



## REMEDIATION IMPLEMENTATION REPORT

**FORMER DAY ONE FORMAL WEAR  
3939 LIEN ROAD  
MADISON, WISCONSIN  
WDNR BRRTS# 02-13-576916**

September 10, 2018

*Prepared For:*


Marc, Inc.  
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Madison, WI 53713

*Prepared By:*

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## CERTIFICATIONS

I, Andrew Horwath, 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, PE No. E-43831-6

\_\_\_\_\_  
Signature, title and P.E. number

\_\_\_\_\_  
P.E. stamp

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

Signature and title

9/10/2018

Date

## 1.0 INTRODUCTION

EnviroForensics, LLC (EnviroForensics) has prepared this Remediation Implementation Report on behalf of Marc, Inc. for the Former Day One Formal Wear dry cleaning facility located at 3939 Lien Rd, Madison, Wisconsin (Site). This report has been prepared in accordance with Wisconsin Administrative Code (WAC) Chapter NR 724 and other associated State of Wisconsin Chapter NR 700 series rules.

The general layout of the Site is depicted on **Figure 1**. Day One Formal Wear occupied the building from 1981 through 1989. Day One Formal Wear was listed as small quantity generator of hazardous waste through the US EPA. Marc, Inc. purchased the property in 1989 and was unaware of the former hazardous material activities conducted at the site.

Remedial actions were implemented to address subsurface contamination resulting from release of tetrachloroethene (PCE). The approved soil remedy at the Site was soil vapor extraction (SVE). 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. As such the previously installed sub-slab depressurization system (SSDS) was shut down, but left in place as backup should the SVE system require prolonged down time for repairs.

## 2.0 SOIL VAPOR EXTRACTION

### 2.1 Design

The full-scale SVE system design was derived from the Remedial Action Plan (RAP) by Seymour Environmental Services, Inc. dated January 2017. A blower capable of inducing a flow rate of 75 cubic feet per minute (cfm) at 27 inches of water (in H<sub>2</sub>O) vacuum was specified. The design called for a total of three (3) extraction wells. Deviations from the original design are as follows:

- The outdoor extraction well from the pilot test was not used in conjunction with the proposed two (2) interior extraction wells;
- A 3-horsepower (HP) Rotron DR555/656 Blower Package was substituted for the Rotron EN404 as a more operationally cost effective blower;

- Four-inch polyvinyl chloride (PVC) conveyance lines were used to reduce friction loss in the final installation; and
- The placement of extraction wells was based on the interior layout, final blower selection, and associated radius of influence.

The final system construction and layout is discussed in the following sections.

## **2.2 System Construction**

The SVE system was constructed in three general phases between February 2018 and June 2018:

- Extraction well and monitoring point installation;
- Wellhead and conveyance piping installation; and
- Mechanical system construction and connection.

### **2.2.1 Extraction Well Installation**

Two (2) new extraction wells, designated SVE-1 and SVE-2, were installed between February 23 and March 2, 2018. The extraction wells are connected to a single conveyance line as shown on **Figure 1**.

The extraction wells were installed via hollow-stem auger drill rig and hand auger techniques to advance in 8-inch and 7-inch boreholes respectively. The wells were constructed of 4-inch diameter Schedule 40 PVC 0.020-inch slotted screen. Each SVE well is screened 4 to 14 feet below ground surface (bgs). Riser material consists of solid 4-inch diameter Schedule 40 PVC pipe. A coarse sand filter pack was installed around each screen and the annular space seal consists of hydrated bentonite chips from 1 to 3 feet bgs. Composite soil samples were collected from SVE-1 for waste characterization purposes. The samples were submitted to a state-certified laboratory for analysis of volatile organic compounds (VOCs) according to EPA Test Method 8260 and the laboratory analytical report is presented in **Appendix A**.

### **2.2.2 Monitoring Point Installation**

Two (2) SVE monitoring points designated MP-1 and MP-2 were installed using a Geoprobe ® at 10 feet and 20 feet horizontally from SVE-1 to monitor the radius of influence of the SVE system on February 23, 2018. Each was constructed of 1-inch diameter Schedule 40 PVC 0.010-

inch slotted screen. The screened intervals for both monitoring points are 6.5 to 11.5 feet bgs. Riser material consists of solid 1-inch diameter Schedule 40 PVC pipe. A course sand filter pack was installed around each screen and the annular space seal consists of hydrated bentonite chips from 1 to 3 feet bgs. Monitoring point locations are shown on **Figure 1**

### **2.2.3 Wellhead and Conveyance Piping Installation**

Conveyance piping was installed to connect the SVE wells to the blower. The installation work was completed between March 29 and April 5, 2018. Air flow from each SVE well is regulated by a ball valve located near the respective extraction point. The conveyance lines are constructed of 4-inch diameter PVC. The conveyance piping layout is depicted on **Figure 1**.

### **2.2.4 Waste Management**

Four (4) 55-gallon drums of soil cuttings were generated from the installation of the SVE wells and monitoring points. The analytical results indicated that all soil could be managed as non-hazardous waste for disposal. The soil drums were removed for disposal by Tradebe Treatment and Recycling of Wisconsin, LLC at a regulated waste facility on June 27, 2018. **Appendix B** presents the waste manifest.

## **2.3 Mechanical System Components**

EnviroForensics directed the installation of the mechanical system on April 3 and 4, 2018. The mechanical system consists of the following components:

- 3-HP Rotron blower package capable of a flow up to approximately 200 standard cubic feet per minute (SCFM) and a vacuum up to approximately 60 in H<sub>2</sub>O
- Customized sound block enclosure with Accoustablok ®
- Master Control Panel
- Airflow meter measuring in SCFM
- Vacuum gauge measuring in inches of mercury
- Light indicator to show shutdown during operational hours
- Run time meter in hours
- Daily on/off timer for specific operational control

The SVE exhaust stack extends through the block building side wall to an approximate height of 16 feet above ground surface. Exhaust samples are collected from a port in the stack downstream from the blower. A system process and instrumentation diagram and an associated legend are presented on **Figures 2a and 2b**, respectively.

### **3.0 SYSTEM COMMISSIONING**

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 to determine operational changes to optimize system performance. A variance from performance monitoring as required under WAC Chapter 419.07 is being sought to clarify the sampling language in the RAP. Due to the startup occurring on a Friday and a schedule conflict the following start up effluent sampling was conducted:

- On the first day of system operation;
- On day 4 of operation; and
- On day 28 of operation.

A commissioning phase was completed to confirm that system emissions are below permitting thresholds and ambient air standards. The results of the initial samples collected during the first four (4) days of system operation demonstrate that system emissions are below the following permitting thresholds that apply to SVE systems (WAC Chapters NR 406 and 407, respectively):

- Total VOC limit of 5.7 pounds per hour (lb/hr); and
- PCE limits of 9.11 lb/hr and 301 pounds per year.

The effluent laboratory report is included as **Appendix C**.

Operational parameters were gathered on June 22, 2018 and the system was temporarily shut down to allow for vapor rebound. The system was temporarily started on July 7, 2018 to understand the VOC concentration differential between extraction points by utilizing a lung box and photo ionization detector (PID). While the system was temporarily shut down, the SSDS on site was resumed.

The system was then restarted on July 22, 2018 to resume regular operations. The system will operate for six hours on Wednesdays and will be deactivated for the remainder of the time given

the removal rates observed since operations began. There was only a 3% difference in the PID readings in the extraction wells, so both were left fully open during operation. Given the significantly decreased effluent concentrations and minimal operation and maintenance requirements, effluent sampling is proposed at a rate of once per quarter.

Remediation performance, including calculations of mass removal rates and cumulative mass removed, will be reported on Remediation Site Operation, Maintenance, Monitoring & Optimization Reports (Form 4400-194). The reports will be prepared and submitted to WDNR semi-annually as required. Operational data and mass removal rates are presented in the attached **Table 1**.

#### **4.0 OPERATION AND MAINTENANCE**

The SVE system was designed to allow various operational configurations. Each extraction well can be disconnected from service by closing the ball valve installed at the wellhead. This design allows the operators to target specific areas as the remediation progresses to maximize efficiency. We will make operational changes as needed during the maintenance visits described below.

Operation and Maintenance (O&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 maintenance activities performed quarterly include the following:

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



Additional maintenance visits may be required to address system shutdowns or operational issues. A light indicator will go off if the system has shut down during normal operation periods and signage indicates occupants should call EnviroForensics. The SVE blower does not have any specific operation and maintenance requirements therefore, the system will only be monitored on a quarterly basis for operational parameters to calculate mass removal rates and a specific O&M plan was not developed.

## **5.0 CONCLUSIONS**

The implemented remedial actions are designed to address VOC impacts in unsaturated soil. Mass removal via SVE is in progress, and the system will be adjusted and operated to maximize efficiency. In addition, the SVE system has interrupted vapor transport mechanisms and has likely improved mitigation of the vapor exposure pathway in the Site building.

## **TABLES**

**TABLE 1**  
**SUMMARY OF SVE MASS REMOVAL**  
**MARC, Inc.**  
**Madison, Wisconsin**

| Period    |         |             | System Data*                        |             |                           |                     | Effluent Concentration (µg/m <sup>3</sup> ) |                 |                        |                          |                | Total VOCs Removed During Period (pounds) | Cumulative VOCs Removed (pounds) |
|-----------|---------|-------------|-------------------------------------|-------------|---------------------------|---------------------|---|-----------------|------------------------|--------------------------|----------------|---|----------------------------------|
| From Date | To Date | Sample Date | Hours Start                         | Hours Final | Total hours during period | Airflow Rate (scfm) | Tetrachloroethene                           | Trichloroethene | cis-1,2-Dichloroethene | trans-1,2-Dichloroethene | Vinyl Chloride |   |                                  |
| 4/13/2018 |         | 4/13/2018   | 0                                   | 1.8         | 1.8                       | 141                 | <b>5,060</b>                                | <b>47.8</b>     | ND                     | ND                       | ND             | 0.00486                                   | 0.00486                          |
|           |         |             | VOCs Removed During Period (Pounds) |             |                           |                     | 0.00481                                     | 0.00005         | 0.00000                | 0.00000                  | 0.00000        |   |                                  |
| 4/13/2018 |         | 4/17/2018   | 1.8                                 | 92          | 90.2                      | 140                 | <b>851</b>                                  | <b>26</b>       | ND                     | ND                       | ND             | 0.0415                                    | 0.0464                           |
|           |         |             | VOCs Removed During Period (Pounds) |             |                           |                     | 0.040251598                                 | 0.00124397      | 0.00000                | 0.00000                  | 0.00000        |   |                                  |
| 4/17/2018 |         | 5/11/2018   | 92                                  | 672         | 580.0                     | 140                 | <b>248</b>                                  | ND              | ND                     | ND                       | ND             | 0.0754                                    | 0.1218                           |
|           |         |             | VOCs Removed During Period (Pounds) |             |                           |                     | 0.07543                                     | 0.00000         | 0.00000                | 0.00000                  | 0.00000        |   |                                  |
| 5/11/2018 |         | 7/25/2018   | 672                                 | 1008.8      | 336.8                     | 140                 | <b>415</b>                                  | ND              | ND                     | ND                       | ND             | 0.0733                                    | 0.20                             |
|           |         |             | VOCs Removed During Period (Pounds) |             |                           |                     | 0.07329                                     | 0.00000         | 0.00000                | 0.00000                  | 0.00000        |   |                                  |

**Notes:**

ND = Not Detected above laboratory reporting limits

NA = Not Analyzed

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

scfm = standard cubic feet per minute

\* = estimated based on historical system performance

Constituents not shown are below laboratory detection limits










<sup>1</sup> = The hours meter reset from 9308.4 to 0.0 on 4/11/17

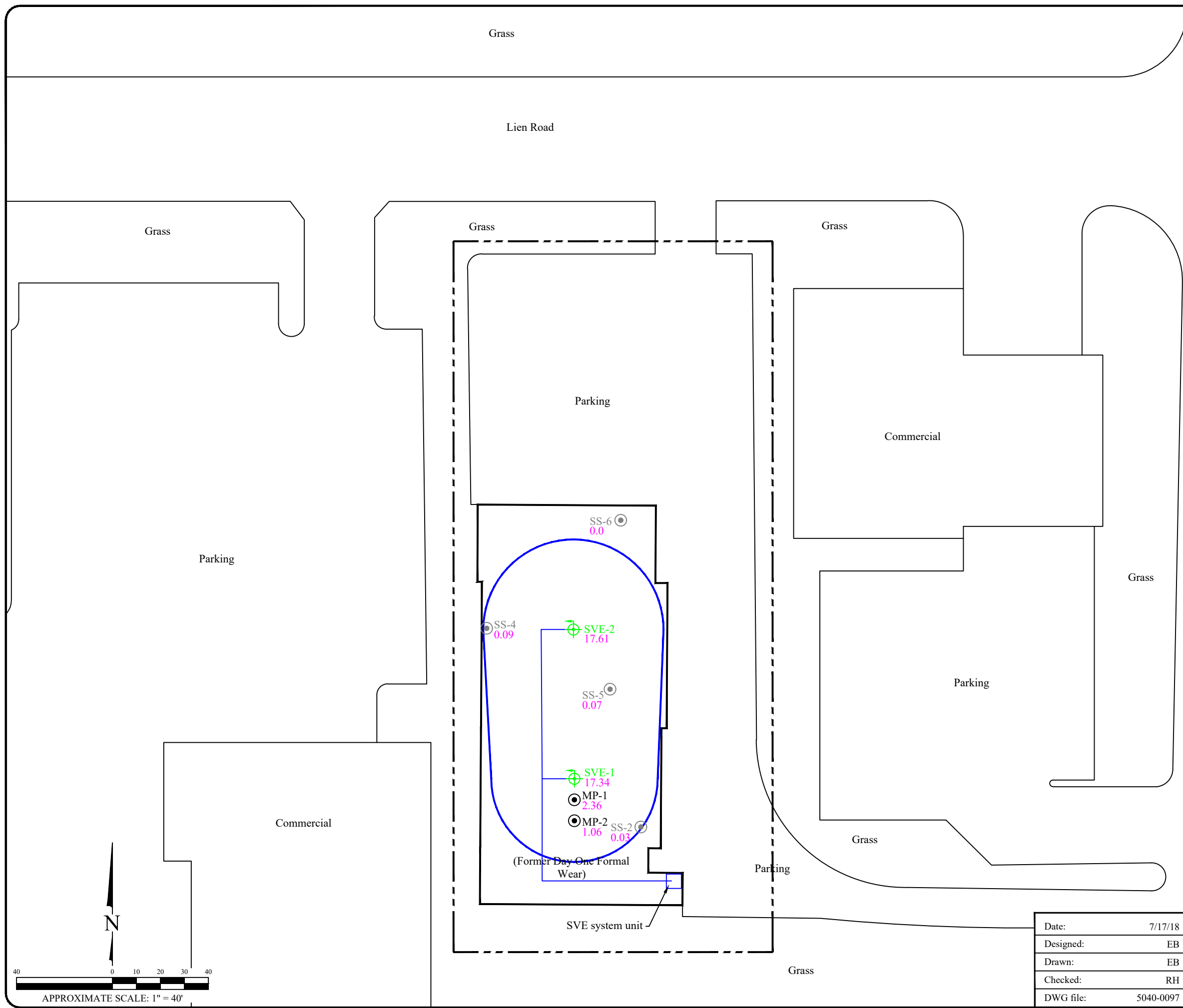
Constituents not presented contained concentration below laboratory reporting limits

**Bolded** values are above detection limits

## **FIGURES**

### Legend

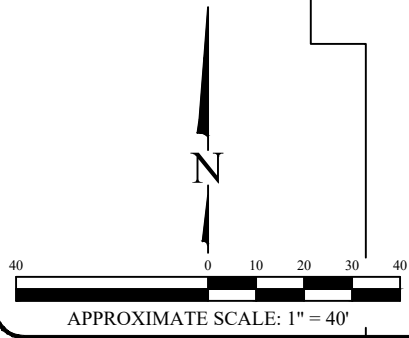
-  Property boundary
  -  SS-1  Sub-slab sample (By Others)
  -  MP-1  Monitoring Point (EnviroForensics)
  -  SVE-1  Soil vapor extraction well
  -  SVE conveyance piping
  -  SVE influence in inches of water (inH<sub>2</sub>O)
- 0.002 = Pressure field extension results in inches of water (inH<sub>2</sub>O)

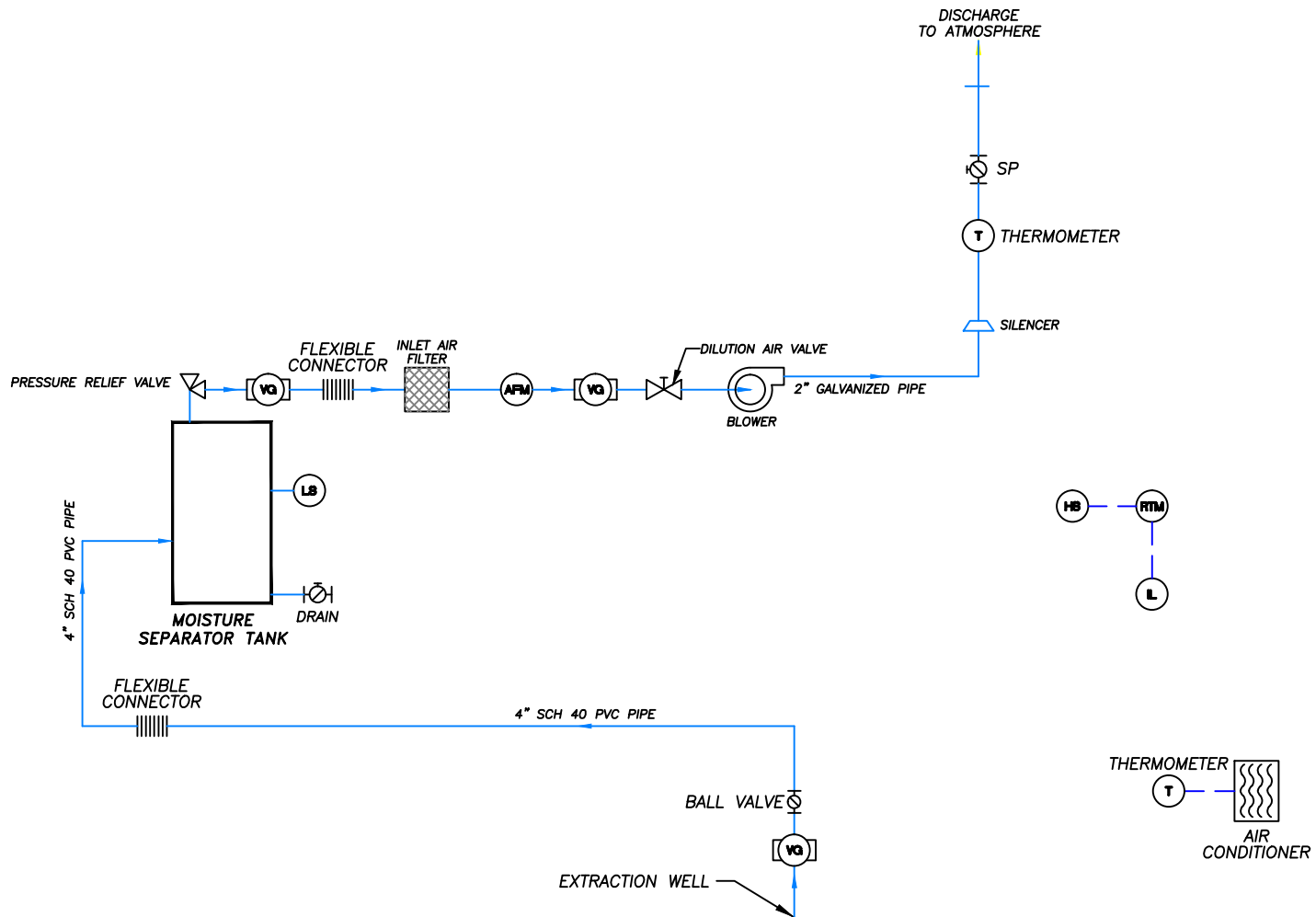


|  |         |
|--|---------|
| <b>SVE LAYOUT</b>  |         |
| MARC East Property<br>3939 Lien Road<br>Madison, Wisconsin |         |
| Date: 7/17/18  | Figure  |
| Designed: EB   | 1       |
| Drawn: EB  | Project |
| Checked: RH  | 5040    |
| DWG file: 5040-0097  |         |



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EnviroForensics.com





| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |
|     |      |          |          |
|     |      |          |          |



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 EnviroForensics.com











Date: 7/10/18  
 Designed: EB  
 Drawn: EB  
 Checked: KVH  
 DWG file: 5040-0093

PROCESS AND INSTRUMENTATION DIAGRAM FOR REMEDIATION SYSTEM

MARC East Property  
 3939 Lien Road  
 Madison, Wisconsin

| Figure  |
|---------|
| 2a      |
| Project |
| 5040    |



## VALVE AND PIPING SYMBOLS

|   |                                 |
|---|---------------------------------|
|  | GATE VALVE                      |
|  | SOLENOID VALVE                  |
|  | CHECK VALVE                     |
|  | BALL VALVE                      |
|  | SAMPLING PORT                   |
|  | EXHAUST TO ATMOSPHERE (INSIDE)  |
|  | EXHAUST TO ATMOSPHERE (OUTSIDE) |
|  | PRESSURE RELIEF VALVE           |
|  | VACUUM GAUGE                    |
|  | SILENCER                        |




## ABBREVIATIONS

|      |                               |     |                       |
|------|-------------------------------|-----|-----------------------|
| DP   | DIFFERENTIAL PRESSURE         | M   | MOTOR                 |
| DO   | DISSOLVED OXYGEN              | NO  | NORMALLY OPEN         |
| FC   | FAIL CLOSED                   | NC  | NORMALLY CLOSED       |
| FI   | FAIL INDETERMINATE            | P   | PRESSURE              |
| FL   | FAIL LOCKED                   | PI  | PRESSURE INDICATOR    |
| FO   | FAIL OPEN                     | PS  | PRESSURE SWITCH       |
| FQ   | FAIL QUANTIFIER               | PT  | PRESSURE TRANSMITTER  |
| HOA  | HAND-OFF-AUTOMATIC            | PRV | PRESSURE RELIEF VALVE |
| HS   | HAND SWITCH                   | PSH | PRESSURE SWITCH       |
| IL   | INDICATOR LIGHT               |     | - HIGH                |
| I/I  | CURRENT-TO-CURRENT            | SG  | SIGHT GLASS           |
| I/P  | CURRENT-TO-PNEUMATIC          | SP  | SAMPLING PORT         |
| KC   | PROGRAM CONTROLLER            | UA  | UNIVERSAL ALARM       |
| LC   | LEVEL CONTROLLER              | FMT | FLOW METER TOTALIZER  |
| LEL  | LOWER EXPLOSIVE LIMIT         | AFM | AIR FLOW METER        |
| LR   | LOCAL-REMOTE                  | RTM | RUNTIME METER         |
| LS   | LEVEL SWITCH                  | T   | THERMOMETER           |
| LSHH | } LIQUID SWITCH<br>HIGH / LOW |     |                       |
| LSL  |                               |     |                       |
| LSH  |                               |     |                       |









## EQUIPMENT SYMBOLS

|   |        |
|---|--------|
|  | PUMP   |
|  | BLOWER |

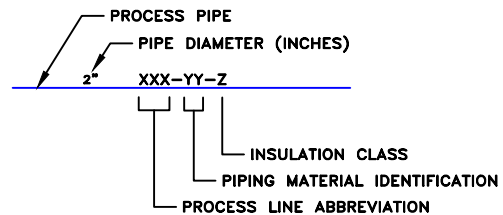
## LINE SYMBOLS

|  |                           |
|--|---------------------------|
|  | PROCESS PIPES OR CHANNELS |
|  | ELECTRIC SIGNAL           |
|  | COMPRESSED AIR LINE       |

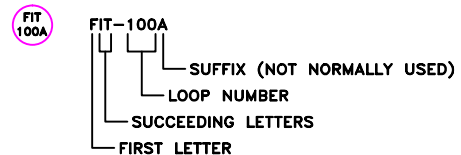
## GENERAL INSTRUMENT SYMBOLS

|   |   |                       |
|---|---|-----------------------|
|  |  | LOCALLY MOUNTED       |
|  |  | PANEL MOUNTED         |
|  |  | REAR-OF-PANEL MOUNTED |
|  |   | INTERLOCK             |
|  |   | PURGE                 |

## PROCESS PIPING IDENTIFICATION



## INSTRUMENT IDENTIFICATION



| No. | Date | Revision | Approved |
|-----|------|----------|----------|
|     |      |          |          |
|     |      |          |          |
|     |      |          |          |



|           |           |
|-----------|-----------|
| Date:     | 7/10/18   |
| Designed: | EB        |
| Drawn:    | EB        |
| Checked:  | KVH       |
| DWG file: | 5040-0093 |

## PROCESS AND INSTRUMENTATION LEGEND

MARC East Property  
3939 Lien Road  
Madison, Wisconsin

|         |      |
|---------|------|
| Figure  | 2b   |
| Project | 5040 |

## **APPENDIX A**

### **Soil Sample Laboratory Report**



# Synergy Environmental Lab, INC.

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

ROB HOVERMAN  
ENVIROFORENSICS  
825 N. CAPITOL AVENUE  
INDIANAPOLIS, IN 46204

Report Date 14-Mar-18

Project Name MARC INC.(FMR DAY ONE FORMAL)  
Project # 5040 PO#2018-0324

Invoice # E34316

Lab Code 5034316A  
Sample ID 5040-SVE-1 (1-5)  
Sample Matrix Soil  
Sample Date 2/23/2018

|                             | Result  | Unit  | LOD   | LOQ   | Dil | Method | Ext Date | Run Date  | Analyst | Code |
|-----------------------------|---------|-------|-------|-------|-----|--------|----------|-----------|---------|------|
| General                     |         |       |       |       |     |        |          |           |         |      |
| General                     |         |       |       |       |     |        |          |           |         |      |
| Solids Percent              | 81.6    | %     |       |       | 1   | 5021   |          | 3/7/2018  | NJC     | 1    |
| Organic                     |         |       |       |       |     |        |          |           |         |      |
| VOC's                       |         |       |       |       |     |        |          |           |         |      |
| Benzene                     | < 0.03  | mg/kg | 0.03  | 0.096 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromobenzene                | < 0.025 | mg/kg | 0.025 | 0.081 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromodichloromethane        | < 0.074 | mg/kg | 0.074 | 0.24  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromoform                   | < 0.029 | mg/kg | 0.029 | 0.092 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| tert-Butylbenzene           | < 0.026 | mg/kg | 0.026 | 0.084 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| sec-Butylbenzene            | < 0.033 | mg/kg | 0.033 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| n-Butylbenzene              | < 0.04  | mg/kg | 0.04  | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Carbon Tetrachloride        | < 0.016 | mg/kg | 0.016 | 0.053 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chlorobenzene               | < 0.013 | mg/kg | 0.013 | 0.04  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloroethane                | < 0.091 | mg/kg | 0.091 | 0.29  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloroform                  | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloromethane               | < 0.076 | mg/kg | 0.076 | 0.24  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 2-Chlorotoluene             | < 0.015 | mg/kg | 0.015 | 0.047 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 4-Chlorotoluene             | < 0.018 | mg/kg | 0.018 | 0.057 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dibromo-3-chloropropane | < 0.058 | mg/kg | 0.058 | 0.18  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Dibromochloromethane        | < 0.025 | mg/kg | 0.025 | 0.079 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,4-Dichlorobenzene         | < 0.037 | mg/kg | 0.037 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3-Dichlorobenzene         | < 0.037 | mg/kg | 0.037 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichlorobenzene         | < 0.028 | mg/kg | 0.028 | 0.088 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Dichlorodifluoromethane     | < 0.048 | mg/kg | 0.048 | 0.15  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichloroethane          | < 0.038 | mg/kg | 0.038 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1-Dichloroethane          | < 0.034 | mg/kg | 0.034 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1-Dichloroethene          | < 0.022 | mg/kg | 0.022 | 0.069 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| cis-1,2-Dichloroethene      | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| trans-1,2-Dichloroethene    | < 0.028 | mg/kg | 0.028 | 0.09  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |

**Project Name** MARC INC.(FMR DAY ONE FORMAL)  
**Project #** 5040 PO#2018-0324

**Invoice #** E34316

**Lab Code** 5034316A  
**Sample ID** 5040-SVE-1 (1-5)  
**Sample Matrix** Soil  
**Sample Date** 2/23/2018

|                                | Result    | Unit  | LOD   | LOQ   | Dil | Method | Ext Date | Run Date  | Analyst | Code |
|--------------------------------|-----------|-------|-------|-------|-----|--------|----------|-----------|---------|------|
| 1,2-Dichloropropane            | < 0.035   | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3-Dichloropropane            | < 0.025   | mg/kg | 0.025 | 0.079 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| trans-1,3-Dichloropropene      | < 0.022   | mg/kg | 0.022 | 0.068 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| cis-1,3-Dichloropropene        | < 0.039   | mg/kg | 0.039 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Di-isopropyl ether             | < 0.01    | mg/kg | 0.01  | 0.032 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| EDB (1,2-Dibromoethane)        | < 0.023   | mg/kg | 0.023 | 0.072 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Ethylbenzene                   | < 0.035   | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Hexachlorobutadiene            | < 0.085   | mg/kg | 0.085 | 0.27  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Isopropylbenzene               | < 0.034   | mg/kg | 0.034 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| p-Isopropyltoluene             | < 0.029   | mg/kg | 0.029 | 0.093 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Methylene chloride             | < 0.15    | mg/kg | 0.15  | 0.46  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Methyl tert-butyl ether (MTBE) | < 0.05    | mg/kg | 0.05  | 0.16  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Naphthalene                    | < 0.094   | mg/kg | 0.094 | 0.3   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| n-Propylbenzene                | < 0.033   | mg/kg | 0.033 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,2,2-Tetrachloroethane      | < 0.028   | mg/kg | 0.028 | 0.88  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,1,2-Tetrachloroethane      | < 0.028   | mg/kg | 0.028 | 0.09  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Tetrachloroethene              | 0.054 "J" | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Toluene                        | < 0.032   | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,4-Trichlorobenzene         | < 0.064   | mg/kg | 0.064 | 0.2   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,3-Trichlorobenzene         | < 0.066   | mg/kg | 0.066 | 0.21  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,1-Trichloroethane          | < 0.03    | mg/kg | 0.03  | 0.96  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,2-Trichloroethane          | < 0.033   | mg/kg | 0.033 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Trichloroethene (TCE)          | < 0.041   | mg/kg | 0.041 | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Trichlorofluoromethane         | < 0.041   | mg/kg | 0.041 | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,4-Trimethylbenzene         | < 0.025   | mg/kg | 0.025 | 0.08  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3,5-Trimethylbenzene         | < 0.032   | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Vinyl Chloride                 | < 0.019   | mg/kg | 0.019 | 0.062 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| m&p-Xylene                     | < 0.072   | mg/kg | 0.072 | 0.23  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| o-Xylene                       | < 0.044   | mg/kg | 0.044 | 0.14  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - Toluene-d8               | 97        | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - Dibromofluoromethane     | 108       | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - 1,2-Dichloroethane-d4    | 107       | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - 4-Bromofluorobenzene     | 104       | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |

**Project Name** MARC INC.(FMR DAY ONE FORMAL)  
**Project #** 5040 PO#2018-0324

**Invoice #** E34316

**Lab Code** 5034316B  
**Sample ID** 5040-SVE-1 (5-9)  
**Sample Matrix** Soil  
**Sample Date** 2/23/2018

|                                | Result  | Unit  | LOD   | LOQ   | Dil | Method | Ext Date | Run Date  | Analyst | Code |
|--------------------------------|---------|-------|-------|-------|-----|--------|----------|-----------|---------|------|
| General                        |         |       |       |       |     |        |          |           |         |      |
| General                        |         |       |       |       |     |        |          |           |         |      |
| Solids Percent                 | 91.6    | %     |       |       | 1   | 5021   |          | 3/7/2018  | NJC     | 1    |
| Organic                        |         |       |       |       |     |        |          |           |         |      |
| VOC's                          |         |       |       |       |     |        |          |           |         |      |
| Benzene                        | < 0.03  | mg/kg | 0.03  | 0.096 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromobenzene                   | < 0.025 | mg/kg | 0.025 | 0.081 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromodichloromethane           | < 0.074 | mg/kg | 0.074 | 0.24  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromoform                      | < 0.029 | mg/kg | 0.029 | 0.092 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| tert-Butylbenzene              | < 0.026 | mg/kg | 0.026 | 0.084 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| sec-Butylbenzene               | < 0.033 | mg/kg | 0.033 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| n-Butylbenzene                 | < 0.04  | mg/kg | 0.04  | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Carbon Tetrachloride           | < 0.016 | mg/kg | 0.016 | 0.053 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chlorobenzene                  | < 0.013 | mg/kg | 0.013 | 0.04  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloroethane                   | < 0.091 | mg/kg | 0.091 | 0.29  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloroform                     | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloromethane                  | < 0.076 | mg/kg | 0.076 | 0.24  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 2-Chlorotoluene                | < 0.015 | mg/kg | 0.015 | 0.047 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 4-Chlorotoluene                | < 0.018 | mg/kg | 0.018 | 0.057 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dibromo-3-chloropropane    | < 0.058 | mg/kg | 0.058 | 0.18  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Dibromochloromethane           | < 0.025 | mg/kg | 0.025 | 0.079 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,4-Dichlorobenzene            | < 0.037 | mg/kg | 0.037 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3-Dichlorobenzene            | < 0.037 | mg/kg | 0.037 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichlorobenzene            | < 0.028 | mg/kg | 0.028 | 0.088 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Dichlorodifluoromethane        | < 0.048 | mg/kg | 0.048 | 0.15  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichloroethane             | < 0.038 | mg/kg | 0.038 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1-Dichloroethane             | < 0.034 | mg/kg | 0.034 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1-Dichloroethene             | < 0.022 | mg/kg | 0.022 | 0.069 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| cis-1,2-Dichloroethene         | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| trans-1,2-Dichloroethene       | < 0.028 | mg/kg | 0.028 | 0.09  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichloropropane            | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3-Dichloropropane            | < 0.025 | mg/kg | 0.025 | 0.079 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| trans-1,3-Dichloropropene      | < 0.022 | mg/kg | 0.022 | 0.068 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| cis-1,3-Dichloropropene        | < 0.039 | mg/kg | 0.039 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Di-isopropyl ether             | < 0.01  | mg/kg | 0.01  | 0.032 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| EDB (1,2-Dibromoethane)        | < 0.023 | mg/kg | 0.023 | 0.072 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Ethylbenzene                   | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Hexachlorobutadiene            | < 0.085 | mg/kg | 0.085 | 0.27  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Isopropylbenzene               | < 0.034 | mg/kg | 0.034 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| p-Isopropyltoluene             | < 0.029 | mg/kg | 0.029 | 0.093 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Methylene chloride             | < 0.15  | mg/kg | 0.15  | 0.46  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Methyl tert-butyl ether (MTBE) | < 0.05  | mg/kg | 0.05  | 0.16  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Naphthalene                    | < 0.094 | mg/kg | 0.094 | 0.3   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| n-Propylbenzene                | < 0.033 | mg/kg | 0.033 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,2,2-Tetrachloroethane      | < 0.028 | mg/kg | 0.028 | 0.88  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,1,2-Tetrachloroethane      | < 0.028 | mg/kg | 0.028 | 0.09  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Tetrachloroethene              | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Toluene                        | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,4-Trichlorobenzene         | < 0.064 | mg/kg | 0.064 | 0.2   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,3-Trichlorobenzene         | < 0.066 | mg/kg | 0.066 | 0.21  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,1-Trichloroethane          | < 0.03  | mg/kg | 0.03  | 0.96  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |

**Project Name** MARC INC.(FMR DAY ONE FORMAL)  
**Project #** 5040 PO#2018-0324

**Invoice #** E34316

**Lab Code** 5034316B  
**Sample ID** 5040-SVE-1 (5-9)  
**Sample Matrix** Soil  
**Sample Date** 2/23/2018

|                             | <b>Result</b> | <b>Unit</b> | <b>LOD</b> | <b>LOQ</b> | <b>Dil</b> | <b>Method</b> | <b>Ext Date</b> | <b>Run Date</b> | <b>Analyst</b> | <b>Code</b> |
|-----------------------------|---------------|-------------|------------|------------|------------|---------------|-----------------|-----------------|----------------|-------------|
| 1,1,2-Trichloroethane       | < 0.033       | mg/kg       | 0.033      | 0.11       | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| Trichloroethene (TCE)       | < 0.041       | mg/kg       | 0.041      | 0.13       | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| Trichlorofluoromethane      | < 0.041       | mg/kg       | 0.041      | 0.13       | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| 1,2,4-Trimethylbenzene      | < 0.025       | mg/kg       | 0.025      | 0.08       | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| 1,3,5-Trimethylbenzene      | < 0.032       | mg/kg       | 0.032      | 0.1        | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| Vinyl Chloride              | < 0.019       | mg/kg       | 0.019      | 0.062      | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| m&p-Xylene                  | < 0.072       | mg/kg       | 0.072      | 0.23       | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| o-Xylene                    | < 0.044       | mg/kg       | 0.044      | 0.14       | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| SUR - 1,2-Dichloroethane-d4 | 95            | Rec %       |            |            | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| SUR - 4-Bromofluorobenzene  | 108           | Rec %       |            |            | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| SUR - Dibromofluoromethane  | 104           | Rec %       |            |            | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |
| SUR - Toluene-d8            | 96            | Rec %       |            |            | 1          | 8260B         |                 | 3/12/2018       | CJR            | 1           |

**Project Name** MARC INC.(FMR DAY ONE FORMAL)  
**Project #** 5040 PO#2018-0324

**Invoice #** E34316

**Lab Code** 5034316C  
**Sample ID** 5040-SVE-1 (9-13)  
**Sample Matrix** Soil  
**Sample Date** 2/23/2018

|                                | Result  | Unit  | LOD   | LOQ   | Dil | Method | Ext Date | Run Date  | Analyst | Code |
|--------------------------------|---------|-------|-------|-------|-----|--------|----------|-----------|---------|------|
| General                        |         |       |       |       |     |        |          |           |         |      |
| General                        |         |       |       |       |     |        |          |           |         |      |
| Solids Percent                 | 94.2    | %     |       |       | 1   | 5021   |          | 3/7/2018  | NJC     | 1    |
| Organic                        |         |       |       |       |     |        |          |           |         |      |
| VOC's                          |         |       |       |       |     |        |          |           |         |      |
| Benzene                        | < 0.03  | mg/kg | 0.03  | 0.096 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromobenzene                   | < 0.025 | mg/kg | 0.025 | 0.081 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromodichloromethane           | < 0.074 | mg/kg | 0.074 | 0.24  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Bromoform                      | < 0.029 | mg/kg | 0.029 | 0.092 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| tert-Butylbenzene              | < 0.026 | mg/kg | 0.026 | 0.084 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| sec-Butylbenzene               | < 0.033 | mg/kg | 0.033 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| n-Butylbenzene                 | < 0.04  | mg/kg | 0.04  | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Carbon Tetrachloride           | < 0.016 | mg/kg | 0.016 | 0.053 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chlorobenzene                  | < 0.013 | mg/kg | 0.013 | 0.04  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloroethane                   | < 0.091 | mg/kg | 0.091 | 0.29  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloroform                     | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Chloromethane                  | < 0.076 | mg/kg | 0.076 | 0.24  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 2-Chlorotoluene                | < 0.015 | mg/kg | 0.015 | 0.047 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 4-Chlorotoluene                | < 0.018 | mg/kg | 0.018 | 0.057 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dibromo-3-chloropropane    | < 0.058 | mg/kg | 0.058 | 0.18  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Dibromochloromethane           | < 0.025 | mg/kg | 0.025 | 0.079 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,4-Dichlorobenzene            | < 0.037 | mg/kg | 0.037 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3-Dichlorobenzene            | < 0.037 | mg/kg | 0.037 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichlorobenzene            | < 0.028 | mg/kg | 0.028 | 0.088 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Dichlorodifluoromethane        | < 0.048 | mg/kg | 0.048 | 0.15  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichloroethane             | < 0.038 | mg/kg | 0.038 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1-Dichloroethane             | < 0.034 | mg/kg | 0.034 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1-Dichloroethene             | < 0.022 | mg/kg | 0.022 | 0.069 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| cis-1,2-Dichloroethene         | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| trans-1,2-Dichloroethene       | < 0.028 | mg/kg | 0.028 | 0.09  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2-Dichloropropane            | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3-Dichloropropane            | < 0.025 | mg/kg | 0.025 | 0.079 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| trans-1,3-Dichloropropene      | < 0.022 | mg/kg | 0.022 | 0.068 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| cis-1,3-Dichloropropene        | < 0.039 | mg/kg | 0.039 | 0.12  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Di-isopropyl ether             | < 0.01  | mg/kg | 0.01  | 0.032 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| EDB (1,2-Dibromoethane)        | < 0.023 | mg/kg | 0.023 | 0.072 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Ethylbenzene                   | < 0.035 | mg/kg | 0.035 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Hexachlorobutadiene            | < 0.085 | mg/kg | 0.085 | 0.27  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Isopropylbenzene               | < 0.034 | mg/kg | 0.034 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| p-Isopropyltoluene             | < 0.029 | mg/kg | 0.029 | 0.093 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Methylene chloride             | < 0.15  | mg/kg | 0.15  | 0.46  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Methyl tert-butyl ether (MTBE) | < 0.05  | mg/kg | 0.05  | 0.16  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Naphthalene                    | < 0.094 | mg/kg | 0.094 | 0.3   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| n-Propylbenzene                | < 0.033 | mg/kg | 0.033 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,2,2-Tetrachloroethane      | < 0.028 | mg/kg | 0.028 | 0.88  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,1,2-Tetrachloroethane      | < 0.028 | mg/kg | 0.028 | 0.09  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Tetrachloroethene              | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Toluene                        | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,4-Trichlorobenzene         | < 0.064 | mg/kg | 0.064 | 0.2   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,3-Trichlorobenzene         | < 0.066 | mg/kg | 0.066 | 0.21  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,1,1-Trichloroethane          | < 0.03  | mg/kg | 0.03  | 0.96  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |

**Project Name** MARC INC.(FMR DAY ONE FORMAL)  
**Project #** 5040 PO#2018-0324

**Invoice #** E34316

**Lab Code** 5034316C  
**Sample ID** 5040-SVE-1 (9-13)  
**Sample Matrix** Soil  
**Sample Date** 2/23/2018

|                             | Result  | Unit  | LOD   | LOQ   | Dil | Method | Ext Date | Run Date  | Analyst | Code |
|-----------------------------|---------|-------|-------|-------|-----|--------|----------|-----------|---------|------|
| 1,1,2-Trichloroethane       | < 0.033 | mg/kg | 0.033 | 0.11  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Trichloroethene (TCE)       | < 0.041 | mg/kg | 0.041 | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Trichlorofluoromethane      | < 0.041 | mg/kg | 0.041 | 0.13  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,2,4-Trimethylbenzene      | < 0.025 | mg/kg | 0.025 | 0.08  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| 1,3,5-Trimethylbenzene      | < 0.032 | mg/kg | 0.032 | 0.1   | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| Vinyl Chloride              | < 0.019 | mg/kg | 0.019 | 0.062 | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| m&p-Xylene                  | < 0.072 | mg/kg | 0.072 | 0.23  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| o-Xylene                    | < 0.044 | mg/kg | 0.044 | 0.14  | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - Toluene-d8            | 95      | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - 1,2-Dichloroethane-d4 | 100     | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - 4-Bromofluorobenzene  | 108     | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |
| SUR - Dibromofluoromethane  | 105     | Rec % |       |       | 1   | 8260B  |          | 3/12/2018 | CJR     | 1    |

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

**Code**      **Comment**

1      Laboratory QC within limits.

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

**Authorized Signature**





## **APPENDIX B**

### **Waste Manifest**



**NON-HAZARDOUS WASTE MANIFEST**

1. Generator ID Number  
WID088876396

2. Page 1 of 1

3. Emergency Response Phone

4. Waste Tracking Number  
062218M

5. Generator's Name and Mailing Address

MARC INC.  
3939 LIEN RD  
MADISON, WI 53704

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name  
TRADEBE TRANSPORTATION LLC

U.S. EPA ID Number  
INK000123497

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

TRADEBE TREATMENT & RECYCLING OF WTI  
5611 W. HEMLOCK STREET  
MILWAUKEE, WI 53223  
414-760-9175

U.S. EPA ID Number  
WID988530056

Facility's Phone:

9. Waste Shipping Name and Description

NON-REGULATED MATERIAL

10. Containers

No. Type

005 DM

11. Total Quantity

275

12. Unit Wt./Vol.

G

13. Special Handling Instructions and Additional Information

WST; ERS 2006/7/5/3 SO: 1762582

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name

Signature

Month Day Year  
6 27 18

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Jeff Foss

Signature

[Signature]

Month Day Year

6 27 18

Transporter 2 Printed/Typed Name

Signature

Month Day Year

6 27 18

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

Manifest Reference Number:

U.S. EPA ID Number

17b. Alternate Facility (or Generator)

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name

Signature

Month Day Year

## **APPENDIX C**

### **SVE System Commissioning Laboratory Reports**



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

Mr. Brian Kappen  
Enviroforensics  
N16 W. 23390 Stone Ridge Dr  
Suite G  
Waukesha, WI 53188

April 23, 2018

EnvisionAir Project Number: 2018-260  
Client Project Name: 5040

Dear Mr. Kappen,

Please find the attached analytical report for the samples received April 18, 2018. 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,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

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:** 5040  
**Client Project Manager:** KYLE VANDER HEIDEN  
**EnvisionAir Project Number:** 2018-260

**Sample Summary**

*Canister Pressure / Vacuum*

| <u>Laboratory Sample Number:</u> | <u>Sample Description:</u> | <u>START</u>      | <u>START</u>      | <u>End Date</u>   | <u>End Time</u>   | <u>Date</u>      | <u>Time</u>      | <u>Initial Field</u> | <u>Final Field</u> | <u>Lab</u>      |    |
|----------------------------------|----------------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|----------------------|--------------------|-----------------|----|
|                                  |                            | <u>Collected:</u> | <u>Collected:</u> | <u>Collected:</u> | <u>Collected:</u> | <u>Received:</u> | <u>Received:</u> | <u>(in. Hg)</u>      | <u>(in. Hg)</u>    | <u>(in. Hg)</u> |    |
| 18-1146                          | 5040-SVE-EX                | A                 | 4/13/18           | 14:54             | 4/13/18           | 14:59            | 4/18/18          | 10:40                | -27                | -2              | -2 |



**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:** 5040  
**Client Project Manager:** KYLE VANDER HEIDEN  
**EnvisionAir Project Number:** 2018-260

**Analytical Method:** TO-15  
**Analytical Batch:** 041918CAIR

**Client Sample ID:** 5040-SVE-EX  
**Envision Sample Number:** 18-1146  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 4/13/18 14:54  
**Sample Collection END Date/Time:** 4/13/18 14:59  
**Sample Received Date/Time:** 4/18/18 10:40

| <u>Compounds</u>                 | <u>Sample Results ug/m<sup>3</sup></u> | <u>Reporting Limit ug/m<sup>3</sup></u> | <u>Flag</u> |
|----------------------------------|--|---|-------------|
| cis-1,2-Dichloroethene           | < 198                                  | 198                                     |             |
| Tetrachloroethene                | <b>5,060</b>                           | 128                                     | 1           |
| trans-1,2-Dichloroethene         | < 396                                  | 396                                     |             |
| Trichloroethene                  | <b>47.8</b>                            | 10.7                                    |             |
| Vinyl Chloride                   | < 12.8                                 | 12.8                                    |             |
| 4-bromofluorobenzene (surrogate) | 106%                                   |   |             |
| Analysis Date/Time:              | 4-21-18/01:45                          |   |             |
| Analyst Initials                 | tjg                                    |   |             |

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 041918CAIR

| <u>Method Blank (MB):</u>        | <u>MB Results (ppbv)</u> | <u>Reporting Limit (ppbv)</u> | <u>Flags</u> |
|----------------------------------|--------------------------|-------------------------------|--------------|
| 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) | 86%                      |                               |              |
| Analysis Date/Time:              | 4-20-18/17:19            |                               |              |
| Analyst Initials                 | tjg                      |                               |              |

| <u>LCS/LCSD</u>                  | <u>LCS Results (ppbv)</u> | <u>LCSD Results (ppbv)</u> | <u>LCS/D Conc(ppbv)</u> | <u>LCS Rec.</u> | <u>LCSD Rec.</u> | <u>RPD</u> | <u>Flag</u> |
|----------------------------------|---------------------------|----------------------------|-------------------------|-----------------|------------------|------------|-------------|
| Vinyl Chloride                   | 10.6                      | 10.4                       | 10                      | 106%            | 104%             | 1.9%       |             |
| trans-1,2-Dichloroethene         | 9.29                      | 8.72                       | 10                      | 93%             | 87%              | 6.3%       |             |
| cis-1,2-Dichloroethene           | 9.54                      | 9.22                       | 10                      | 95%             | 92%              | 3.4%       |             |
| Trichloroethene                  | 9.21                      | 9.53                       | 10                      | 92%             | 95%              | 3.4%       |             |
| Tetrachloroethene                | 8.07                      | 8.33                       | 10                      | 81%             | 83%              | 3.2%       |             |
| 4-bromofluorobenzene (surrogate) | 105%                      | 113%                       |                         |                 |                  |            |             |
| Analysis Date/Time:              | 4-20-18/16:04             | 4-20-18/18:35              |                         |                 |                  |            |             |
| Analyst Initials                 | tjg                       | tjg                        |                         |                 |                  |            |             |



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1441 Sadlier Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
[www.envision-air.com](http://www.envision-air.com)

**Flag Number**

1

**Comments**

Reported value is from a 40x dilution. TJG 4/23/18







**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

May 2, 2018

EnvisionAir Project Number: 2018-270  
Client Project Name: 5040

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received April 24, 2018. 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,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

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:** 5040  
**Client Project Manager:** ROB HOVERMAN  
**EnvisionAir Project Number:** 2018-270

**Sample Summary**

*Canister Pressure / Vacuum*

| <u>Laboratory Sample Number:</u> | <u>Sample Description:</u> | <u>START</u> | <u>START</u> | <u>End Date</u> | <u>End Time</u> | <u>Date</u> | <u>Time</u> | <u>Initial Field</u> | <u>Final Field</u> | <u>Lab</u> |                 |
|----------------------------------|----------------------------|--------------|--------------|-----------------|-----------------|-------------|-------------|----------------------|--------------------|------------|-----------------|
|                                  |                            | <u>Date</u>  | <u>Time</u>  |                 |                 |             |             |                      |                    |            | <u>Received</u> |
| 18-1165                          | 5040-SVE-EX                | A            | 4/17/18      | 14:56           | 4/17/18         | 15:01       | 4/24/18     | 12:25                | -32                | -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:** 5040

**Client Project Manager:** ROB HOVERMAN

**EnvisionAir Project Number:** 2018-270

**Analytical Method:** TO-15  
**Analytical Batch:** 050118AIR

**Client Sample ID:** 5040-SVE-EX

**Sample Collection START Date/Time:** 4/17/18 14:56

**Sample Collection END Date/Time:** 4/17/18 15:01

**Envision Sample Number:** 18-1165

**Sample Received Date/Time:** 4/24/18 12:25

**Sample Matrix:** AIR

| <u>Compounds</u>                 | <u>Sample Results ug/m<sup>3</sup></u> | <u>Reporting Limit ug/m<sup>3</sup></u> | <u>Flag</u> |
|----------------------------------|--|---|-------------|
| cis-1,2-Dichloroethene           | < 198                                  | 198                                     |             |
| Tetrachloroethene                | <b>851</b>                             | 31.9                                    |             |
| trans-1,2-Dichloroethene         | < 396                                  | 396                                     |             |
| Trichloroethene                  | <b>26.3</b>                            | 10.7                                    |             |
| Vinyl Chloride                   | < 12.8                                 | 12.8                                    |             |
| 4-bromofluorobenzene (surrogate) | 89%                                    |   |             |
| Analysis Date/Time:              | 5-1-18/15:19                           |   |             |
| Analyst Initials                 | tjg                                    |   |             |

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 050118AIR

| <u>Method Blank (MB):</u>        | <u>MB Results (ppbv)</u> | <u>Reporting Limit (ppbv)</u> | <u>Flags</u> |
|----------------------------------|--------------------------|-------------------------------|--------------|
| 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) | 82%                      |                               |              |
| Analysis Date/Time:              | 5-1-18/10:59             |                               |              |
| Analyst Initials                 | tjg                      |                               |              |

| <u>LCS/LCSD</u>                  | <u>LCS Results (ppbv)</u> | <u>LCSD Results (ppbv)</u> | <u>LCS/D Conc(ppbv)</u> | <u>LCS Rec.</u> | <u>LCSD Rec.</u> | <u>RPD</u> | <u>Flag</u> |
|----------------------------------|---------------------------|----------------------------|-------------------------|-----------------|------------------|------------|-------------|
| Vinyl Chloride                   | 9.18                      | 9.61                       | 10                      | 92%             | 96%              | 4.6%       |             |
| trans-1,2-Dichloroethene         | 10.4                      | 10.6                       | 10                      | 104%            | 106%             | 1.9%       |             |
| cis-1,2-Dichloroethene           | 10.1                      | 10.4                       | 10                      | 101%            | 104%             | 2.9%       |             |
| Trichloroethene                  | 9.73                      | 10.5                       | 10                      | 97%             | 105%             | 7.6%       |             |
| Tetrachloroethene                | 10.6                      | 11.6                       | 10                      | 106%            | 116%             | 9.0%       |             |
| 4-bromofluorobenzene (surrogate) | 91%                       | 89%                        |                         |                 |                  |            |             |
| Analysis Date/Time:              | 5-1-18/09:04              | 5-1-18/09:44               |                         |                 |                  |            |             |
| Analyst Initials                 | tjg                       | tjg                        |                         |                 |                  |            |             |



**EnvisionAir**  
1441 Sadler Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
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[www.envision-air.com](http://www.envision-air.com)

Flag Number

Comments





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

Mr. Kyle Vander Heiden  
Enviroforensics  
N16 W. 23390 Stone Ridge Dr  
Suite G  
Waukesha, WI 53188

May 25, 2018

EnvisionAir Project Number: 2018-305  
Client Project Name: 5040

Dear Mr. Vander Heiden,

Please find the attached analytical report for the samples received May 15, 2018. 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,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

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:** 5040  
**Client Project Manager:** KYLE VANDERHEIDEN  
**EnvisionAir Project Number:** 2018-305

**Sample Summary**

*Canister Pressure / Vacuum*

| <u>Laboratory Sample Number:</u> | <u>Sample Description:</u> | <u>START</u>      | <u>START</u>      | <u>End Date</u>   | <u>End Time</u>   | <u>Date</u>      | <u>Time</u>      | <u>Initial Field</u> | <u>Final Field</u> | <u>Lab</u>      |    |
|----------------------------------|----------------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|----------------------|--------------------|-----------------|----|
|                                  |                            | <u>Collected:</u> | <u>Collected:</u> | <u>Collected:</u> | <u>Collected:</u> | <u>Received:</u> | <u>Received:</u> | <u>(in. Hg)</u>      | <u>(in. Hg)</u>    | <u>(in. Hg)</u> |    |
| 18-1260                          | 5040-SVE-EX                | A                 | 5/11/18           | 14:09             | 5/11/18           | 14:15            | 5/15/18          | 11:05                | -29                | -2              | -2 |





**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:** 5040  
**Client Project Manager:** KYLE VANDERHEIDEN  
**EnvisionAir Project Number:** 2018-305

**Analytical Method:** TO-15  
**Analytical Batch:** 052118CAIR

**Client Sample ID:** 5040-SVE-EX  
**Envision Sample Number:** 18-1260  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 5/11/18 14:09  
**Sample Collection END Date/Time:** 5/11/18 14:15  
**Sample Received Date/Time:** 5/15/18 11:05

| <u>Compounds</u>                 | <u>Sample Results ug/m<sup>3</sup></u> | <u>Reporting Limit ug/m<sup>3</sup></u> | <u>Flag</u> |
|----------------------------------|--|---|-------------|
| cis-1,2-Dichloroethene           | < 198                                  | 198                                     |             |
| Tetrachloroethene                | <b>248</b>                             | 31.9                                    |             |
| trans-1,2-Dichloroethene         | < 396                                  | 396                                     |             |
| Trichloroethene                  | < 10.7                                 | 10.7                                    |             |
| Vinyl Chloride                   | < 12.8                                 | 12.8                                    |             |
| 4-bromofluorobenzene (surrogate) | 101%                                   |   |             |
| Analysis Date/Time:              | 5-23-18/08:46                          |   |             |
| Analyst Initials                 | tjg                                    |   |             |

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 052118AIR

| <u>Method Blank (MB):</u>        | <u>MB Results (ppbv)</u> | <u>Reporting Limit (ppbv)</u> | <u>Flags</u> |
|----------------------------------|--------------------------|-------------------------------|--------------|
| 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) | 84%                      |                               |              |
| Analysis Date/Time:              | 5-23-18/00:37            |                               |              |
| Analyst Initials                 | tjg                      |                               |              |

| <u>LCS/LCSD</u>                  | <u>LCS Results (ppbv)</u> | <u>LCSD Results (ppbv)</u> | <u>LCS/D Conc(ppbv)</u> | <u>LCS Rec.</u> | <u>LCSD Rec.</u> | <u>RPD</u> | <u>Flag</u> |
|----------------------------------|---------------------------|----------------------------|-------------------------|-----------------|------------------|------------|-------------|
| Vinyl Chloride                   | 9.18                      | 9.23                       | 10                      | 92%             | 92%              | 0.5%       |             |
| trans-1,2-Dichloroethene         | 11                        | 11.1                       | 10                      | 110%            | 111%             | 0.9%       |             |
| cis-1,2-Dichloroethene           | 10.7                      | 10.9                       | 10                      | 107%            | 109%             | 1.9%       |             |
| Trichloroethene                  | 9.72                      | 9.96                       | 10                      | 97%             | 100%             | 2.4%       |             |
| Tetrachloroethene                | 10.3                      | 10.7                       | 10                      | 103%            | 107%             | 3.8%       |             |
| 4-bromofluorobenzene (surrogate) | 105%                      | 104%                       |                         |                 |                  |            |             |
| Analysis Date/Time:              | 5-22-18/22:41             | 5-22-18/23:22              |                         |                 |                  |            |             |
| Analyst Initials                 | tjg                       | tjg                        |                         |                 |                  |            |             |



**EnvisionAir**  
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Mr. Kyle Vander Heiden  
Enviroforensics  
N16 W. 23390 Stone Ridge Dr  
Suite G  
Waukesha, WI 53188

August 14, 2018

EnvisionAir Project Number: 2018-465  
Client Project Name: 5040

Dear Mr. Vander Heiden,

Please find the attached analytical report for the samples received July 30, 2018. 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,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

Stanley A Hunnicutt

Project Manager  
EnvisionAir, LLC



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**Client Name:** ENVIROFORENSICS  
**Project ID:** 5040  
**Client Project Manager:** KYLE VANDER HEIDEN  
**EnvisionAir Project Number:** 2018-465

**Sample Summary**

*Canister Pressure / Vacuum*

| <u>Laboratory Sample Number:</u> | <u>Sample Description:</u> | <u>START</u>      | <u>START</u>      | <u>End Date</u>   | <u>End Time</u>   | <u>Date</u>      | <u>Time</u>      | <u>Initial Field</u> | <u>Final Field</u> | <u>Lab</u>      |    |
|----------------------------------|----------------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|----------------------|--------------------|-----------------|----|
|                                  |                            | <u>Collected:</u> | <u>Collected:</u> | <u>Collected:</u> | <u>Collected:</u> | <u>Received:</u> | <u>Received:</u> | <u>(in. Hg)</u>      | <u>(in. Hg)</u>    | <u>(in. Hg)</u> |    |
| 18-1829                          | 5040-SVE-EX                | A                 | 7/25/18           | 9:15              | 7/25/18           | 9:20             | 7/30/18          | 11:00                | -26                | -2              | -2 |



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**Client Name:** ENVIROFORENSICS  
**Project ID:** 5040  
**Client Project Manager:** KYLE VANDER HEIDEN  
**EnvisionAir Project Number:** 2018-465

**Analytical Method:** TO-15  
**Analytical Batch:** 081018AIR

**Client Sample ID:** 5040-SVE-EX  
**Envision Sample Number:** 18-1829  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 7/25/18 9:15  
**Sample Collection END Date/Time:** 7/25/18 9:20  
**Sample Received Date/Time:** 7/30/18 11:00

| <u>Compounds</u>                 | <u>Sample Results ug/m<sup>3</sup></u> | <u>Reporting Limit ug/m<sup>3</sup></u> | <u>Flag</u> |
|----------------------------------|--|---|-------------|
| cis-1,2-Dichloroethene           | < 198                                  | 198                                     |             |
| Tetrachloroethene                | <b>415</b>                             | 31.9                                    |             |
| trans-1,2-Dichloroethene         | < 396                                  | 396                                     |             |
| Trichloroethene                  | < 10.7                                 | 10.7                                    |             |
| Vinyl Chloride                   | < 12.8                                 | 12.8                                    |             |
| 4-bromofluorobenzene (surrogate) | 86%                                    |   |             |
| Analysis Date/Time:              | 8-12-18/10:06                          |   |             |
| Analyst Initials                 | tjg                                    |   |             |

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 081018AIR

| <u>Method Blank (MB):</u>        | <u>MB Results (ppbv)</u> | <u>Reporting Limit (ppbv)</u> | <u>Flags</u> |
|----------------------------------|--------------------------|-------------------------------|--------------|
| 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) | 90%                      |                               |              |
| Analysis Date/Time:              | 8-12-18/06:53            |                               |              |
| Analyst Initials                 | tjg                      |                               |              |

| <u>LCS/LCSD</u>                  | <u>LCS Results (ppbv)</u> | <u>LCSD Results (ppbv)</u> | <u>LCS/D Conc(ppbv)</u> | <u>LCS Rec.</u> | <u>LCSD Rec.</u> | <u>RPD</u> | <u>Flag</u> |
|----------------------------------|---------------------------|----------------------------|-------------------------|-----------------|------------------|------------|-------------|
| Vinyl Chloride                   | 10.1                      | 10.4                       | 10                      | 101%            | 104%             | 2.9%       |             |
| trans-1,2-Dichloroethene         | 9.17                      | 9.49                       | 10                      | 92%             | 95%              | 3.4%       |             |
| cis-1,2-Dichloroethene           | 8.84                      | 9.25                       | 10                      | 88%             | 93%              | 4.5%       |             |
| Trichloroethene                  | 8.68                      | 9                          | 10                      | 87%             | 90%              | 3.6%       |             |
| Tetrachloroethene                | 10.1                      | 9.17                       | 10                      | 101%            | 92%              | 9.7%       |             |
| 4-bromofluorobenzene (surrogate) | 85%                       | 88%                        |                         |                 |                  |            |             |
| Analysis Date/Time:              | 8-12-18/05:35             | 8-12-18/08:11              |                         |                 |                  |            |             |
| Analyst Initials                 | tjg                       | tjg                        |                         |                 |                  |            |             |





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