NA | NA | NA | NA | NA |
| | 11/23/2020 | 1,630 | <10.7 | <198 | <396 | <12.8 |
| | 12/17/2020 | 900 | 41.4 | <198 | <396 | <12.8 |
| | 1/14/2021 | 612 | <10.7 | <198 | <396 | <12.8 |
| | 1/27/2021 | 259 | <10.7 | <198 | <396 | <12.8 |
| | 4/20/2021 | 1,640 | <10.7 | <198 | <396 | <12.8 |
| | 5/26/2021 | 158 | <10.7 | <198 | <396 | <12.8 |
| | 8/19/2021 | 144 | <10.7 | <198 | <396 | <12.8 |
| | 9/20/2021 | 113 | <10.7 | <198 | <396 | <12.8 |

Results reported in micrograms per cubic meter

NA = Not Analyzed

**TABLE 2**
**SVE OPERATIONAL DATA**
Badger Cleaners
616 Oak St, Baraboo WI 53913

| Date | Time | System Runtime | VFD Setting | Dilution | System Vacuum | Conveyance Line Vacuum | | Exhaust Pressure | Influent Temperature | Exhaust Temperature | Pre-Filter Differential Pressure | Post-Filter Differential Pressure | Flow Rate | Calculated Flow Rate | Effluent VOC Concentration |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Panel Display | Panel Display | Valve | Panel Display | 1 | 2 | Exhaust Gauge | Pitot Tube | Exhaust Pipe | Pitot Tube | Pitot Tube | Panel Display | | Exhaust Port |
| | | Hours | Hertz | % | in Hg | in Hg | | in $H_2O$ | °F | °F | in $H_2O$ | in $H_2O$ | in $H_2O$ | SCFM | $\mu g/m^3$ |
| 1/14/2020 | 1530 | 1.3 | 65.0 | 40.0 | -2.0 | -2.0 | -2.0 | -2.5 | 40 | 79.8 | NM | NM | 0.51 | 360 | 63,037 |
| 1/15/2020 | 1024 | 20.3 | 65.0 | 0.0 | -12.0 | -12.0 | -12.0 | 0.5 | 40 | 160.5 | 0.4 | 0.2 | 0.20 | 220 | 82,326 |
| 1/16/2020 | 1211 | 46.2 | 65.0 | 0.0 | -11.0 | -11.5 | -10.5 | 0.5 | 38 | 159.7 | 0.4 | 0.2 | 0.21 | 220 | 58,219 |
| 1/17/2020 | 1120 | 59.4 | 65.0 | 0.0 | -11.0 | -11.5 | -10.5 | 0.5 | 37 | 159.9 | 0.2 | 0.2 | 0.20 | 220 | 0 |
| 1/23/2020* | 1147 | 175.3 | 60.0 | 0.0 | -11.0 | -11.0 | -10.5 | 0.5 | 40 | 145.0 | 0.3 | 0.2 | 0.15 | 190 | 25,240 |
| 1/30/2020 | 925 | 340.9 | 50.0 | 0.0 | -9.4 | -9.5 | -9.0 | 0.4 | 37 | 124.1 | 0.3 | 0.2 | 0.09 | 170 | 18,900 |
| 2/5/2020 | 1056 | 486.4 | 50.0 | 10.0 | -9.5 | -9.0 | -10.0 | 0.3 | 37 | 125.1 | 0.2 | 0.2 | 0.09 | 170 | 16,121 |
| 3/13/2020 | 1306 | 1,235.3 | 50.0 | 10.0 | -9.2 | -9.0 | -9.5 | 0.5 | 40 | 127.3 | 0.1 | 0.1 | 0.11 | 170 | 4,210 |
| 4/15/2020 | 1049 | 2,025.9 | 50.0 | 10.0 | -9.7 | -8.0 | -9.0 | 0.5 | 34 | 136.4 | 0.1 | 0.1 | 0.12 | 165 | 3,510 |
| 5/13/2020 | 1152 | 2,698.9 | 50.0 | 10.0 | -9.5 | -9.0 | -9.5 | 0.4 | 47 | 141.2 | 0.2 | 0.2 | 0.16 | 190 | 1,300 |
| 6/22/2020 | 1222 | 3,515.8 | 50.0 | 10.0 | -10.41 | -10.0 | -10.0 | 0.0 | 60 | 166.6 | 0.2 | 0.2 | 0.14 | 190 | 3,766 |
| 7/30/2020 | 1052 | 4,234.5 | 50.0 | 10.0 | -10.81 | -8.0 | -8.0 | 0.0 | 64 | 144.8 | 0.2 | 0.2 | 0.13 | 180 | 2,778 |
| 8/26/2020 | 1031 | 4,882.2 | 50.0 | 10.0 | -10.52 | -10.0 | -10.5 | 0.0 | 64 | 146.1 | 0.1 | 0.1 | 0.14 | 180 | 5,940 |
| 9/29/2020 | 1401 | 5,646.8 | 50.0 | 10.0 | -10.79 | -9.0 | -10.0 | 0.4 | 50 | 154.5 | 0.1 | 0.0 | 0.15 | 190 | 3,206 |
| 10/28/2020 | 1031 | 6,336.7 | 50.0 | 10.0 | -10.83 | -9.0 | -9.0 | 0.0 | 40 | 144.5 | 0.1 | 0.1 | 0.13 | 180 | 5,430 |
| 11/23/2020 | 1025 | 6,964.0 | 50.0 | 10.0 | -10.70 | -10.5 | -10.5 | 0.00 | 38 | 141.9 | 0.1 | 0.1 | 0.08 | 160 | 2,320 |
| 12/17/2020 | 1120 | 7,540.9 | 50.0 | 10.0 | -10.68 | -9.0 | -10.0 | 0.294 | 30 | 132.6 | 0.2 | 0.2 | 0.19 | 225 | 969 |
| 1/14/2021 | 954 | 8,211.4 | 50.0 | 10.0 | -10.42 | -9.8 | -9.0 | 0.252 | 33 | 134.7 | 0.1 | 0.1 | 0.14 | 190 | 568 |
| 3/30/2021 | 1054 | 8,786.1 | 50.0 | 10.0 | -10.26 | -10.0 | -10.0 | 0.478 | 43 | 111.8 | 0.1 | 0.1 | 0.18 | 220 | 1,360 |
| 4/20/2021 | 949 | 9,212.8 | 50.0 | 10.0 | -10.94 | -9.5 | -9.5 | 0.475 | 38 | 141.2 | 0.1 | 0.1 | 0.11 | 200 | 2,350 |
| 5/26/2021 | 1055 | 10,687.5 | 50.0 | 10.0 | -11.22 | -9.0 | -9.2 | 0.388 | 58 | 163.8 | 0.1 | 0.1 | 0.12 | 195 | 1,340 |
| 6/29/2021 | 1000 | 10,776.6 | 50.0 | 10.0 | -11.82 | -11.5 | -11.0 | 0.520 | 58 | 173.1 | 0.1 | 0.1 | 0.12 | 158 | 2,210 |
| 7/30/2021 | 1021 | 11,431.7 | 50.0 | 10.0 | -11.87 | -11.5 | -11.3 | 0.497 | 59 | 174.9 | 0.1 | 0.1 | 0.14 | 160 | 1,700 |
| 8/19/2021 | 1200 | 11,913.3 | 50.0 | 10.0 | -11.89 | -11.5 | -11.5 | 0.517 | 60 | 180.6 | 0.1 | 0.1 | 0.13 | 160 | 1,310 |
| 9/20/2021 | 1327 | 12,650.3 | 50.0 | 10.0 | -11.45 | -11.0 | -11.0 | 0.549 | 61 | 147.8 | 0.05 | 0.05 | 0.13 | 140 | 423 |

NM = not measured due to gauge malfunction
SCFM = Standard cubic feet per minute
* some values estimated.

**TABLE 3**

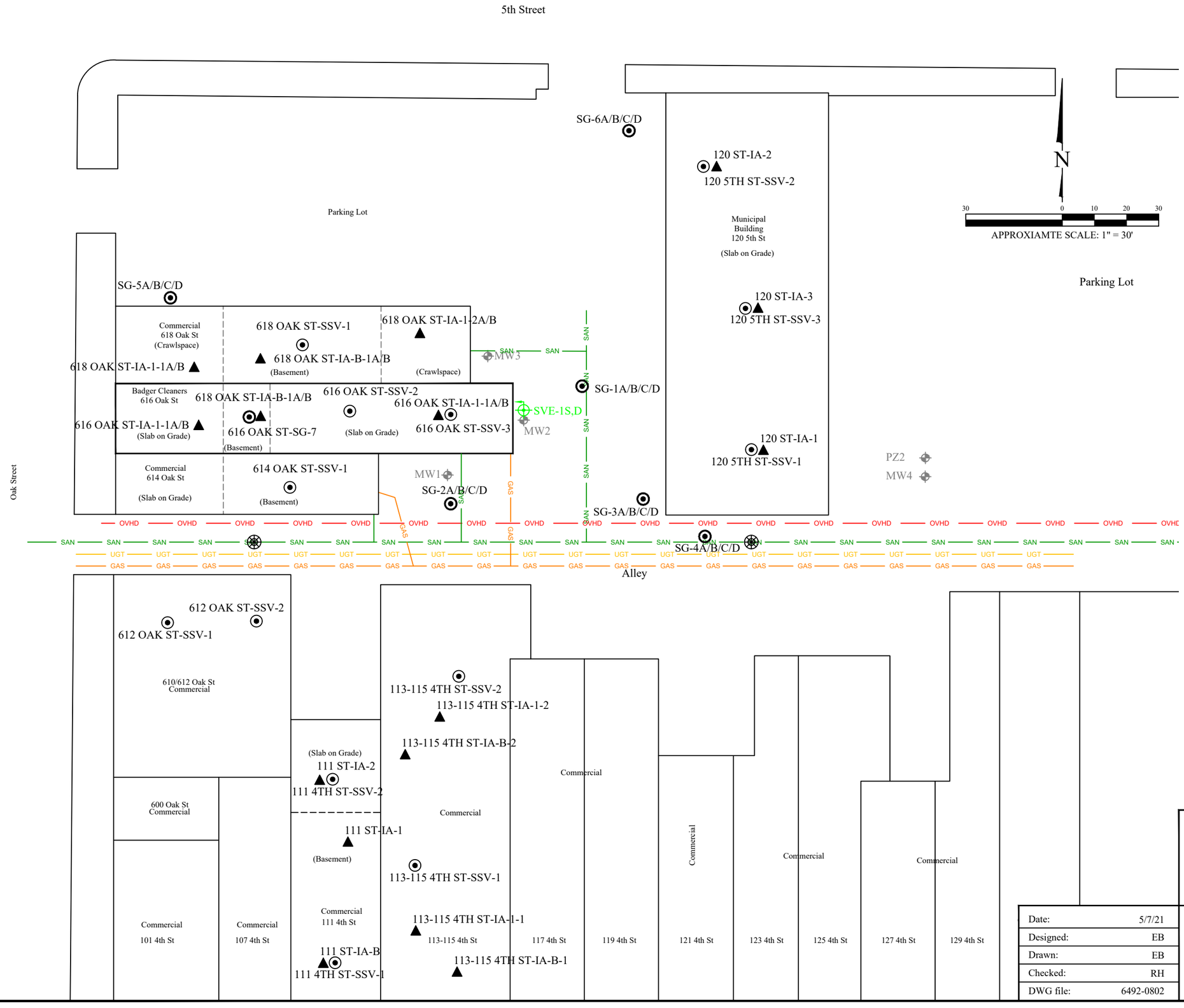
**SVE MASS REMOVAL DATA**

Badger Cleaners

616 Oak Street, Baraboo, Wisconsin

| Sample Date | Pitot Tube Calculation | | VOC Concentration | VOC Concentration | Runtime | Sample | Sample | Pitot Tube Calculation | |
|---|---|---|---|---|---|---|---|---|---|
| | Flow Rate | Flow Rate | | | | Duration | Duration | Mass Removed | Cumulative Mass |
| | SCFM | $m^3$/min | ug/$m^3$ | lbs/$m^3$ | hrs | hrs | mins | lbs | lbs |
| 1/14/2020 | 360 | 10.2 | 63,037 | 0.000139 | 1.3 | 1.3 | 78 | 0.11 | 0.11 |
| 1/15/2020 | 220 | 6.2 | 82,326 | 0.000182 | 20.3 | 19.0 | 1,140 | 1.29 | 1.40 |
| 1/16/2020 | 220 | 6.2 | 58,219 | 0.000128 | 46.2 | 25.9 | 1,554 | 1.24 | 2.64 |
| 1/23/2020* | 190 | 5.4 | 25,240 | 0.000056 | 175.3 | 129.1 | 7,746 | 2.32 | 4.96 |
| 1/30/2020 | 170 | 4.8 | 18,900 | 0.000042 | 340.9 | 165.6 | 9,936 | 1.99 | 6.96 |
| 2/5/2020 | 170 | 4.8 | 16,121 | 0.000036 | 486.4 | 145.5 | 8,730 | 1.49 | 8.45 |
| 3/13/2020 | 170 | 4.8 | 4,210 | 0.000009 | 1,235.3 | 748.9 | 44,934 | 2.01 | 10.46 |
| 4/15/2020 | 165 | 4.7 | 3,510 | 0.000008 | 2,025.9 | 790.6 | 47,436 | 1.72 | 12.17 |
| 5/13/2020 | 190 | 5.4 | 1,300 | 0.000003 | 2,698.9 | 673.0 | 40,380 | 0.62 | 12.80 |
| 6/22/2020 | 190 | 5.4 | 3,766 | 0.000008 | 3,515.8 | 816.9 | 49,014 | 2.19 | 14.99 |
| 7/30/2020 | 180 | 5.1 | 2,778 | 0.000006 | 4,234.5 | 718.7 | 43,122 | 1.35 | 16.33 |
| 8/26/2020 | 180 | 5.1 | 5,940 | 0.000013 | 4,882.2 | 647.7 | 38,862 | 2.59 | 18.93 |
| 9/29/2020 | 190 | 5.4 | 3,206 | 0.000007 | 5,646.8 | 764.6 | 45,876 | 1.75 | 20.67 |
| 10/28/2020 | 180 | 5.1 | 5,430 | 0.000012 | 6,336.7 | 689.9 | 41,394 | 2.53 | 23.20 |
| 11/23/2020 | 160 | 4.5 | 2,320 | 0.000005 | 6,964.0 | 627.3 | 37,638 | 0.87 | 24.07 |
| 12/17/2020 | 225 | 6.4 | 969 | 0.000002 | 7,540.9 | 576.9 | 34,614 | 0.47 | 24.54 |
| 1/14/2021 | 190 | 5.4 | 568 | 0.000001 | 8,211.4 | 670.5 | 40,230 | 0.27 | 24.81 |
| 3/30/2021 | 220 | 6.2 | 1,360 | 0.000003 | 8,786.1 | 574.7 | 34,482 | 0.64 | 25.46 |

**FIGURES**




# Legend

- GAS — Underground gas utility line
- SAN — Underground sanitary utility line
- UGT — Fiber optics line
- OVHD — Over head electrical utility line
- SG-1 — Soil Gas sample location
- SSV-1 — Sub-slab sample location
- IA-1 — Indoor air sample
- MW1 — Monitoring well (By Others)
- PZ1 — Piezometer well (By Others)
- SVE-1 — Soil Vapor Extraction Well (S = Shallow D= Deep)
- SSV-1 — Former Sub-slab sample location

## SITE LAYOUT

Badger Cleaners
616 Oak Street
Baraboo, Wisconsin

| | |
|---|---|
| Date: | 5/7/21 |
| Designed: | EB |
| Drawn: | EB |
| Checked: | RH |
| DWG file: | 6492-0802 |

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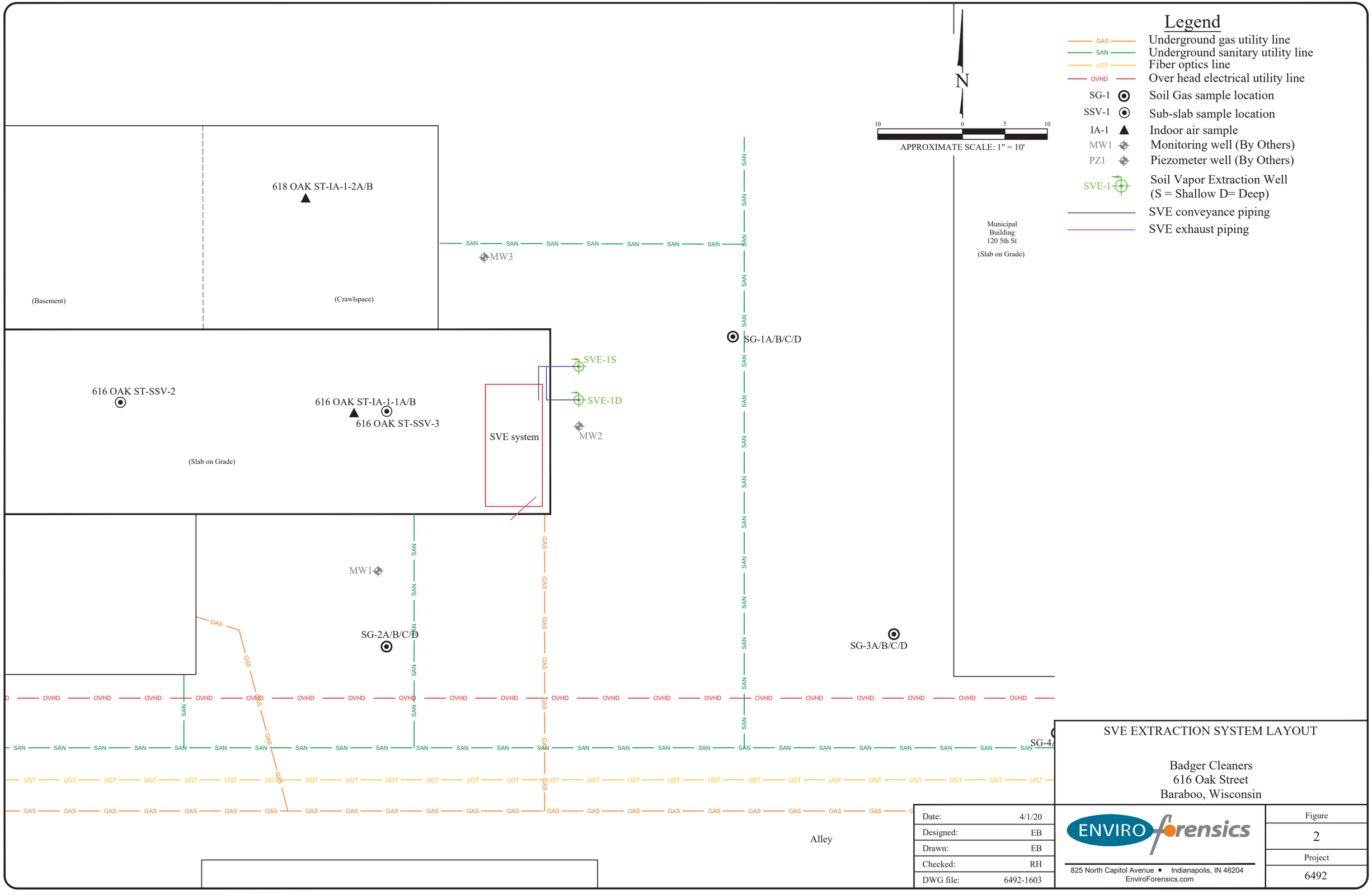
Figure 1

Project 6492




# SVE EXTRACTION SYSTEM LAYOUT

Badger Cleaners
616 Oak Street
Baraboo, Wisconsin

| | |
|---|---|
| Date: | 4/1/20 |
| Designed: | EB |
| Drawn: | EB |
| Checked: | RH |
| DWG file: | 6492-1603 |

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825 North Capitol Avenue • Indianapolis, IN 46204
EnviroForensics.com

Figure
2

Project
6492

# Legend

SG-1 — Soil gas sample port

SVE-1 — Soil Vapor Extraction Well (S = Shallow D= Deep)

0.1 — Vacuum influence from SVE system in inches of water (Dashed where inferred)

0.002 = Pressure field extension results (inches of water)

NM = Not measured

5th Street

Parking Lot

SG-6
1.262

Municipal Building
120 5th St

Parking Lot

SG-5
0.075

Commercial
618 Oak St

SVE-1S,D

SG-1
21.21

Badger Cleaners
616 Oak St

Commercial
614 Oak St

SG-2
11.01

SG-3
NM

SG-4
5.01

Oak Street

Ash Street

Alley

Commercial
612 Oak St

610 Oak St
Commercial
600 Oak St

Commercial
101 4th St

Commercial
107 4th St

Commercial
111 4th St

Commercial
115 4th St

Commercial
117 4th St

Commercial
119 4th St

Commercial
121 4th St

Commercial
123 4th St

Commercial
125 4th St

Commercial
127 4th St

Commercial
129 4th St

Commercial
131 4th St

Municipal Building
135 4th St

4th Street

N

40 0 10 20 30 40

APPROXIMATE SCALE: 1" = 40'

# REMEDIATION SYSTEM DEEP RADIUS OF INFLUENCE MAP APRIL 20, 2021

Badger Cleaners
616 Oak Street
Baraboo, Wisconsin

| | |
|---|---|
| Date: | 9/17/21 |
| Designed: | EB |
| Drawn: | EB |
| Checked: | RF |
| DWG file: | 6492-1945 |

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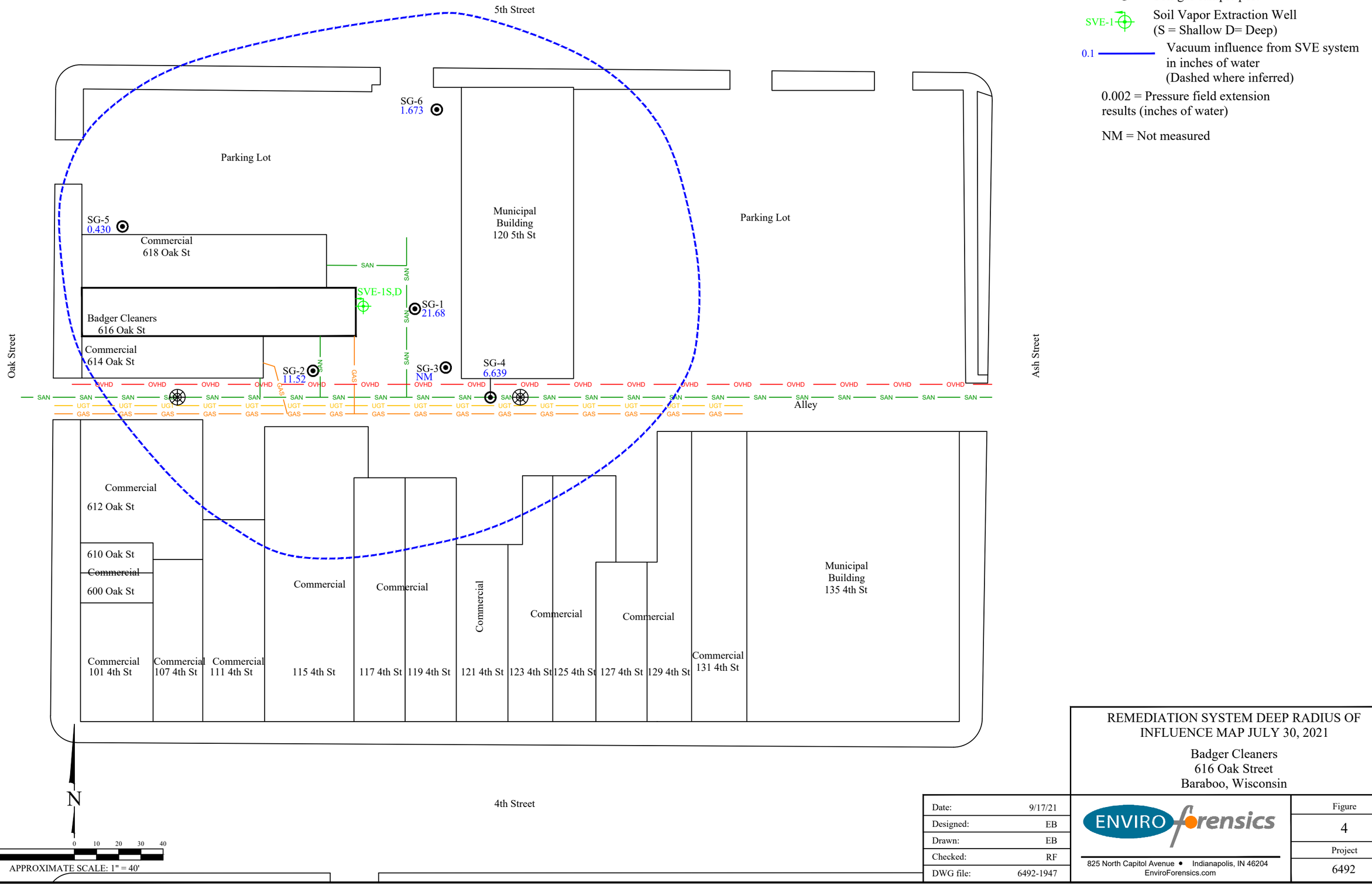
Figure 3

Project 6492




## Legend

SG-1 — Soil gas sample port

SVE-1 — Soil Vapor Extraction Well
(S = Shallow D= Deep)

0.1 — Vacuum influence from SVE system in inches of water
(Dashed where inferred)

0.002 = Pressure field extension results (inches of water)

NM = Not measured

# REMEDIATION SYSTEM DEEP RADIUS OF INFLUENCE MAP JULY 30, 2021

Badger Cleaners
616 Oak Street
Baraboo, Wisconsin

| | |
|---|---|
| Date: | 9/17/21 |
| Designed: | EB |
| Drawn: | EB |
| Checked: | RF |
| DWG file: | 6492-1947 |

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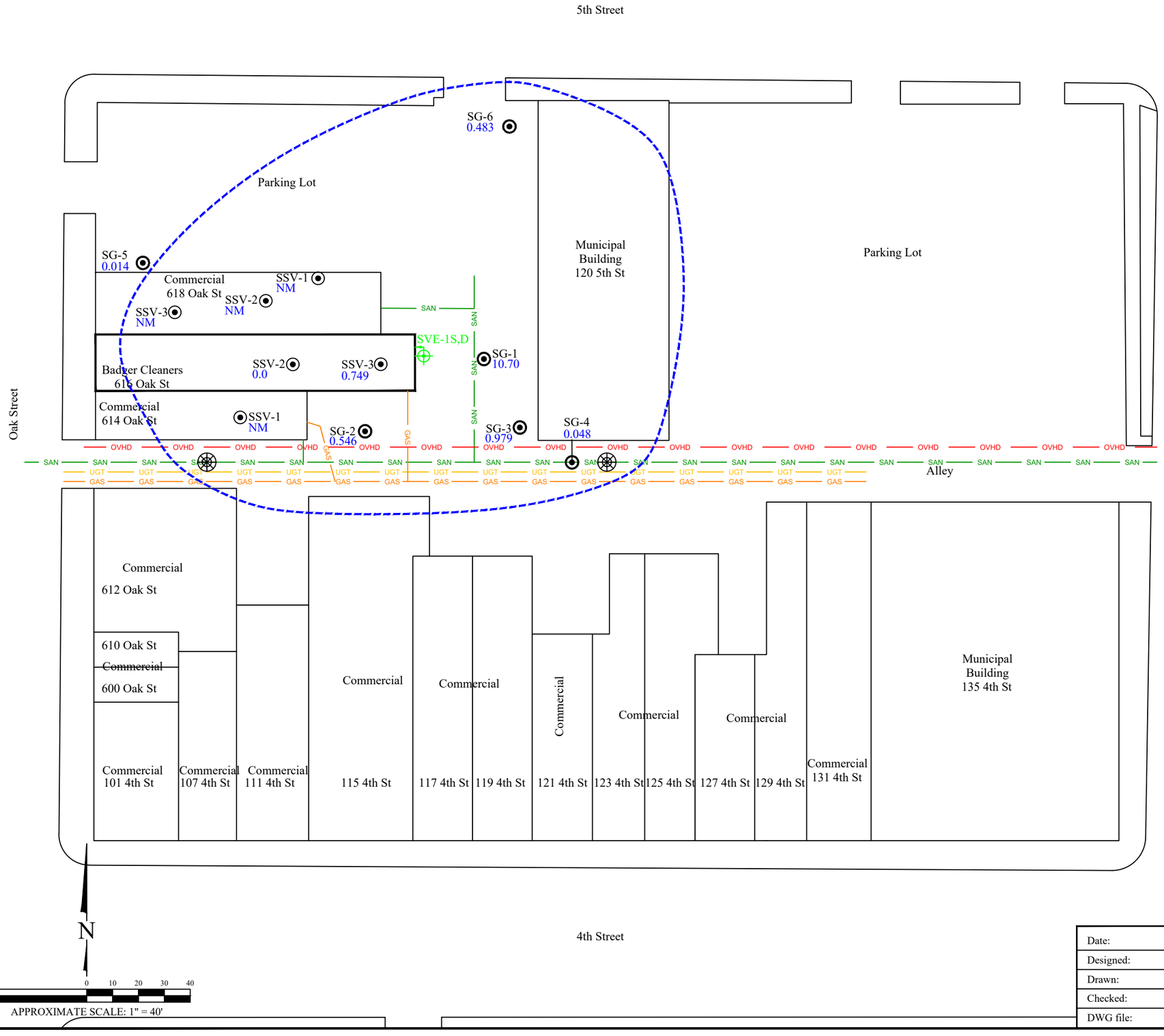
EnviroForensics.com

Figure 4

Project 6492




## Legend

SG-1 — Soil gas sample port

SS-1 — Sub-slab vapor sample port

SVE-1 — Soil Vapor Extraction Well (S = Shallow D= Deep)

0.1 — Vacuum influence from SVE system in inches of water (Dashed where inferred)

0.002 = Pressure field extension results (inches of water)

NM = Not measured

# REMEDIATION SYSTEM SHALLOW RADIUS OF INFLUENCE MAP APRIL 20, 2021

Badger Cleaners
616 Oak Street
Baraboo, Wisconsin

| | |
|---|---|
| Date: | 9/17/21 |
| Designed: | EB |
| Drawn: | EB |
| Checked: | RF |
| DWG file: | 6492-1944 |

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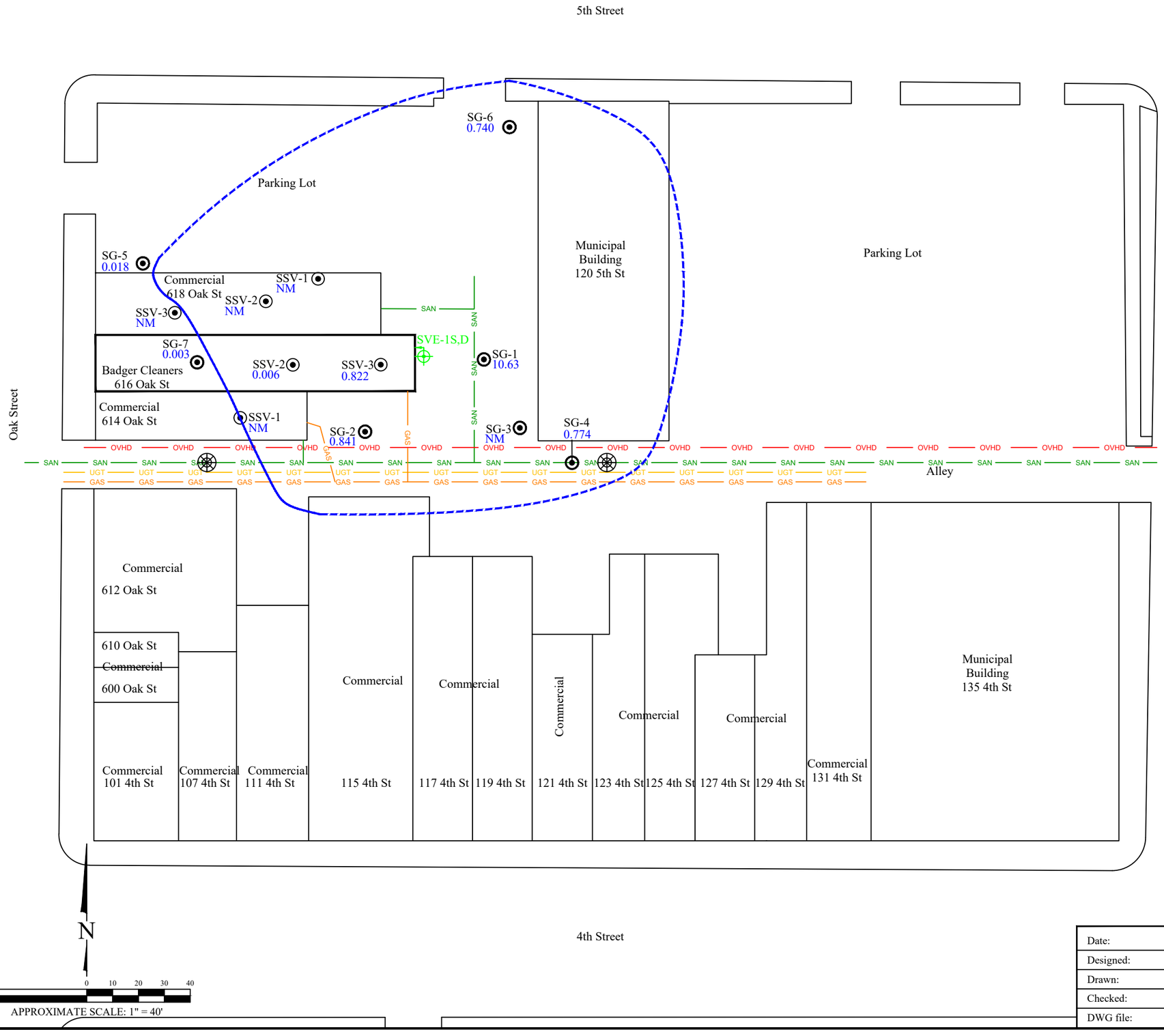
Figure 5

Project 6492




## Legend

SG-1 — Soil gas sample port

SS-1 — Sub-slab vapor sample port

SVE-1 — Soil Vapor Extraction Well (S = Shallow D= Deep)

0.1 — Vacuum influence from SVE system in inches of water (Dashed where inferred)

0.002 = Pressure field extension results (inches of water)

NM = Not measured

# REMEDIATION SYSTEM SHALLOW RADIUS OF INFLUENCE MAP JULY 30, 2021

Badger Cleaners
616 Oak Street
Baraboo, Wisconsin

| | |
|---|---|
| Date: | 9/17/21 |
| Designed: | EB |
| Drawn: | EB |
| Checked: | RF |
| DWG file: | 6492-1946 |

ENVIRO forensics
825 North Capitol Avenue • Indianapolis, IN 46204
EnviroForensics.com

Figure 6

Project 6492

**APPENDIX A**

**SVE System Laboratory Reports**

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

April 6, 2021

EnvisionAir Project Number: 2021-212
Client Project Name: 6492 Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received April 1, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-212

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-1067 | 6492-SVE-EX | A | 3/30/21 | 11:05 | 3/30/21 | 11:10 | 4/1/21 | 11:00 | -30 | -4 | -4 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-212

**Analytical Method:** TO-15
**Analytical Batch:** 040112AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-1067
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 3/30/21 11:05
**Sample Collection END Date/Time:** 3/30/21 11:10
**Sample Received Date/Time:** 4/1/21 11:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **1,360** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 97% | | |
| Analysis Date/Time: | 4-4-21/12:00 | | |
| Analyst Initials | tjg | | |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 040121AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 5 | 5 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| Trichlorethene | < 0.2 | 0.2 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 106% | | |
| Analysis Date/Time: | 4-3-21/15:53 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 9.33 | 10.5 | 10 | 93% | 105% | 11.8% | |
| trans-1,2-Dichloroethene | 10.3 | 10.6 | 10 | 103% | 106% | 2.9% | |
| cis-1,2-Dichloroethene | 9.98 | 11.4 | 10 | 100% | 114% | 13.3% | |
| Trichloroethene | 9.94 | 9.64 | 10 | 99% | 96% | 3.1% | |
| Tetrachloroethene | 9.23 | 9.38 | 10 | 92% | 94% | 1.6% | |
| 4-bromofluorobenzene (surrogate) | 97% | 89% | | | | | |
| Analysis Date/Time: | 4-3-21/14:06 | 4-3-21/14:43 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

| Flag Number | Comments |
|---|---|

EnvisionAir Proj#: 2021-212 Page 1 of 1

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: | P.O. Number: 2021-0183 |
| Report Address: rhaverman@enviroforensics.com | Project Name or Number: 6192 Badger Cleaners |
| Report To: Rob Haverman | Sampled by: R Brown |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) **Level III** **Level IV** |
| Invoice Address: accountspayable@enviroforensics.com | Reporting Units needed: (circle) **ug/m³** **mg/m³** **PPBV** **PPMV** |
| Desired TAT: (Please Circle One) **1 day** **2 days** **3 days** **Std (5 bus. days)** | Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

TO-15 Full List

TO-15 Short List (Specify in notes)

ENVISIONAIR

**Sampling Type:**
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

www.envision-air.com

***Canister Pressure / Vacuum***

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | | | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6192-SVE-EX | 1LC | 3-30-21 | 1105 | 3-30-21 | 1110 | | X | | | 84134 | 0075 | -30 | -4 | -4 | 21-1067 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments:
Short List: PCE, TCE, CDCE, tDCE, VC

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| RR | 3-30-21 | 1330 | FedEx | 3-30-21 | 1330 |
| | | | [illegible] Minnesota | 4/1/21 | 1100 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
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Fax: 317-351-0882
www.envision-air.com

Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

April 27, 2021

EnvisionAir Project Number: 2021-247
Client Project Name: 6492 Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received April 21, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-247

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-1216 | 6492-SVE-EX | A | 4/20/21 | 12:30 | 4/20/21 | 12:34 | 4/21/21 | 15:55 | -29 | -4 | -4 |
| 21-1217 | 6492-SVE-1D | A | 4/20/21 | 12:00 | 4/20/21 | 12:14 | 4/21/21 | 15:55 | -30 | -13 | -13 |
| 21-1218 | 6492-SVE-1S | A | 4/20/21 | 12:18 | 4/20/21 | 12:26 | 4/21/21 | 15:55 | -28 | -11 | -11 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-247

**Analytical Method:** TO-15
**Analytical Batch:** 042321AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-1216
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 4/20/21 12:30
**Sample Collection END Date/Time:** 4/20/21 12:34
**Sample Received Date/Time:** 4/21/21 15:55

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| 4-Ethyltoluene | < 4920 | 4920 | |
| 4-Methyl-2-pentanone (MIBK) | < 20500 | 20500 | |
| 1,1,1-Trichloroethane | < 5460 | 5460 | |
| 1,1,2,2-Tetrachloroethane | < 3.36 | 3.36 | 1 |
| 1,1,2-Trichloroethane | < 2.10 | 2.10 | 1 |
| 1,1-Dichloroethane | < 40.5 | 40.5 | |
| 1,1-Dichloroethene | < 1980 | 1980 | |
| 1,2,4-Trichlorobenzene | < 7.42 | 7.42 | |
| 1,2,4-Trimethylbenzene | < 49.2 | 49.2 | |
| 1,2-Dibromoethane (EDB) | < 0.32 | 0.32 | 1 |
| 1,2-Dichlorobenzene | < 601 | 601 | |
| 1,2-Dichloroethane | < 4.05 | 4.05 | |
| 1,2-Dichloropropane | < 4.62 | 4.62 | |
| 1,3,5-Trimethylbenzene | < 49.2 | 49.2 | |
| 1,3-Butadiene | < 2.21 | 2.21 | |
| 1,3-Dichlorobenzene | < 601 | 601 | |
| 1,4-Dichlorobenzene | < 6.01 | 6.01 | |
| 1,4-Dioxane | < 18.0 | 18.0 | |
| 2-Butanone (MEK) | < 29500 | 29500 | |
| 2-Hexanone | < 205 | 205 | |
| Acetone | < 23800 | 23800 | |
| Benzene | < 16.0 | 16.0 | |
| Benzyl Chloride | < 4.14 | 4.14 | 1 |
| Bromodichloromethane | < 5.36 | 5.36 | 1 |
| Bromoform | < 103 | 103 | |
| Bromomethane | < 38.8 | 38.8 | |
| Carbon Disulfide | < 3110 | 3110 | |
| Carbon Tetrachloride | < 6.29 | 6.29 | |
| Chlorobenzene | < 230 | 230 | |
| Chloroethane | < 132 | 132 | |

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| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| Chloroform | < 8.30 | 8.30 | |
| Chloromethane | < 206 | 206 | |
| cis-1,2-Dichloroethene | < 198 | 198 | |
| cis-1,3-Dichloropropene | < 45.4 | 45.4 | |
| Cyclohexane | < 55100 | 55100 | |
| Dibromochloromethane | < 8.52 | 8.52 | |
| Dichlorodifluoromethane | < 495 | 495 | |
| Ethyl Acetate | < 541 | 541 | |
| Ethylbenzene | < 86.8 | 86.8 | |
| Hexachloro-1,3-butadiene | < 10.7 | 10.7 | |
| Isooctane | < 4670 | 4670 | |
| m,p-Xylene | < 434 | 434 | |
| Methylene Chloride | < 417 | 417 | |
| Methyl-tert-butyl ether | < 361 | 361 | |
| N-Heptane | < 4100 | 4100 | |
| N-Hexane | < 1760 | 1760 | |
| o-Xylene | < 434 | 434 | |
| Propylene | < 1720 | 1720 | |
| Styrene | < 4260 | 4260 | |
| Tetrachloroethene | **2,350** | 128 | 2 |
| Tetrahydrofuran | < 2950 | 2950 | |
| Toluene | < 37700 | 37700 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| trans-1,3-Dichloropropene | < 45.4 | 45.4 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Trichlorofluoromethane | < 5620 | 5620 | |
| Vinyl Acetate | < 1760 | 1760 | |
| Vinyl Bromide | < 4.37 | 4.37 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 99% | | |
| Analysis Date/Time: | 4-23-21/14:20 | | |
| Analyst Initials | tjg | | |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-247

**Analytical Method:** TO-15
**Analytical Batch:** 042321AIR

**Client Sample ID:** 6492-SVE-1D
**EnvisionAir Sample Number:** 21-1217
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 4/20/21 12:00
**Sample Collection END Date/Time:** 4/20/21 12:14
**Sample Received Date/Time:** 4/21/21 15:55

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| 4-Ethyltoluene | < 4920 | 4920 | |
| 4-Methyl-2-pentanone (MIBK) | < 20500 | 20500 | |
| 1,1,1-Trichloroethane | < 5460 | 5460 | |
| 1,1,2,2-Tetrachloroethane | < 3.36 | 3.36 | 1 |
| 1,1,2-Trichloroethane | < 2.10 | 2.10 | 1 |
| 1,1-Dichloroethane | < 40.5 | 40.5 | |
| 1,1-Dichloroethene | < 1980 | 1980 | |
| 1,2,4-Trichlorobenzene | < 7.42 | 7.42 | |
| 1,2,4-Trimethylbenzene | < 49.2 | 49.2 | |
| 1,2-Dibromoethane (EDB) | < 0.32 | 0.32 | 1 |
| 1,2-Dichlorobenzene | < 601 | 601 | |
| 1,2-Dichloroethane | < 4.05 | 4.05 | |
| 1,2-Dichloropropane | < 4.62 | 4.62 | |
| 1,3,5-Trimethylbenzene | < 49.2 | 49.2 | |
| 1,3-Butadiene | < 2.21 | 2.21 | |
| 1,3-Dichlorobenzene | < 601 | 601 | |
| 1,4-Dichlorobenzene | < 6.01 | 6.01 | |
| 1,4-Dioxane | < 18.0 | 18.0 | |
| 2-Butanone (MEK) | < 29500 | 29500 | |
| 2-Hexanone | < 205 | 205 | |
| Acetone | < 23800 | 23800 | |
| Benzene | < 16.0 | 16.0 | |
| Benzyl Chloride | < 4.14 | 4.14 | 1 |
| Bromodichloromethane | < 5.36 | 5.36 | 1 |
| Bromoform | < 103 | 103 | |
| Bromomethane | < 38.8 | 38.8 | |
| Carbon Disulfide | < 3110 | 3110 | |
| Carbon Tetrachloride | < 6.29 | 6.29 | |
| Chlorobenzene | < 230 | 230 | |
| Chloroethane | < 132 | 132 | |

**EnvisionAir**
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| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| Chloroform | < 8.30 | 8.30 | |
| Chloromethane | < 206 | 206 | |
| cis-1,2-Dichloroethene | < 198 | 198 | |
| cis-1,3-Dichloropropene | < 45.4 | 45.4 | |
| Cyclohexane | < 55100 | 55100 | |
| Dibromochloromethane | < 8.52 | 8.52 | |
| Dichlorodifluoromethane | < 495 | 495 | |
| Ethyl Acetate | < 541 | 541 | |
| Ethylbenzene | < 86.8 | 86.8 | |
| Hexachloro-1,3-butadiene | < 10.7 | 10.7 | |
| Isooctane | < 4670 | 4670 | |
| m,p-Xylene | < 434 | 434 | |
| Methylene Chloride | < 417 | 417 | |
| Methyl-tert-butyl ether | < 361 | 361 | |
| N-Heptane | < 4100 | 4100 | |
| N-Hexane | < 1760 | 1760 | |
| o-Xylene | < 434 | 434 | |
| Propylene | < 1720 | 1720 | |
| Styrene | < 4260 | 4260 | |
| Tetrachloroethene | **1,640** | 128 | 2 |
| Tetrahydrofuran | < 2950 | 2950 | |
| Toluene | < 37700 | 37700 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| trans-1,3-Dichloropropene | < 45.4 | 45.4 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Trichlorofluoromethane | < 5620 | 5620 | |
| Vinyl Acetate | < 1760 | 1760 | |
| Vinyl Bromide | < 4.37 | 4.37 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 96% | | |
| Analysis Date/Time: | 4-23-21/14:58 | | |
| Analyst Initials | tjg | | |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-247

**Analytical Method:** TO-15
**Analytical Batch:** 042321AIR

**Client Sample ID:** 6492-SVE-1S
**EnvisionAir Sample Number:** 21-1218
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 4/20/21 12:18
**Sample Collection END Date/Time:** 4/20/21 12:26
**Sample Received Date/Time:** 4/21/21 15:55

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| 4-Ethyltoluene | < 4920 | 4920 | |
| 4-Methyl-2-pentanone (MIBK) | < 20500 | 20500 | |
| 1,1,1-Trichloroethane | < 5460 | 5460 | |
| 1,1,2,2-Tetrachloroethane | < 3.36 | 3.36 | 1 |
| 1,1,2-Trichloroethane | < 2.10 | 2.10 | 1 |
| 1,1-Dichloroethane | < 40.5 | 40.5 | |
| 1,1-Dichloroethene | < 1980 | 1980 | |
| 1,2,4-Trichlorobenzene | < 7.42 | 7.42 | |
| 1,2,4-Trimethylbenzene | < 49.2 | 49.2 | |
| 1,2-Dibromoethane (EDB) | < 0.32 | 0.32 | 1 |
| 1,2-Dichlorobenzene | < 601 | 601 | |
| 1,2-Dichloroethane | < 4.05 | 4.05 | |
| 1,2-Dichloropropane | < 4.62 | 4.62 | |
| 1,3,5-Trimethylbenzene | < 49.2 | 49.2 | |
| 1,3-Butadiene | < 2.21 | 2.21 | |
| 1,3-Dichlorobenzene | < 601 | 601 | |
| 1,4-Dichlorobenzene | < 6.01 | 6.01 | |
| 1,4-Dioxane | < 18.0 | 18.0 | |
| 2-Butanone (MEK) | < 29500 | 29500 | |
| 2-Hexanone | < 205 | 205 | |
| Acetone | < 23800 | 23800 | |
| Benzene | < 16.0 | 16.0 | |
| Benzyl Chloride | < 4.14 | 4.14 | 1 |
| Bromodichloromethane | < 5.36 | 5.36 | 1 |
| Bromoform | < 103 | 103 | |
| Bromomethane | < 38.8 | 38.8 | |
| Carbon Disulfide | < 3110 | 3110 | |
| Carbon Tetrachloride | < 6.29 | 6.29 | |
| Chlorobenzene | < 230 | 230 | |
| Chloroethane | < 132 | 132 | |

**EnvisionAir**
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Ph: 317-351-0885
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| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| Chloroform | < 8.30 | 8.30 | |
| Chloromethane | < 206 | 206 | |
| cis-1,2-Dichloroethene | < 198 | 198 | |
| cis-1,3-Dichloropropene | < 45.4 | 45.4 | |
| Cyclohexane | < 55100 | 55100 | |
| Dibromochloromethane | < 8.52 | 8.52 | |
| Dichlorodifluoromethane | < 495 | 495 | |
| Ethyl Acetate | < 541 | 541 | |
| Ethylbenzene | < 86.8 | 86.8 | |
| Hexachloro-1,3-butadiene | < 10.7 | 10.7 | |
| Isooctane | < 4670 | 4670 | |
| m,p-Xylene | < 434 | 434 | |
| Methylene Chloride | < 417 | 417 | |
| Methyl-tert-butyl ether | < 361 | 361 | |
| N-Heptane | < 4100 | 4100 | |
| N-Hexane | < 1760 | 1760 | |
| o-Xylene | < 434 | 434 | |
| Propylene | < 1720 | 1720 | |
| Styrene | < 4260 | 4260 | |
| Tetrachloroethene | **1,300** | 31.9 | |
| Tetrahydrofuran | < 2950 | 2950 | |
| Toluene | < 37700 | 37700 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| trans-1,3-Dichloropropene | < 45.4 | 45.4 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Trichlorofluoromethane | < 5620 | 5620 | |
| Vinyl Acetate | < 1760 | 1760 | |
| Vinyl Bromide | < 4.37 | 4.37 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 102% | | |
| Analysis Date/Time: | 4-23-21/17:44 | | |
| Analyst Initials | tjg | | |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 042321AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| 4-Ethyltoluene | < 100 | 100 | |
| 4-Methyl-2-pentanone (MIBK) | < 500 | 500 | |
| 1,1,1-Trichloroethane | < 100 | 100 | |
| 1,1,2,2-Tetrachloroethane | < 0.049 | 0.049 | 1 |
| 1,1,2-Trichloroethane | < 0.038 | 0.038 | 1 |
| 1,1-Dichloroethane | < 1 | 1 | |
| 1,1-Dichloroethene | < 50 | 50 | |
| 1,2,4-Trichlorobenzene | < 0.1 | 0.1 | |
| 1,2,4-Trimethylbenzene | < 1 | 1 | |
| 1,2-dibromoethane (EDB) | < 0.0041 | 0.0041 | 1 |
| 1,2-Dichlorobenzene | < 10 | 10 | |
| 1,2-Dichloroethane | < 0.1 | 0.1 | |
| 1,2-Dichloropropane | < 0.1 | 0.1 | |
| 1,3,5-Trimethylbenzene | < 1 | 1 | |
| 1,3-Butadiene | < 0.1 | 0.1 | |
| 1,3-Dichlorobenzene | < 10 | 10 | |
| 1,4-Dichlorobenzene | < 0.1 | 0.1 | |
| 1,4-Dioxane | < 0.5 | 0.5 | |
| 2-Butanone (MEK) | < 1000 | 1000 | |
| 2-Hexanone | < 5 | 5 | |
| Acetone | < 1000 | 1000 | |
| Benzene | < 0.5 | 0.5 | |
| Benzyl Chloride | < 0.08 | 0.08 | 1 |
| Bromodichloromethane | < 0.08 | 0.08 | 1 |
| Bromoform | < 1 | 1 | |
| Bromomethane | < 1 | 1 | |
| Carbon Disulfide | < 100 | 100 | |
| Carbon Tetrachloride | < 0.1 | 0.1 | |
| Chlorobenzene | < 5 | 5 | |
| Chloroethane | < 5 | 5 | |
| Chloroform | < 0.17 | 0.17 | |
| Chloromethane | < 10 | 10 | |
| cis-1,2-Dichloroethene | < 5 | 5 | |
| cis-1,3-Dichloropropene | < 1 | 1 | |
| Cyclohexane | < 1600 | 1600 | |
| Dibromochloromethane | < 0.1 | 0.1 | |
| Dichlorodifluoromethane | < 10 | 10 | |
| Ethyl Acetate | < 15 | 15 | |
| Ethylbenzene | < 2 | 2 | |
| Hexachloro-1,3-butadiene | < 0.1 | 0.1 | |
| Isooctane | < 100 | 100 | |
| m,p-Xylene | < 10 | 10 | |
| Methylene Chloride | < 12 | 12 | |
| Methyl-tert-butyl ether | < 10 | 10 | |
| N-Heptane | < 100 | 100 | |
| N-Hexane | < 50 | 50 | |
| o-Xylene | < 10 | 10 | |
| Propylene | < 100 | 100 | |
| Styrene | < 100 | 100 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| Tetrahydrofuran | < 100 | 100 | |

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*Analytical Report*

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| Toluene | < 1000 | 1000 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| trans-1,3-Dichloropropene | < 1 | 1 | |
| Trichloroethene | < 0.2 | 0.2 | |
| Trichlorofluoromethane | < 100 | 100 | |
| Vinyl Acetate | < 50 | 50 | |
| Vinyl Bromide | < 0.1 | 0.1 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 96% | | |
| Analysis Date/Time: | 4-23-21/11:47 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Propylene | 10.4 | 8.5 | 10 | 104% | 85% | 20.1% | 3 |
| Dichlorodifluoromethane | 9.28 | 9 | 10 | 93% | 90% | 3.1% | |
| Chloromethane | 9.15 | 9.24 | 10 | 92% | 92% | 1.0% | |
| Vinyl Chloride | 10.4 | 9.67 | 10 | 104% | 97% | 7.3% | |
| 1,3-Butadiene | 9.21 | 9.53 | 10 | 92% | 95% | 3.4% | |
| Bromomethane | 11.4 | 9.47 | 10 | 114% | 95% | 18.5% | |
| Chloroethane | 9.39 | 10.2 | 10 | 94% | 102% | 8.3% | |
| Vinyl Bromide | 11.6 | 9.2 | 10 | 116% | 92% | 23.1% | 3 |
| Trichlorofluoromethane | 9.67 | 10.2 | 10 | 97% | 102% | 5.3% | |
| Acetone | 10.7 | 10.9 | 10 | 107% | 109% | 1.9% | |
| 1,1-Dichloroethene | 9.98 | 10.9 | 10 | 100% | 109% | 8.8% | |
| Methylene Chloride | 9.09 | 9.48 | 10 | 91% | 95% | 4.2% | |
| Carbon Disulfide | 9.45 | 9.96 | 10 | 95% | 100% | 5.3% | |
| trans-1,2-Dichloroethene | 9.99 | 10.2 | 10 | 100% | 102% | 2.1% | |
| Methyl-tert-butyl ether | 10.1 | 10.2 | 10 | 101% | 102% | 1.0% | |
| 1,1-Dichloroethane | 8.78 | 9.68 | 10 | 88% | 97% | 9.8% | |
| Vinyl Acetate | 10.7 | 9.68 | 10 | 107% | 97% | 10.0% | |
| N-Hexane | 9.26 | 9.07 | 10 | 93% | 91% | 2.1% | |
| 2-Butanone (MEK) | 10.4 | 9.64 | 10 | 104% | 96% | 7.6% | |
| cis-1,2-Dichloroethene | 10 | 10.2 | 10 | 100% | 102% | 2.0% | |
| Ethyl Acetate | 9.94 | 10.8 | 10 | 99% | 108% | 8.3% | |
| Chloroform | 9.28 | 9.96 | 10 | 93% | 100% | 7.1% | |
| Tetrahydrofuran | 9.82 | 10.2 | 10 | 98% | 102% | 3.8% | |
| 1,2-Dichloroethane | 10.1 | 9.84 | 10 | 101% | 98% | 2.6% | |
| 1,1,1-Trichloroethane | 9.82 | 9.13 | 10 | 98% | 91% | 7.3% | |
| Carbon Tetrachloride | 9.95 | 9.64 | 10 | 100% | 96% | 3.2% | |
| Benzene | 9.16 | 8.23 | 10 | 92% | 82% | 10.7% | |
| Cyclohexane | 9.7 | 9.64 | 10 | 97% | 96% | 0.6% | |
| 1,2-Dichloropropane | 8.46 | 9.56 | 10 | 85% | 96% | 12.2% | |
| Trichloroethene | 8.67 | 9.11 | 10 | 87% | 91% | 4.9% | |
| Bromodichloromethane | 9.75 | 9.35 | 10 | 98% | 94% | 4.2% | |
| 1,4-Dioxane | 10.7 | 9.95 | 10 | 107% | 100% | 7.3% | |
| Isooctane | 9.42 | 8.62 | 10 | 94% | 86% | 8.9% | |
| N-Heptane | 10.2 | 9.82 | 10 | 102% | 98% | 3.8% | |
| cis-1,3-Dichloropropene | 9.95 | 9.21 | 10 | 100% | 92% | 7.7% | |
| 4-Methyl-2-pentanone (MIBK) | 11 | 10.6 | 10 | 110% | 106% | 3.7% | |
| trans-1,3-Dichloropropene | 9.54 | 8.64 | 10 | 95% | 86% | 9.9% | |
| 1,1,2-Trichloroethane | 8.72 | 9.98 | 10 | 87% | 100% | 13.5% | |
| Toluene | 8.61 | 9.5 | 10 | 86% | 95% | 9.8% | |
| 2-Hexanone | 10.7 | 10.6 | 10 | 107% | 106% | 0.9% | |
| Dibromochloromethane | 9.92 | 10.8 | 10 | 99% | 108% | 8.5% | |
| 1,2-dibromoethane (EDB) | 9.25 | 9.97 | 10 | 93% | 100% | 7.5% | |
| Tetrachloroethene | 10.4 | 11.4 | 10 | 104% | 114% | 9.2% | |
| Chlorobenzene | 8.95 | 9.61 | 10 | 90% | 96% | 7.1% | |
| Ethylbenzene | 10.1 | 10.7 | 10 | 101% | 107% | 5.8% | |
| m,p-Xylene | 19.4 | 22.3 | 20 | 97% | 112% | 13.9% | |
| Bromoform | 10.2 | 10.7 | 10 | 102% | 107% | 4.8% | |

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*Analytical Report*

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Styrene | 9.77 | 10.1 | 10 | 98% | 101% | 3.3% | |
| 1,1,2,2-Tetrachloroethane | 9.41 | 9.49 | 10 | 94% | 95% | 0.8% | |
| o-Xylene | 10 | 10.5 | 10 | 100% | 105% | 4.9% | |
| 4-Ethyltoluene | 11.1 | 11.7 | 10 | 111% | 117% | 5.3% | |
| 1,3,5-Trimethylbenzene | 10.2 | 10.3 | 10 | 102% | 103% | 1.0% | |
| 1,2,4-Trimethylbenzene | 9.62 | 10.1 | 10 | 96% | 101% | 4.9% | |
| 1,3-Dichlorobenzene | 9.15 | 9.91 | 10 | 92% | 99% | 8.0% | |
| Benzyl Chloride | 9.23 | 9.27 | 10 | 92% | 93% | 0.4% | |
| 1,4-Dichlorobenzene | 10.5 | 9.12 | 10 | 105% | 91% | 14.1% | |
| 1,2-Dichlorobenzene | 9.55 | 9.83 | 10 | 96% | 98% | 2.9% | |
| 1,2,4-Trichlorobenzene | 10.2 | 9.75 | 10 | 102% | 98% | 4.5% | |
| Hexachloro-1,3-butadiene | 10.5 | 11.5 | 10 | 105% | 115% | 9.1% | |
| 4-bromofluorobenzene (surrogate) | 98% | 96% | | | | | |
| Analysis Date/Time: | 4-23-21/09:33 | 4-23-21/11:09 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

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| Flag Number | Comments |
|---|---|
| 1 | Reporting limit is supported by MDL. TJG |
| 2 | Reported value is from a 40x dilution. TJG 4/26/21 |
| 3 | RPD is biased high, but recoveries are within control. TJG 4/26/21 |

EnvisionAir Proj#: 2021-247 Page 1 of 1

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: | P.O. Number: 2021-0222 |
| Report Address: rhoerman@enviroforensics.com | Project Name or Number: 6492 Badger Cleaners |
| Report To: Rob Hoerman | Sampled by: |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) Level III Level IV |
| Invoice Address: accountspayable@enviroforensics.com | Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV |
| Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days) | Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

TO-15 Full List | TO-15 Short List (Specify in notes)

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**Sampling Type:**
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

*Canister Pressure / Vacuum*

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | TO-15 Full List | TO-15 Short List (Specify in notes) | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6492-SVE-EX | 1LC | 4-20-21 | 1230 | 4-20-21 | 1234 | | X | | | 83920 | 0028 | -29 | -4 | -4 | 21-1216 |
| 6492-SVE-1D | ↓ | ↓ | 1200 | ↓ | 1214 | | ↓ | | | 84137 | 0114 | -30 | -13 | -13 | 21-1217 |
| 6492-SVE-1S | ↓ | ↓ | 1218 | ↓ | 1226 | | ↓ | | | 2092 | 0009 | -28 | -11 | -11 | 21-1218 |
| | | | | | | | | | | | | | | | |
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Comments:

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| RLL | 4-20-21 | 1630 | FedEx | 4-20-21 | 1630 |
| | | | Alan Hummel | 4/21/21 | 1555 |

**EnvisionAir**
1441 Sadlier Circle West Drive
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Ph: 317-351-0885
Fax: 317-351-0882
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Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

June 4, 2021

EnvisionAir Project Number: 2021-289
Client Project Name: 6492 Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received June 2, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-289

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-1383 | 6492-SVE-EX | A | 5/26/21 | 14:02 | 5/26/21 | 14:07 | 6/2/21 | 15:35 | -27 | -4 | -4 |
| 21-1384 | 6492-SVE-1S | A | 5/26/21 | 13:46 | 5/26/21 | 13:57 | 6/2/21 | 15:35 | -26 | -10 | -10 |
| 21-1385 | 6492-SVE-1D | A | 5/26/21 | 13:32 | 5/26/21 | 13:45 | 6/2/21 | 15:35 | -26 | -12 | -12 |

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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-289

**Analytical Method:** TO-15
**Analytical Batch:** 060321AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-1383
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 5/26/21 14:02
**Sample Collection END Date/Time:** 5/26/21 14:07
**Sample Received Date/Time:** 6/2/21 15:35

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **1,340** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 99% | | |
| Analysis Date/Time: | 6-3-21/21:36 | | |
| Analyst Initials | tjg | | |

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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-289

**Analytical Method:** TO-15
**Analytical Batch:** 060321AIR

**Client Sample ID:** 6492-SVE-1S
**EnvisionAir Sample Number:** 21-1384
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 5/26/21 13:46
**Sample Collection END Date/Time:** 5/26/21 13:57
**Sample Received Date/Time:** 6/2/21 15:35

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **144** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 96% | | |
| Analysis Date/Time: | 6-3-21/22:42 | | |
| Analyst Initials | tjg | | |

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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-289

**Analytical Method:** TO-15
**Analytical Batch:** 060321AIR

**Client Sample ID:** 6492-SVE-1D
**EnvisionAir Sample Number:** 21-1385
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 5/26/21 13:32
**Sample Collection END Date/Time:** 5/26/21 13:45
**Sample Received Date/Time:** 6/2/21 15:35

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **158** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 95% | | |
| Analysis Date/Time: | 6-3-21/23:49 | | |
| Analyst Initials | tjg | | |

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*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 060321AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 5 | 5 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| Trichlorethene | < 0.2 | 0.2 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 91% | | |
| Analysis Date/Time: | 6-3-21/18:05 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 9.21 | 10.2 | 10 | 92% | 102% | 10.2% | |
| trans-1,2-Dichloroethene | 10.7 | 10.3 | 10 | 107% | 103% | 3.8% | |
| cis-1,2-Dichloroethene | 10.8 | 9.82 | 10 | 108% | 98% | 9.5% | |
| Trichloroethene | 9.47 | 9.91 | 10 | 95% | 99% | 4.5% | |
| Tetrachloroethene | 8.73 | 9.02 | 10 | 87% | 90% | 3.3% | |
| 4-bromofluorobenzene (surrogate) | 102% | 102% | | | | | |
| Analysis Date/Time: | 6-3-21/16:20 | 6-3-21/16:58 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

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| Flag Number | Comments |
|---|---|

EnvisionAir Proj#: 2021-289 Page 1 of 1

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: | P.O. Number: 2021-0313 |
| Report Address: rhaverman@enviroforensics.com | Project Name or Number: 6492 Badger Cleaners |
| Report To: Rob Haverman | Sampled by: R Brown |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) Level III Level IV |
| Invoice Address: accounts payable@enviroforensics.com | Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV |
| Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days) | Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

TO-15 Full List

TO-15 Short List (Specify in notes)

ENVISIONAIR

**Sampling Type:**
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

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***Canister Pressure / Vacuum***

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | TO-15 Full List | TO-15 Short List (Specify in notes) | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6492-SVE-EX | 1LC | 5-26-21 | 1402 | 5-26-21 | 1407 | | X | | | 2208 | 0026 | -27 | -4 | -4 | 21-1383 |
| 6492-SVE-1S | 1LC | 5-26-21 | 1346 | 5-26-21 | 1357 | | X | | | 85941 | 0041 | -26 | -10 | -10 | 21-1384 |
| 6492-SVE-1D | 1LC | 5-26-21 | 1332 | 5-26-21 | 1345 | | X | | | 2223 | 125 | -26 | -12 | -12 | 21-1385 |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |

Comments:
Short List: TCE, PCE, tDCE, cDCE, VC

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| TLTC | 5-28-21 | 1400 | FedEx | 5-28-21 | 1400 |
| | | | Alan Hunnicutt | 6/2/21 | 1535 |

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Ph: 317-351-0885
Fax: 317-351-0882
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Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

July 9, 2021

EnvisionAir Project Number: 2021-321
Client Project Name: 6492 Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received June 30, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-321

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-1512 | 6492-SVE-EX | A | 6/29/21 | 10:51 | 6/29/21 | 10:56 | 6/30/21 | 15:00 | -28 | -3 | -3 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-321

**Analytical Method:** TO-15
**Analytical Batch:** 070621AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-1512
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 6/29/21 10:51
**Sample Collection END Date/Time:** 6/29/21 10:56
**Sample Received Date/Time:** 6/30/21 15:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **2,210** | 128 | 1 |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 92% | | |
| Analysis Date/Time: | 7-7-21/14:04 | | |
| Analyst Initials | tjg | | |

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*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 070621AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 5 | 5 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| Trichlorethene | < 0.2 | 0.2 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 97% | | |
| Analysis Date/Time: | 7-6-21/16:14 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 10.2 | 10.3 | 10 | 102% | 103% | 1.0% | |
| trans-1,2-Dichloroethene | 10.4 | 10.5 | 10 | 104% | 105% | 1.0% | |
| cis-1,2-Dichloroethene | 9.97 | 9.74 | 10 | 100% | 97% | 2.3% | |
| Trichloroethene | 10.3 | 9.72 | 10 | 103% | 97% | 5.8% | |
| Tetrachloroethene | 8.72 | 9.48 | 10 | 87% | 95% | 8.4% | |
| 4-bromofluorobenzene (surrogate) | 106% | 105% | | | | | |
| Analysis Date/Time: | 7-6-21/15:07 | 7-6-21/15:40 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

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Fax: 317-351-0882
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| Flag Number | Comments |
|---|---|
| 1 | Reported value is from a 40x dilution. TJG 7/9/21 |

EnvisionAir Proj#: 2021-321 Page 1 of 1

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: | P.O. Number: 2021-0387 |
| Report Address: rhoerman@enviroforensics.com | Project Name or Number: 6492 Badger Cleaners |
| Report To: Rob Hoerman | Sampled by: R. Brown |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) Level III Level IV |
| Invoice Address: accountspayable@enviroforensics.com | Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV |
| Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days) | Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

ENVISIONAIR

**Sampling Type:**
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

www.envision-air.com

*Canister Pressure / Vacuum*

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | TO-15 Full List | TO-15 Short List | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6492-SVE-EX | 1LC | 6-29-21 | 1051 | 6-29-21 | 1056 | | X | | | 2232 | 0040 | -28 | -3 | -3 | 21-1512 |
| | | | | | | | | | | | | | | | |
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Comments:
Short List: TCE, PCE, cDCE, tDCE, VC

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| [signature] | 6-29-21 | 1630 | FedEx | 6-29-21 | 1630 |
| | | | Ken Hunnicutt | 6/30/21 | 1500 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

August 12, 2021

EnvisionAir Project Number: 2021-383
Client Project Name: 6492 – Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received August 4, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

David Norris
Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-383

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-1824 | 6492-SVE-EX | A | 7/30/21 | 10:32 | 7/30/21 | 10:36 | 8/4/21 | 15:20 | -28 | -3 | -3 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-383

**Analytical Method:** TO-15
**Analytical Batch:** 080921AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-1824
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 7/30/21 10:32
**Sample Collection END Date/Time:** 7/30/21 10:36
**Sample Received Date/Time:** 8/4/21 15:20

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **1,700** | 128 | 1 |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 100% | | |
| Analysis Date/Time: | 8-10-21/20:38 | | |
| Analyst Initials | tjg | | |

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Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
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*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 080921AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 5 | 5 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| Trichloroethene | < 0.2 | 0.2 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 92% | | |
| Analysis Date/Time: | 8-10-21/15:56 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 11.2 | 10.5 | 10 | 112% | 105% | 6.5% | |
| Tetrachloroethene | 10.2 | 9.63 | 10 | 102% | 96% | 5.7% | |
| trans-1,2-Dichloroethene | 9.8 | 9.06 | 10 | 98% | 91% | 7.8% | |
| Trichloroethene | 9.89 | 9.38 | 10 | 99% | 94% | 5.3% | |
| Vinyl Chloride | 10.1 | 9.68 | 10 | 101% | 97% | 4.2% | |
| 4-bromofluorobenzene (surrogate) | 103% | 95% | | | | | |
| Analysis Date/Time: | 8-10-21/14:36 | 8-10-21/15:22 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

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Indianapolis, IN 46239
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Fax: 317-351-0882
www.envision-air.com

| Flag Number | Comments |
|---|---|
| 1 | Reported value is from a 40x dilution. TJG 8/11/21 |

EnvisionAir Proj#:_____ Page 1 of 1

# CHAIN OF CUSTODY RECORD

2021-383

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: | P.O. Number: 2021-0451 |
| Report Address: rhoerman@enviroforensics.com | Project Name or Number: GP2 Badger Cleaners |
| Report To: Rob Hoerman | Sampled by: R Brown |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) Level III Level IV |
| Invoice Address: Accounts Payables enviroforensics.com | Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV |
| Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days) | Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

TO-15 Full List

TO-15 Short List (Specify in notes)

ENVISIONAIR

www.envision-air.com

**Sampling Type:**
Soil-Gas: X
Sub-Slab: ☐
Indoor-Air: ☐

*Canister Pressure / Vacuum*

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | | | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GP2-SVE-EX | 1LC | 7.30.21 | 1032 | 7.30.21 | 1036 | | X | | | 83815 | 008 | -28 | -3 | -3 | 21-1824 |
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Comments:
Short List: TCE, PCE, cDCE, tDCE, VC

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| TCTC | 7.30.21 | 1500 | FedEx | 7.30.21 | 1500 |
| | | | L. Carlton | 8/4/21 | 15:20 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

August 30, 2021

EnvisionAir Project Number: 2021-415
Client Project Name: 6492 – Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received August 20, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

David Norris
Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-415

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-2017 | 6492-SVE-EX | A | 8/19/21 | 12:50 | 8/19/21 | 12:54 | 8/20/21 | 13:00 | -29 | -3 | -3 |
| 21-2018 | 6492-SVE-1S | A | 8/19/21 | 12:32 | 8/19/21 | 12:46 | 8/20/21 | 13:00 | -29 | -11 | -11 |
| 21-2019 | 6492-SVE-1D | A | 8/19/21 | 12:13 | 8/19/21 | 12:30 | 8/20/21 | 13:00 | -29 | -12 | -12 |

**EnvisionAir**
1441 Sadlier Circle West Drive
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Ph: 317-351-0885
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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-415

**Analytical Method:** TO-15
**Analytical Batch:** 082321AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-2017
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 8/19/21 12:50
**Sample Collection END Date/Time:** 8/19/21 12:54
**Sample Received Date/Time:** 8/20/21 13:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **1,310** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 93% | | |
| Analysis Date/Time: | 8-25-21/01:44 | | |
| Analyst Initials | tjg | | |

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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-415

**Analytical Method:** TO-15
**Analytical Batch:** 082321AIR

**Client Sample ID:** 6492-SVE-1S
**EnvisionAir Sample Number:** 21-2018
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 8/19/21 12:32
**Sample Collection END Date/Time:** 8/19/21 12:46
**Sample Received Date/Time:** 8/20/21 13:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **127** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 100% | | |
| Analysis Date/Time: | 8-25-21/02:25 | | |
| Analyst Initials | tjg | | |

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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-415

**Analytical Method:** TO-15
**Analytical Batch:** 082321AIR

**Client Sample ID:** 6492-SVE-1D
**EnvisionAir Sample Number:** 21-2019
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 8/19/21 12:13
**Sample Collection END Date/Time:** 8/19/21 12:30
**Sample Received Date/Time:** 8/20/21 13:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **144** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 94% | | |
| Analysis Date/Time: | 8-25-21/03:06 | | |
| Analyst Initials | tjg | | |

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Fax: 317-351-0882
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*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 082321AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 5 | 5 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| Trichlorethene | < 0.2 | 0.2 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 96% | | |
| Analysis Date/Time: | 8-24-21/21:09 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 9.62 | 9.24 | 10 | 96% | 92% | 4.0% | |
| trans-1,2-Dichloroethene | 8.63 | 10.2 | 10 | 86% | 102% | 16.7% | |
| cis-1,2-Dichloroethene | 10.1 | 10.4 | 10 | 101% | 104% | 2.9% | |
| Trichloroethene | 10 | 9.56 | 10 | 100% | 96% | 4.5% | |
| Tetrachloroethene | 9.33 | 8.99 | 10 | 93% | 90% | 3.7% | |
| 4-bromofluorobenzene (surrogate) | 103% | 104% | | | | | |
| Analysis Date/Time: | 8-24-21/19:00 | 8-24-21/19:46 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

**EnvisionAir**
1441 Sadlier Circle West Drive
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| Flag Number | Comments |
|---|---|

EnvisionAir Proj#: 2021-415 Page 1 of 1

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: | P.O. Number: 2021-0492 |
| Report Address: rhoermann@enviroforensics.com | Project Name or Number: 6492 Bodger Cleaners |
| Report To: Rob Hoerman | Sampled by: R Brown |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) Level III Level IV |
| Invoice Address: accounts payable@enviroforensics.com | Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV |
| Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days) | Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

TO-15 Full List | TO-15 Short List (Specify in notes)

ENVISIONAIR

Sampling Type:
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

www.envision-air.com

*Canister Pressure / Vacuum*

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | TO-15 Full List | TO-15 Short List (Specify in notes) | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6492-SVE-EX | 1LC | 8-19-21 | 1250 | 8-19-21 | 1254 | | X | | | 84137 | 0005 | -29 | -3 | -3 | 21-2017 |
| 6492-SVE-1S | ↓ | ↓ | 1232 | ↓ | 1246 | | ↓ | | | 83934 | 0013 | -29 | -11 | -11 | 21-2018 |
| 6492-SVE-1D | ↓ | ↓ | 1213 | ↓ | 1230 | | ↓ | | | 83724 | 0037 | -29 | -12 | -12 | 21-2019 |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |

Comments:
Short List: TCE, PCE, cDCE, tDCE, VC

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| ICIC | 8-19-21 | 1300 | FedEx | 8-19-21 | 1300 |
| | | | Ohaulton | 8-20-2 | 13:00 |

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

September 29, 2021

EnvisionAir Project Number: 2021-486
Client Project Name: 6492 – Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received September 22, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

David Norris
Project Manager
EnvisionAir, LLC

**EnvisionAir**
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-486

## Sample Summary

*Canister Pressure / Vacuum*

| Laboratory Sample Number: | Sample Description: | Matrix: | START Date Collected: | START Time Collected: | End Date Collected: | End Time Collected: | Date Received: | Time Received | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-2404 | 6492-SVE-EX | A | 9/20/21 | 14:19 | 9/20/21 | 14:23 | 9/22/21 | 15:00 | -27 | -3 | -3 |
| 21-2405 | 6492-SVE-1S | A | 9/20/21 | 14:38 | 9/20/21 | 14:49 | 9/22/21 | 15:00 | -29 | -12 | -12 |
| 21-2406 | 6492-SVE-1D | A | 9/20/21 | 14:26 | 9/20/21 | 14:35 | 9/22/21 | 15:00 | -29 | -12 | -12 |

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**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-486

**Analytical Method:** TO-15
**Analytical Batch:** 092221AIR

**Client Sample ID:** 6492-SVE-EX
**EnvisionAir Sample Number:** 21-2404
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 9/20/21 14:19
**Sample Collection END Date/Time:** 9/20/21 14:23
**Sample Received Date/Time:** 9/22/21 15:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **423** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 92% | | |
| Analysis Date/Time: | 9-23-21/23:31 | | |
| Analyst Initials | tjg | | |

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**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-486

**Analytical Method:** TO-15
**Analytical Batch:** 092221AIR

**Client Sample ID:** 6492-SVE-1S
**EnvisionAir Sample Number:** 21-2405
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 9/20/21 14:38
**Sample Collection END Date/Time:** 9/20/21 14:49
**Sample Received Date/Time:** 9/22/21 15:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **95.6** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 104% | | |
| Analysis Date/Time: | 9-24-21/00:12 | | |
| Analyst Initials | tjg | | |

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**Client Name:** ENVIROFORENSICS

**Project ID:** 6492 BADGER CLEANERS

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2021-486

**Analytical Method:** TO-15
**Analytical Batch:** 092221AIR

**Client Sample ID:** 6492-SVE-1D
**EnvisionAir Sample Number:** 21-2406
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 9/20/21 14:26
**Sample Collection END Date/Time:** 9/20/21 14:35
**Sample Received Date/Time:** 9/22/21 15:00

| Compounds | Sample Results ug/m³ | Reporting Limit ug/m³ | Flag |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 198 | 198 | |
| Tetrachloroethene | **113** | 31.9 | |
| trans-1,2-Dichloroethene | < 396 | 396 | |
| Trichloroethene | < 10.7 | 10.7 | |
| Vinyl Chloride | < 12.8 | 12.8 | |
| 4-bromofluorobenzene (surrogate) | 89% | | |
| Analysis Date/Time: | 9-24-21/00:54 | | |
| Analyst Initials | tjg | | |

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*Analytical Report*

## TO-15 Quality Control Data

**EnvisionAir Batch Number:** 092221AIR

| Method Blank (MB): | MB Results (ppbv) | Reporting Limit (ppbv) | Flags |
|---|---|---|---|
| cis-1,2-Dichloroethene | < 5 | 5 | |
| Tetrachloroethene | < 0.47 | 0.47 | |
| trans-1,2-Dichloroethene | < 10 | 10 | |
| Trichlorethene | < 0.2 | 0.2 | |
| Vinyl Chloride | < 0.5 | 0.5 | |
| 4-bromofluorobenzene (surrogate) | 104% | | |
| Analysis Date/Time: | 9-23-21/13:24 | | |
| Analyst Initials | tjg | | |

| LCS/LCSD | LCS Results (ppbv) | LCSD Results (ppbv) | LCS/D Conc(ppbv) | LCS Rec. | LCSD Rec. | RPD | Flag |
|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 9.92 | 9.94 | 10 | 99% | 99% | 0.2% | |
| trans-1,2-Dichloroethene | 9.57 | 9.46 | 10 | 96% | 95% | 1.2% | |
| cis-1,2-Dichloroethene | 10.2 | 9.29 | 10 | 102% | 93% | 9.3% | |
| Trichloroethene | 10.6 | 9.54 | 10 | 106% | 95% | 10.5% | |
| Tetrachloroethene | 8.97 | 9.07 | 10 | 90% | 91% | 1.1% | |
| 4-bromofluorobenzene (surrogate) | 104% | 107% | | | | | |
| Analysis Date/Time: | 9-23-21/11:58 | 9-23-21/12:45 | | | | | |
| Analyst Initials | tjg | tjg | | | | | |

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| Flag Number | Comments |
|---|---|

EnvisionAir Proj#: 2021-486 Page 1 of 1

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

| | |
|---|---|
| Client: EnviroForensics | P.O. Number: 2021-0573 |
| Report Address: rhaverman@enviroforensics.com | Project Name or Number: 6492 Badger Clearers |
| Report To: Rob Haverman | Sampled by: R Brown |
| Phone: 262-290-4001 | QA/QC Required: (circle if applicable) Level III Level IV |
| Invoice Address: accountspayable@enviroforensics.com | Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV |
| Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days) | Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube |

**REQUESTED PARAMETERS**

TO-15 Full List / TO-15 Short List (Specify in notes)

ENVISIONAIR

Sampling Type:
Soil-Gas: X
Sub-Slab: □
Indoor-Air: □

www.envision-air.com

*Canister Pressure / Vacuum*

| Air Sample ID | Media Type (see code above) | Coll. Date (Grab/Comp Start) | Coll. Time (Grab/Comp Start) | Coll. Date (Comp. End) | Coll. Time (Comp. End) | | TO-15 Full List | | | Canister Serial # | Flow Controller Serial # | Initial Field (in. Hg) | Final Field (in. Hg) | Lab Received (in. Hg) | EnvisionAir Sample Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6492-SVE-EX | 1LC | 9-20-21 | 1419 | 9-20-21 | 1423 | | X | | | 2098 | 0081 | -27 | -3 | -3 | 21-2404 |
| 6492-SVE-1B | 1LC | 9-20-21 | 1438 | 9-20-21 | 1449 | | X | | | 84050 | 0063 | -29 | -12 | -12 | 21-2405 |
| 6492-SVE-1D | 1LC | 9-20-21 | 1426 | 9-20-21 | 1435 | | X | | | 83917 | 0063 | -29 | -12 | -12 | 21-2406 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments:
Short List: PCE, TCE, cDCE, tDCE, VC

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| TLTL | 9-21-21 | 1200 | FedEx | 9-21-21 | 1200 |
| | | | KDaulton | 9/22/21 | 15:00 |

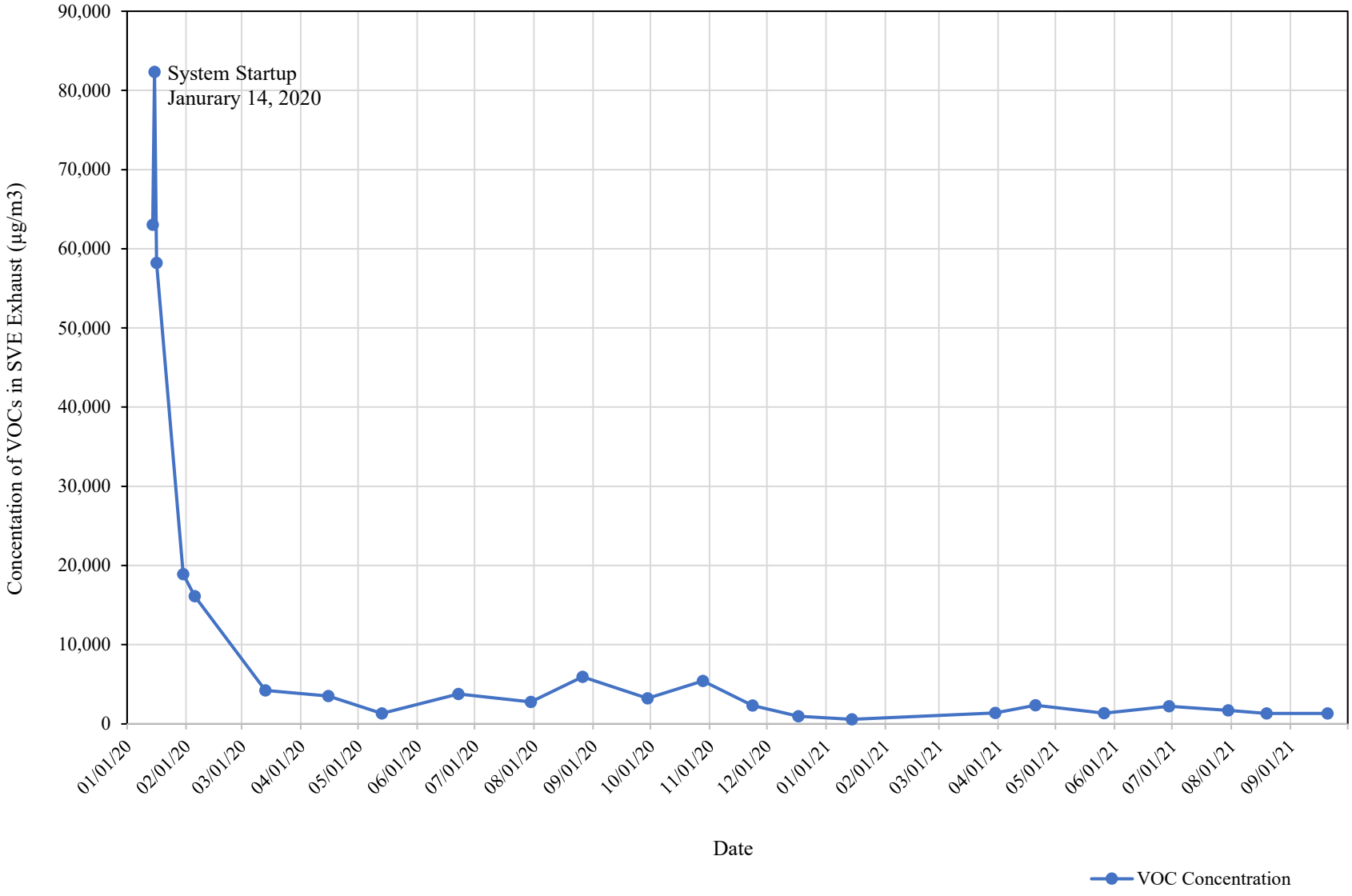
**APPENDIX B**

**Mass Removal Graphs**

# Chart 1

## SVE Effluent VOC Concentration Trend

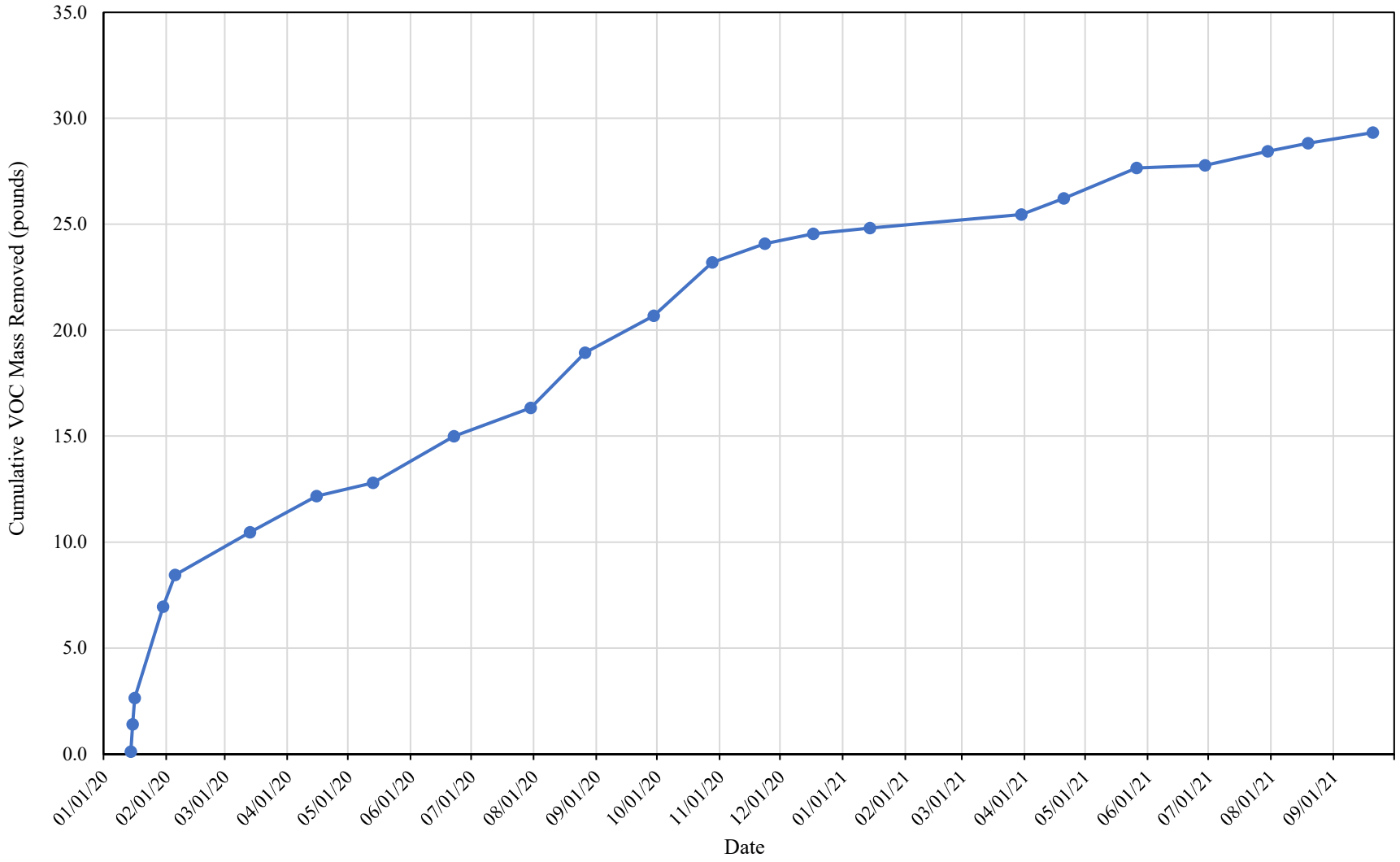
Badger Cleaners -616 Oak St, Baraboo, Wisconsin



# Chart 2

## Cumulative VOC Mass Removed

Badger Cleaners -616 Oak St, Baraboo, Wisconsin



**APPENDIX C**

**SG-7 Well Construction Form**

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

# MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

| | | |
|---|---|---|
| Facility/Project Name: Badger Cleaners | Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W. | Well Name: SG-7 |
| Facility License, Permit or Monitoring No. | Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ____ ° ____ ' ____ " Long. ____ ° ____ ' ____ " or | Wis. Unique Well No. _____ DNR Well ID No. _____ |
| Facility ID: 157068890 | St. Plane ____ ft. N, ____ ft. E. S/C/N | Date Well Installed: 05/06/2021 (m m d d y y y y) |
| Type of Well: Well Code 51/9P | Section Location of Waste/Source: ____ 1/4 of ____ 1/4 of Sec, ____ T. ____ N, R. ____ ☐ E ☐ W | Well Installed By: Name (first, last) and Firm: R. Brown, EnviroForensics |
| Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☐ | Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known | Gov. Lot Number: _____ |

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☐ 41
Hand Auger Other ☒

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required):

_____

E. Bentonite seal, top _____ ft. MSL or _____ ft.

F. Fine sand, top _____ ft. MSL or _____ ft.

G. Filter pack, top _____ ft. MSL or _____ ft.

H. Screen joint, top _____ ft. MSL or _____ ft.

I. Well bottom _____ ft. MSL or 4.6 ft.

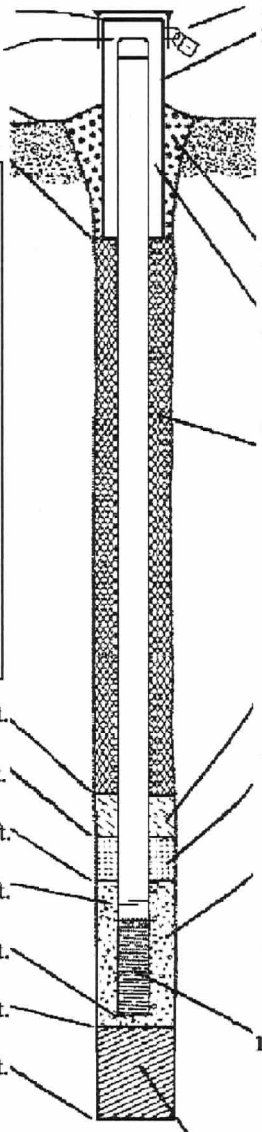
J. Filter pack, bottom _____ ft. MSL or _____ ft.

K. Borehole, bottom _____ ft. MSL or _____ ft.

L. Borehole, diameter ____ in.

M. O.D. well casing ____ in.

N. I.D. well casing ____ in.



1. Cap and lock? ☐ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: ___ in.
b. Length: ___ ft.
c. Material: Steel ☐ 04
Other ☐ __
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30
Concrete ☒ 01
Other ☐ __

4. Material between well casing and protective pipe:
Bentonite ☐ 30
Other ☐ __

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ $Ft^3$ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ __

7. Fine sand material: Manufacturer, product name & mesh size
a. _____ __
b. Volume added _____ $ft^3$

8. Filter pack material: Manufacturer, product name & mesh size
a. _____ __
b. Volume added _____ $ft^3$

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐ __

10. Screen material: _____ __
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐ __
b. Manufacturer _____
c. Slot size: 0.___ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☒ 14
_____ Other ☐ __

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: R. Brown Firm: EnviroForensics

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.