## Borski, Jennifer - DNR

**From:** Stephen Meer, P.E. <smeer@thesigmagroup.com>
**Sent:** Monday, July 10, 2023 2:38 PM
**To:** Thomas, Miriam A - MUN
**Cc:** Hoverman, Robert R - DNR (Rob); Borski, Jennifer - DNR; Neste, David E - DNR; Walden, James E - DNR; Adam Roder, P.E.
**Subject:** sample results notification - Oakfield Properties BRRTS #02-20-202459
**Attachments:** Table 1 Sewer Gas Data.pdf; 07.2023 Figure 1 Sewer Sample Location 21801.pdf; 7049 Beacon Air Samples Analytical Report 07 06 2023 1137.pdf



Good afternoon Ms. Thomas,

Attached are the results of a recent investigation of the sanitary sewer line within the N. Main Street right-of-way by The Sigma Group, Inc. on behalf of the Wisconsin Department of Natural Resources (DNR) through the Vapor Intrusion Zone Contract (VIZC) program.

This investigation was conducted because of the potential for contaminant vapors associated with potential historic discharges from the nearby Oakfield Properties/201 N. Main Street property to remain within the sanitary sewer line and migrate to buildings connected to the sanitary sewer, and possibly enter indoor air. The contaminant of concern at the Oakfield Properties/201 N. Main Street property is trichloroethene commonly referred to as TCE and associated chlorinated volatile organic compounds (CVOCs) including tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride (VC).

On June 9, 2023, The Sigma Group, Inc., installed a passive vapor sampling device within each of manholes 103, 104 and 105 associated with the sanitary sewer line located within the N. Main St. right-of-way. The sampling devices were suspended within each manhole at a height approximately 1 foot above the observed liquid level. Following installation of the sampling device at each location, the manhole cover was replaced. The sampling devices were retrieved on June 23, 2023 and submitted to Beacon Environmental Laboratory where they underwent laboratory analysis for volatile organic compounds (VOCs) including the contaminants of concern associated with the Oakfield Properties site.

The results of the sampling show that PCE, TCE, cis-1,2-DCE, trans-1,2-DCE and VC were not detected greater than laboratory reporting limits within the collected sewer gas samples. Select VOCs (chloroform, methylene chloride, xylenes) were detected within select samples. The analytical results were compared to Sanitary Sewer Gas Screening Levels (SSGSLs) developed by the DNR. The analytical results and applicable SSGLs are summarized in the attached Table 1. The reported concentrations did not exceed applicable SSGSLs. Furthermore, reported concentrations did not exceed 10% of the applicable SSGSL with the exception of the reported concentration of chloroform (19.6 micrograms per cubic meter) within the sample collected at manhole 103 which was reported just below 50% of the residential SSGSL (41 micrograms per cubic meter).

Sample locations are illustrated on the attached Figure 1. A copy of the laboratory analytical report is also attached.

A final report will be submitted to DNR and listed on the DNR's Bureau of Remediation and Redevelopment Tracking System (BRRTS) website.

If you have any questions on the completed sampling or associated results please contact Rob Hoverman at the DNR:

Rob Hoverman, PG
414.497.0896
Robert.Hoverman@wisconsin.gov

Regards,

Stephen R. Meer, P.E.
Senior Engineer
The Sigma Group, Inc.
(414) 643-4124 (direct)
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1300 W. Canal Street, Milwaukee, WI 53233
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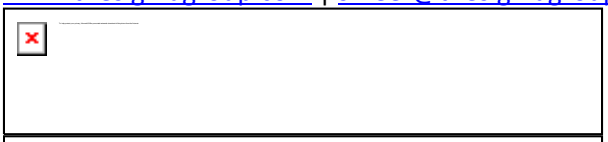

LEGEND

PROPERTY BOUNDARIES FOR RESIDENTIAL HOMES W/IN THE SCOPE OF WORK

SEWER GAS SAMPLE

105

04R_SSG01_20230623

104

04R_SSG02_20230623

103

04R_SSG03_20230623

sanitary sewer flow

sanitary sewer flow

N MAIN ST

Wild Goose State Trail

E CHU

HUBBARD ST

N FIRST ST

FIRST ST

105 109 119 127 135

280 106 116 206

213 185

260 201

242 203

232 149

222 145

139 142 135

210

204 129 134

140 121 123

136 119 124

117

110 111 115

N

0 60 FT. 120 FT.

GRAPHIC SCALE

NOTE:
1. 2022 AERIAL PHOTOGRAPH FROM FOND DU LAC COUNTY GIS WEBSITE

THE SIGMA GROUP
Single Source. Sound Solutions.

# SEWER GAS SAMPLE LOCATIONS

OAKFIELD, WISCONSIN

FIGURE 1

PROJECT: 21801 | DIRECTORY: CAD | FILENAME: 21801_Master Map_vertical 11x17.ai | CREATED BY: CLE | DATE: 07/07/2023

**Table 1**
**Sewer Gas Analytical Results**
**Oakfield VIZC - Oakfield, Wisconsin**
**Sigma Project No. 21801**

| Sample Type: | | Sewer Gas Samples | | | Residential Sanitary Sewer Gas Screening Level [2] (AF=0.03) | Commercial/Industrial Sanitary Sewer Gas Screening Level [3] (AF = 0.03) |
|---|---|---|---|---|---|---|
| Manhole: | | 105 | 104 | 103 | | |
| Sample Identification: | | **04R_SSG01_20230623** | **04R_SSG02_20230623** | **04R_SSG03_20230623** | | |
| Sample Date(s): | | 06/09/2023-06/23/2023 | 06/09/2023-06/23/2023 | 06/09/2023-06/23/2023 | | |
| Sampling/Analysis Method: | | TO-17 (Passive) | TO-17 (Passive) | TO-17 (Passive) | | |
| Sample Duration: | | 20,130 | 20,110 | 20,080 | | |
| **VOCs** | | | | | | |
| Benzene | µg/m$^3$ | <2.30 | <2.30 | <2.30 | 120 | 520 |
| Carbon Tetrachloride | µg/m$^3$ | <1.13 | <1.13 | <1.13 | 160 | 680 |
| Chlorobenzene | µg/m$^3$ | <0.572 | <0.573 | <0.574 | 1,733 | 7,333 |
| Chloroform | µg/m$^3$ | 2.38 | 1.55 | 19.6 | 41 | 180 |
| 1,2-Dibromoethane (EDB) | µg/m$^3$ | <1.25 | <1.25 | <1.25 | 1.567 | 6.7 |
| 1,2-Dichlorobenzene | µg/m$^3$ | <0.649 | <0.649 | <0.650 | 7,000 | 29,333 |
| 1,3-Dichlorobenzene | µg/m$^3$ | <0.649 | <0.649 | <0.650 | NS | NS |
| 1,4-Dichlorobenzene | µg/m$^3$ | <0.649 | 0.651 | <0.650 | 87 | 367 |
| 1,1-Dichloroethane | µg/m$^3$ | <0.572 | <0.573 | <0.574 | 590 | 2,600 |
| 1,2-Dichloroethane | µg/m$^3$ | <0.869 | <0.870 | <0.871 | 36 | 160 |
| 1,1-Dichloroethene | µg/m$^3$ | <1.47 | <1.48 | <1.48 | 7,000 | 29,000 |
| cis-1,2-Dichloroethene | µg/m$^3$ | <0.918 | <0.919 | <0.920 | 1,400 | 5,800 |
| trans-1,2-Dichloroethene | µg/m$^3$ | <1.11 | <1.11 | <1.11 | 1,400 | 5,800 |
| 1,4-Dioxane | µg/m$^3$ | <1.19 | <1.19 | <1.19 | 187 | 833 |
| Ethylbenzene | µg/m$^3$ | <1.43 | <1.43 | <1.47 | 370 | 1,600 |
| Isopropylbenzene | µg/m$^3$ | <1.47 | <1.47 | <1.47 | NS | NS |
| Methylene Chloride | µg/m$^3$ | <1.39 | 1.68 | 6.7 | 21,000 | 88,000 |
| 2-Methylnaphthalene | µg/m$^3$ | <1.60 | <1.60 | <1.60 | NS | NS |
| Methyl-tert-butyl ether | µg/m$^3$ | <2.43 | <2.44 | <2.44 | 3,600 | 16,000 |
| Naphthalene | µg/m$^3$ | <1.52 | <1.52 | <1.52 | 28 | 120 |
| 1,1,2,2-Tetrachloroethane | µg/m$^3$ | <1.19 | <1.19 | <1.19 | 16 | 70 |
| Tetrachloroethene (PCE) | µg/m$^3$ | <1.19 | <1.19 | <1.19 | 1,400 | 5,800 |
| Toluene | µg/m$^3$ | <3.04 | <3.04 | <3.05 | 170,000 | 730,000 |
| 1,2,3-Trichlorobenzene | µg/m$^3$ | <1.25 | <1.25 | <1.25 | NS | NS |
| 1,2,4-Trichlorobenzene | µg/m$^3$ | <1.25 | <1.25 | <1.25 | 70 | 293 |
| 1,1,1-Trichloroethane | µg/m$^3$ | <0.463 | <0.464 | <0.465 | 170,000 | 730,000 |
| 1,1,2-Trichlororethane | µg/m3 | <1.47 | <1.48 | <1.48 | 60 | 257 |
| Trichloroethene (TCE) | µg/m$^3$ | <1.47 | <1.48 | <1.48 | 70 | 290 |
| 1,2,3-Trichloropropane | µg/m$^3$ | <0.649 | <0.649 | <0.650 | 10 | 43 |
| 1,1,2-Trichlorotrifluoroethane | µg/m$^3$ | <0.547 | <0.547 | <0.548 | 173,333 | 733,333 |
| 1,2,4-Trimethylbenzene | µg/m$^3$ | <1.47 | <1.47 | <1.47 | 2,100 | 8,800 |
| 1,3,5-Trimethylbenzene | µg/m$^3$ | <1.47 | <1.47 | <1.47 | 2,100 | 8,800 |
| Vinyl Chloride | µg/m$^3$ | <0.601 | <0.601 | <0.602 | 56 | 930 |
| Xylenes, total | µg/m$^3$ | <2.76 | <2.76 | 4.88 | 3,500 | 15,000 |

Notes:

1. Analytical units: µg/m$^3$ = micrograms per cubic meter

2. Residential Sanitary Sewer Gas Screening Level = Risk-based concentrations based on VALs for **residential** air which has been adjusted with an **Attenuation Factor of 0.03** for the sanitary sewer to ambient air pathway in a **residential** setting. VALs for residential indoor air based on WDNR publication RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for residential air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) November 2022] and residential air in January 2023 "Wisconsin Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels" publication RR-0136. VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., hazard index = 1).

3. Commercial/Industrial Sanitary Sewer Gas Screening Level = Risk-based concentrations based on VALs for **ommercial/industrial** air which has been adjusted with an **Attenuation Factor of 0.03** for the sanitary sewer gas to ambient air pathway in a **commerical/industrial** setting. VALs for commercial/industrial setting indoor air based on WDNR publication PUB-RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for industrial air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) November 2022] and commercial/industrial air in January 2023 "Wisconsin Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels" publication RR-0136. VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., hazard index = 1).

5. NA = not analyzed

6. Exceedances: **BOLD** = concentration greater than residential Sanitary Sewer Gas Screening Level
**[ ]** = concentration greater than commercial/industrial Sanitary Sewer Gas Screening Level

Data entered / updated by: KAL
Data checked by: SRM
Date: 7/6/2023

Date: 7/6/2023

Beacon Environmental
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

# CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230317R02

Laboratory Work Order: 0007049

**Project Description:**
Oakfield Properties
Oakfield, WI

Prepared for:
Steve Meer
**The Sigma Group**
1300 West Canal Street
Milwaukee, WI 53233

Ryan W. Schneider
Senior Project Manager

July 06, 2023

All data meet requirements as specified in the Beacon Environmental Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Quality Manager

# Table of Contents

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# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **The Sigma Group** | | **Site Name:** | Oakfield Properties | **Beacon Proposal:** | 230317R02 |
| 1300 West Canal Street | | **Site Location:** | Oakfield, WI | **Lab Work Order:** | 0007049 |
| Milwaukee, WI 53233 | | **Project Manager:** | Steve Meer | **Reported:** | 07/06/2023 |

## Sample Summary

| Lab Sample ID | Client Sample ID | Received | Analysis | Matrix |
|---|---|---|---|---|
| 0007049-01 | 04R_SSG01_20230623 | 06/26/2023 | TO-17 (Passive) | Sewer Gas |
| Sampler Type: | Beacon Passive Sampler | | | |
| 0007049-02 | 04R_SSG02_20230623 | 06/26/2023 | TO-17 (Passive) | Sewer Gas |
| Sampler Type: | Beacon Passive Sampler | | | |
| 0007049-03 | 04R_SSG03_20230623 | 06/26/2023 | TO-17 (Passive) | Sewer Gas |
| Sampler Type: | Beacon Passive Sampler | | | |

### Project Completeness

**Samples Received:** 3
**Samples Analyzed:** 3

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Case Narrative*

Beacon Environmental provided thermally conditioned Beacon Samplers for sampling, with analyses following U.S. EPA Method TO-17, with analytical results reported in µg/m3. Beacon calculated concentration results using the exposure period, target analyte mass, and the following procedures detailed in ISO 16017-2, *Indoor, ambient and workplace air-Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography-Part 2: Diffusive sampling.*

Beacon reports results and reporting limits to three significant digits.

**Reporting Limits (RLs)**
The RLs represent a baseline above which results meet laboratory-determined limits of precision and accuracy. Beacon performed dilution analysis when results exceeded the upper calibration limit, bringing all reported results within the calibration range. The project method quantitation limit (MQL) is the limit of quantitation (LOQ) as noted in the data tables. The reported data includes LOQ limits.

**Calibration Verification**
All continuing calibration verification (CCV) values are within ±30% of the true values as defined by the initial calibration and met the requirements specified in BEACON's Quality Manual.

**Internal Standards and Surrogates**
Internal standards and surrogates are spiked on all blanks (ICB, BLK), field samples and laboratory control samples (ICV/CALV, BS, ICV and CCV). Acceptance criteria for internal standards are 60 to 140 percent and surrogate recoveries are 70 to 130 percent; all internal standards and surrogates are within the acceptance criteria unless noted in the **Case Narrative**.

**Blank Contamination**
No targeted compounds above the project method quantitation limit (MQL) for each compound were observed in the Laboratory Method Blanks unless noted in the **Case Narrative**.

**Laboratory Control Samples**
Acceptance criteria for surrogate and analytes recoveries are 70 to 130 percent; all recoveries are within the acceptance criteria unless noted in the **Case Narrative**.

**Discussion**
Samples were received in proper condition and laboratory control parameters were met unless otherwise noted below. The work performed was in accordance with ISO/IEC 17025:2017.

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *STATEMENT OF DATA QUALIFICATIONS*

***Qualifier Summary:***

**Analysis: TO-17 (Passive) /** Organics in Air by EPA TO-17 Using Beacon Sampler

**0007049-01** **04R_SSG01_20230623**

| Compound | Q | Q Explanation |
|---|---|---|
| 1,4-Dichlorobenzene-d4 | I1 | Internal Standard recovery was above laboratory and method acceptance limits, results biased low. |
| Chlorobenzene-d5 | I1 | Internal Standard recovery was above laboratory and method acceptance limits, results biased low. |
| Fluorobenzene | I1 | Internal Standard recovery was above laboratory and method acceptance limits, results biased low. |

**0007049-03** **04R_SSG03_20230623**

| Compound | Q | Q Explanation |
|---|---|---|
| Chlorobenzene-d5 | I1 | Internal Standard recovery was above laboratory and method acceptance limits, results biased low. |

End of Case Narrative

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# *Analytical Results*

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Summary of Compound Detections- Concentration*

Lab Sample ID: 0007049-01 — **04R_SSG01_20230623** — Sewer Gas — Method: TO-17 (Passive)

| Analyte | CAS# | Result (µg/m³) | Q | RT | LOQ (µg/m³) | File ID |
|---|---|---|---|---|---|---|
| **Chloroform** | 67-66-3 | **2.38** | | 2.920 | 1.39 | S23070308.D |

Lab Sample ID: 0007049-02 — **04R_SSG02_20230623** — Sewer Gas — Method: TO-17 (Passive)

| Analyte | CAS# | Result (µg/m³) | Q | RT | LOQ (µg/m³) | File ID |
|---|---|---|---|---|---|---|
| **Methylene Chloride** | 75-09-2 | **1.68** | | 2.182 | 1.39 | S23070309.D |
| **Chloroform** | 67-66-3 | **1.55** | | 2.920 | 1.39 | S23070309.D |
| **1,4-Dichlorobenzene** | 106-46-7 | **0.651** | | 7.414 | 0.649 | S23070309.D |

Lab Sample ID: 0007049-03 — **04R_SSG03_20230623** — Sewer Gas — Method: TO-17 (Passive)

| Analyte | CAS# | Result (µg/m³) | Q | RT | LOQ (µg/m³) | File ID |
|---|---|---|---|---|---|---|
| **Methylene Chloride** | 75-09-2 | **6.70** | | 2.181 | 1.39 | S23070310.D |
| **Chloroform** | 67-66-3 | **19.6** | | 2.919 | 1.39 | S23070310.D |
| **p & m-Xylene** | 179601-23-1 | **3.15** | | 5.909 | 1.39 | S23070310.D |
| **o-Xylene** | 95-47-6 | **1.73** | | 6.198 | 1.39 | S23070310.D |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Data Summary Table- Concentration*

| Compound | Frequency | LOQ (µg/m³) | Max Value (µg/m³) |
|---|---|---|---|
| Methylene Chloride | 2 | 1.39 | 6.70 |
| Chloroform | 3 | 1.39 | 19.6 |
| p & m-Xylene | 1 | 1.39 | 3.15 |
| o-Xylene | 1 | 1.39 | 1.73 |
| 1,4-Dichlorobenzene | 1 | 0.649 | 0.651 |

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# *Detailed Analytical Results*

BEACON ENVIRONMENTAL

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

Lab Sample ID: 0007049-01

## 04R_SSG01_20230623

Sewer Gas

Method: TO-17 (Passive)

| Analyte | CAS# | Result (µg/m³) | Q | LOQ (µg/m³) | Analyzed | File ID |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 75-01-4 | <0.601 | | 0.601 | 07/03/2023 14:52 | S23070308.D |
| 1,1-Dichloroethene | 75-35-4 | <1.47 | | 1.47 | 07/03/2023 14:52 | S23070308.D |
| Methylene Chloride | 75-09-2 | <1.39 | | 1.39 | 07/03/2023 14:52 | S23070308.D |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 76-13-1 | <0.547 | | 0.547 | 07/03/2023 14:52 | S23070308.D |
| trans-1,2-Dichloroethene | 156-60-5 | <1.11 | | 1.11 | 07/03/2023 14:52 | S23070308.D |
| Methyl-t-butyl ether | 1634-04-4 | <2.43 | | 2.43 | 07/03/2023 14:52 | S23070308.D |
| 1,1-Dichloroethane | 75-34-3 | <0.572 | | 0.572 | 07/03/2023 14:52 | S23070308.D |
| cis-1,2-Dichloroethene | 156-59-2 | <0.918 | | 0.918 | 07/03/2023 14:52 | S23070308.D |
| **Chloroform** | 67-66-3 | **2.38** | | 1.39 | 07/03/2023 14:52 | S23070308.D |
| 1,2-Dichloroethane | 107-06-2 | <0.869 | | 0.869 | 07/03/2023 14:52 | S23070308.D |
| 1,1,1-Trichloroethane | 71-55-6 | <0.463 | | 0.463 | 07/03/2023 14:52 | S23070308.D |
| Carbon Tetrachloride | 56-23-5 | <1.13 | | 1.13 | 07/03/2023 14:52 | S23070308.D |
| Benzene | 71-43-2 | <2.30 | | 2.30 | 07/03/2023 14:52 | S23070308.D |
| Trichloroethene | 79-01-6 | <1.47 | | 1.47 | 07/03/2023 14:52 | S23070308.D |
| 1,4-Dioxane | 123-91-1 | <1.19 | | 1.19 | 07/03/2023 14:52 | S23070308.D |
| 1,1,2-Trichloroethane | 79-00-5 | <1.47 | | 1.47 | 07/03/2023 14:52 | S23070308.D |
| Toluene | 108-88-3 | <3.04 | | 3.04 | 07/03/2023 14:52 | S23070308.D |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.25 | | 1.25 | 07/03/2023 14:52 | S23070308.D |
| Tetrachloroethene | 127-18-4 | <1.19 | | 1.19 | 07/03/2023 14:52 | S23070308.D |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | <1.19 | | 1.19 | 07/03/2023 14:52 | S23070308.D |
| Chlorobenzene | 108-90-7 | <0.572 | | 0.572 | 07/03/2023 14:52 | S23070308.D |
| Ethylbenzene | 100-41-4 | <1.43 | | 1.43 | 07/03/2023 14:52 | S23070308.D |
| p & m-Xylene | 179601-23-1 | <1.38 | | 1.38 | 07/03/2023 14:52 | S23070308.D |
| o-Xylene | 95-47-6 | <1.38 | | 1.38 | 07/03/2023 14:52 | S23070308.D |
| 1,2,3-Trichloropropane | 96-18-4 | <0.649 | | 0.649 | 07/03/2023 14:52 | S23070308.D |
| Isopropylbenzene | 98-82-8 | <1.47 | | 1.47 | 07/03/2023 14:52 | S23070308.D |
| 1,3,5-Trimethylbenzene | 108-67-8 | <1.47 | | 1.47 | 07/03/2023 14:52 | S23070308.D |
| 1,2,4-Trimethylbenzene | 95-63-6 | <1.47 | | 1.47 | 07/03/2023 14:52 | S23070308.D |
| 1,3-Dichlorobenzene | 541-73-1 | <0.649 | | 0.649 | 07/03/2023 14:52 | S23070308.D |
| 1,4-Dichlorobenzene | 106-46-7 | <0.649 | | 0.649 | 07/03/2023 14:52 | S23070308.D |
| 1,2-Dichlorobenzene | 95-50-1 | <0.649 | | 0.649 | 07/03/2023 14:52 | S23070308.D |
| 1,2,4-Trichlorobenzene | 120-82-1 | <1.25 | | 1.25 | 07/03/2023 14:52 | S23070308.D |
| Naphthalene | 91-20-3 | <1.52 | | 1.52 | 07/03/2023 14:52 | S23070308.D |
| 1,2,3-Trichlorobenzene | 87-61-6 | <1.25 | | 1.25 | 07/03/2023 14:52 | S23070308.D |
| 2-Methylnaphthalene | 91-57-6 | <1.60 | | 1.60 | 07/03/2023 14:52 | S23070308.D |

| *Analyte* | *CAS#* | *% Recovery* | *Recovery Limits* | *Q* | *Analyzed* | *File ID* |
|---|---|---|---|---|---|---|
| *Surrogate: 1,2-DCA-d4* | 17060-07-0 | *92.6%* | *70-130* | | *07/03/2023 14:52* | *S23070308.D* |
| *Surrogate: Toluene-d8* | 2037-26-5 | *101%* | *70-130* | | *07/03/2023 14:52* | *S23070308.D* |
| *Surrogate: Bromofluorobenzene* | 460-00-4 | *94.6%* | *70-130* | | *07/03/2023 14:52* | *S23070308.D* |

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

Lab Sample ID: 0007049-02

## 04R_SSG02_20230623

Sewer Gas

Method: TO-17 (Passive)

| Analyte | CAS# | Result (µg/m³) | Q | LOQ (µg/m³) | Analyzed | File ID |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 75-01-4 | <0.601 | | 0.601 | 07/03/2023 15:20 | S23070309.D |
| 1,1-Dichloroethene | 75-35-4 | <1.48 | | 1.48 | 07/03/2023 15:20 | S23070309.D |
| **Methylene Chloride** | 75-09-2 | **1.68** | | 1.39 | 07/03/2023 15:20 | S23070309.D |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 76-13-1 | <0.547 | | 0.547 | 07/03/2023 15:20 | S23070309.D |
| trans-1,2-Dichloroethene | 156-60-5 | <1.11 | | 1.11 | 07/03/2023 15:20 | S23070309.D |
| Methyl-t-butyl ether | 1634-04-4 | <2.44 | | 2.44 | 07/03/2023 15:20 | S23070309.D |
| 1,1-Dichloroethane | 75-34-3 | <0.573 | | 0.573 | 07/03/2023 15:20 | S23070309.D |
| cis-1,2-Dichloroethene | 156-59-2 | <0.919 | | 0.919 | 07/03/2023 15:20 | S23070309.D |
| **Chloroform** | 67-66-3 | **1.55** | | 1.39 | 07/03/2023 15:20 | S23070309.D |
| 1,2-Dichloroethane | 107-06-2 | <0.870 | | 0.870 | 07/03/2023 15:20 | S23070309.D |
| 1,1,1-Trichloroethane | 71-55-6 | <0.464 | | 0.464 | 07/03/2023 15:20 | S23070309.D |
| Carbon Tetrachloride | 56-23-5 | <1.13 | | 1.13 | 07/03/2023 15:20 | S23070309.D |
| Benzene | 71-43-2 | <2.30 | | 2.30 | 07/03/2023 15:20 | S23070309.D |
| Trichloroethene | 79-01-6 | <1.48 | | 1.48 | 07/03/2023 15:20 | S23070309.D |
| 1,4-Dioxane | 123-91-1 | <1.19 | | 1.19 | 07/03/2023 15:20 | S23070309.D |
| 1,1,2-Trichloroethane | 79-00-5 | <1.48 | | 1.48 | 07/03/2023 15:20 | S23070309.D |
| Toluene | 108-88-3 | <3.04 | | 3.04 | 07/03/2023 15:20 | S23070309.D |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.25 | | 1.25 | 07/03/2023 15:20 | S23070309.D |
| Tetrachloroethene | 127-18-4 | <1.19 | | 1.19 | 07/03/2023 15:20 | S23070309.D |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | <1.19 | | 1.19 | 07/03/2023 15:20 | S23070309.D |
| Chlorobenzene | 108-90-7 | <0.573 | | 0.573 | 07/03/2023 15:20 | S23070309.D |
| Ethylbenzene | 100-41-4 | <1.43 | | 1.43 | 07/03/2023 15:20 | S23070309.D |
| p & m-Xylene | 179601-23-1 | <1.38 | | 1.38 | 07/03/2023 15:20 | S23070309.D |
| o-Xylene | 95-47-6 | <1.38 | | 1.38 | 07/03/2023 15:20 | S23070309.D |
| 1,2,3-Trichloropropane | 96-18-4 | <0.649 | | 0.649 | 07/03/2023 15:20 | S23070309.D |
| Isopropylbenzene | 98-82-8 | <1.47 | | 1.47 | 07/03/2023 15:20 | S23070309.D |
| 1,3,5-Trimethylbenzene | 108-67-8 | <1.47 | | 1.47 | 07/03/2023 15:20 | S23070309.D |
| 1,2,4-Trimethylbenzene | 95-63-6 | <1.47 | | 1.47 | 07/03/2023 15:20 | S23070309.D |
| 1,3-Dichlorobenzene | 541-73-1 | <0.649 | | 0.649 | 07/03/2023 15:20 | S23070309.D |
| **1,4-Dichlorobenzene** | 106-46-7 | **0.651** | | 0.649 | 07/03/2023 15:20 | S23070309.D |
| 1,2-Dichlorobenzene | 95-50-1 | <0.649 | | 0.649 | 07/03/2023 15:20 | S23070309.D |
| 1,2,4-Trichlorobenzene | 120-82-1 | <1.25 | | 1.25 | 07/03/2023 15:20 | S23070309.D |
| Naphthalene | 91-20-3 | <1.52 | | 1.52 | 07/03/2023 15:20 | S23070309.D |
| 1,2,3-Trichlorobenzene | 87-61-6 | <1.25 | | 1.25 | 07/03/2023 15:20 | S23070309.D |
| 2-Methylnaphthalene | 91-57-6 | <1.60 | | 1.60 | 07/03/2023 15:20 | S23070309.D |

| *Analyte* | *CAS#* | *% Recovery* | *Recovery Limits* | *Q* | *Analyzed* | *File ID* |
|---|---|---|---|---|---|---|
| *Surrogate: 1,2-DCA-d4* | 17060-07-0 | *94.6%* | *70-130* | | *07/03/2023 15:20* | *S23070309.D* |
| *Surrogate: Toluene-d8* | 2037-26-5 | *100%* | *70-130* | | *07/03/2023 15:20* | *S23070309.D* |
| *Surrogate: Bromofluorobenzene* | 460-00-4 | *94.3%* | *70-130* | | *07/03/2023 15:20* | *S23070309.D* |

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

Lab Sample ID: 0007049-03

## 04R_SSG03_20230623

Sewer Gas

Method: TO-17 (Passive)

| Analyte | CAS# | Result (µg/m³) | Q | LOQ (µg/m³) | Analyzed | File ID |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 75-01-4 | <0.602 | | 0.602 | 07/03/2023 15:47 | S23070310.D |
| 1,1-Dichloroethene | 75-35-4 | <1.48 | | 1.48 | 07/03/2023 15:47 | S23070310.D |
| **Methylene Chloride** | 75-09-2 | **6.70** | | 1.39 | 07/03/2023 15:47 | S23070310.D |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 76-13-1 | <0.548 | | 0.548 | 07/03/2023 15:47 | S23070310.D |
| trans-1,2-Dichloroethene | 156-60-5 | <1.11 | | 1.11 | 07/03/2023 15:47 | S23070310.D |
| Methyl-t-butyl ether | 1634-04-4 | <2.44 | | 2.44 | 07/03/2023 15:47 | S23070310.D |
| 1,1-Dichloroethane | 75-34-3 | <0.574 | | 0.574 | 07/03/2023 15:47 | S23070310.D |
| cis-1,2-Dichloroethene | 156-59-2 | <0.920 | | 0.920 | 07/03/2023 15:47 | S23070310.D |
| **Chloroform** | 67-66-3 | **19.6** | | 1.39 | 07/03/2023 15:47 | S23070310.D |
| 1,2-Dichloroethane | 107-06-2 | <0.871 | | 0.871 | 07/03/2023 15:47 | S23070310.D |
| 1,1,1-Trichloroethane | 71-55-6 | <0.465 | | 0.465 | 07/03/2023 15:47 | S23070310.D |
| Carbon Tetrachloride | 56-23-5 | <1.13 | | 1.13 | 07/03/2023 15:47 | S23070310.D |
| Benzene | 71-43-2 | <2.30 | | 2.30 | 07/03/2023 15:47 | S23070310.D |
| Trichloroethene | 79-01-6 | <1.48 | | 1.48 | 07/03/2023 15:47 | S23070310.D |
| 1,4-Dioxane | 123-91-1 | <1.19 | | 1.19 | 07/03/2023 15:47 | S23070310.D |
| 1,1,2-Trichloroethane | 79-00-5 | <1.48 | | 1.48 | 07/03/2023 15:47 | S23070310.D |
| Toluene | 108-88-3 | <3.05 | | 3.05 | 07/03/2023 15:47 | S23070310.D |
| 1,2-Dibromoethane (EDB) | 106-93-4 | <1.25 | | 1.25 | 07/03/2023 15:47 | S23070310.D |
| Tetrachloroethene | 127-18-4 | <1.19 | | 1.19 | 07/03/2023 15:47 | S23070310.D |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | <1.19 | | 1.19 | 07/03/2023 15:47 | S23070310.D |
| Chlorobenzene | 108-90-7 | <0.574 | | 0.574 | 07/03/2023 15:47 | S23070310.D |
| Ethylbenzene | 100-41-4 | <1.43 | | 1.43 | 07/03/2023 15:47 | S23070310.D |
| **p & m-Xylene** | 179601-23-1 | **3.15** | | 1.39 | 07/03/2023 15:47 | S23070310.D |
| **o-Xylene** | 95-47-6 | **1.73** | | 1.39 | 07/03/2023 15:47 | S23070310.D |
| 1,2,3-Trichloropropane | 96-18-4 | <0.650 | | 0.650 | 07/03/2023 15:47 | S23070310.D |
| Isopropylbenzene | 98-82-8 | <1.47 | | 1.47 | 07/03/2023 15:47 | S23070310.D |
| 1,3,5-Trimethylbenzene | 108-67-8 | <1.47 | | 1.47 | 07/03/2023 15:47 | S23070310.D |
| 1,2,4-Trimethylbenzene | 95-63-6 | <1.47 | | 1.47 | 07/03/2023 15:47 | S23070310.D |
| 1,3-Dichlorobenzene | 541-73-1 | <0.650 | | 0.650 | 07/03/2023 15:47 | S23070310.D |
| 1,4-Dichlorobenzene | 106-46-7 | <0.650 | | 0.650 | 07/03/2023 15:47 | S23070310.D |
| 1,2-Dichlorobenzene | 95-50-1 | <0.650 | | 0.650 | 07/03/2023 15:47 | S23070310.D |
| 1,2,4-Trichlorobenzene | 120-82-1 | <1.25 | | 1.25 | 07/03/2023 15:47 | S23070310.D |
| Naphthalene | 91-20-3 | <1.52 | | 1.52 | 07/03/2023 15:47 | S23070310.D |
| 1,2,3-Trichlorobenzene | 87-61-6 | <1.25 | | 1.25 | 07/03/2023 15:47 | S23070310.D |
| 2-Methylnaphthalene | 91-57-6 | <1.60 | | 1.60 | 07/03/2023 15:47 | S23070310.D |

| *Analyte* | *CAS#* | *% Recovery* | *Recovery Limits* | *Q* | *Analyzed* | *File ID* |
|---|---|---|---|---|---|---|
| *Surrogate: 1,2-DCA-d4* | 17060-07-0 | *95.4%* | *70-130* | | *07/03/2023 15:47* | *S23070310.D* |
| *Surrogate: Toluene-d8* | 2037-26-5 | *100%* | *70-130* | | *07/03/2023 15:47* | *S23070310.D* |
| *Surrogate: Bromofluorobenzene* | 460-00-4 | *95.3%* | *70-130* | | *07/03/2023 15:47* | *S23070310.D* |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# *QC Information/Summary*

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23D075 - Instrument: S System - File ID: S23042719.D**

***B23D075-ICV1 (LCSD/Second Source Verification/CALV)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 42.7 | 10 | ng | 50.0 | | 85.4 | 70-130 | | | |
| 1,1-Dichloroethene | 51.7 | 10 | ng | 50.0 | | 103 | 70-130 | | | |
| Methylene Chloride | 49.6 | 10 | ng | 50.0 | | 99.2 | 70-130 | | | |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 50.7 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| trans-1,2-Dichloroethene | 59.4 | 10 | ng | 50.0 | | 119 | 70-130 | | | |
| Methyl-t-butyl ether | 47.4 | 25 | ng | 50.0 | | 94.7 | 70-130 | | | |
| 1,1-Dichloroethane | 50.0 | 10 | ng | 50.0 | | 100 | 70-130 | | | |
| cis-1,2-Dichloroethene | 58.9 | 10 | ng | 50.0 | | 118 | 70-130 | | | |
| Chloroform | 59.8 | 10 | ng | 50.0 | | 120 | 70-130 | | | |
| 1,2-Dichloroethane | 51.7 | 10 | ng | 50.0 | | 103 | 70-130 | | | |
| 1,1,1-Trichloroethane | 51.3 | 10 | ng | 50.0 | | 103 | 70-130 | | | |
| Carbon Tetrachloride | 53.0 | 10 | ng | 50.0 | | 106 | 70-130 | | | |
| Benzene | 60.9 | 25 | ng | 50.0 | | 122 | 70-130 | | | |
| Trichloroethene | 59.9 | 10 | ng | 50.0 | | 120 | 70-130 | | | |
| 1,4-Dioxane | 48.2 | 10 | ng | 50.0 | | 96.4 | 70-130 | | | |
| 1,1,2-Trichloroethane | 51.1 | 10 | ng | 50.0 | | 102 | 70-130 | | | |
| Toluene | 64.2 | 25 | ng | 50.0 | | 128 | 70-130 | | | |
| 1,2-Dibromoethane (EDB) | 50.7 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| Tetrachloroethene | 57.2 | 10 | ng | 50.0 | | 114 | 70-130 | | | |
| 1,1,1,2-Tetrachloroethane | 51.2 | 10 | ng | 50.0 | | 102 | 70-130 | | | |
| Chlorobenzene | 50.6 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| Ethylbenzene | 59.1 | 25 | ng | 50.0 | | 118 | 70-130 | | | |
| p & m-Xylene | 58.6 | 25 | ng | 50.0 | | 117 | 70-130 | | | |
| o-Xylene | 58.2 | 25 | ng | 50.0 | | 116 | 70-130 | | | |
| 1,2,3-Trichloropropane | 47.9 | 10 | ng | 50.0 | | 95.7 | 70-130 | | | |
| Isopropylbenzene | 48.7 | 25 | ng | 50.0 | | 97.4 | 70-130 | | | |
| 1,3,5-Trimethylbenzene | 50.1 | 25 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,2,4-Trimethylbenzene | 50.1 | 25 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,3-Dichlorobenzene | 49.3 | 10 | ng | 50.0 | | 98.6 | 70-130 | | | |
| 1,4-Dichlorobenzene | 50.4 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| 1,2-Dichlorobenzene | 50.8 | 10 | ng | 50.0 | | 102 | 70-130 | | | |
| 1,2,4-Trichlorobenzene | 53.2 | 10 | ng | 50.0 | | 106 | 70-130 | | | |
| Naphthalene | 53.8 | 25 | ng | 50.0 | | 108 | 70-130 | | | |
| 1,2,3-Trichlorobenzene | 54.2 | 10 | ng | 50.0 | | 108 | 70-130 | | | |
| 2-Methylnaphthalene | 54.2 | 25 | ng | 50.0 | | 108 | 70-130 | | | |
| *Surrogate: 1,2-DCA-d4* | *53.2* | | *ng* | 50.0 | | *106* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *57.7* | | *ng* | 50.0 | | *115* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *53.3* | | *ng* | 50.0 | | *107* | *70-130* | | | |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23D075 - Instrument: S System - File ID: S23042720.D**

***B23D075-ICB1 (Lab Blank/Initial Calibration Blank)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | <5 | 10 | ng | | | | | | | U |
| 1,1-Dichloroethene | <5 | 10 | ng | | | | | | | U |
| Methylene Chloride | <5 | 10 | ng | | | | | | | U |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | <5 | 10 | ng | | | | | | | U |
| trans-1,2-Dichloroethene | <5 | 10 | ng | | | | | | | U |
| Methyl-t-butyl ether | <10 | 25 | ng | | | | | | | U |
| 1,1-Dichloroethane | <5 | 10 | ng | | | | | | | U |
| cis-1,2-Dichloroethene | <5 | 10 | ng | | | | | | | U |
| Chloroform | <5 | 10 | ng | | | | | | | U |
| 1,2-Dichloroethane | <5 | 10 | ng | | | | | | | U |
| 1,1,1-Trichloroethane | <5 | 10 | ng | | | | | | | U |
| Carbon Tetrachloride | <5 | 10 | ng | | | | | | | U |
| Benzene | <10 | 25 | ng | | | | | | | U |
| Trichloroethene | <5 | 10 | ng | | | | | | | U |
| 1,4-Dioxane | <5 | 10 | ng | | | | | | | U |
| 1,1,2-Trichloroethane | <5 | 10 | ng | | | | | | | U |
| Toluene | <10 | 25 | ng | | | | | | | U |
| 1,2-Dibromoethane (EDB) | <5 | 10 | ng | | | | | | | U |
| Tetrachloroethene | <5 | 10 | ng | | | | | | | U |
| 1,1,1,2-Tetrachloroethane | <5 | 10 | ng | | | | | | | U |
| Chlorobenzene | <5 | 10 | ng | | | | | | | U |
| Ethylbenzene | <10 | 25 | ng | | | | | | | U |
| p & m-Xylene | <10 | 25 | ng | | | | | | | U |
| o-Xylene | <10 | 25 | ng | | | | | | | U |
| 1,2,3-Trichloropropane | <5 | 10 | ng | | | | | | | U |
| Isopropylbenzene | <10 | 25 | ng | | | | | | | U |
| 1,3,5-Trimethylbenzene | <10 | 25 | ng | | | | | | | U |
| 1,2,4-Trimethylbenzene | <10 | 25 | ng | | | | | | | U |
| 1,3-Dichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 1,4-Dichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 1,2-Dichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 1,2,4-Trichlorobenzene | <5 | 10 | ng | | | | | | | U |
| Naphthalene | <5 | 25 | ng | | | | | | | U |
| 1,2,3-Trichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 2-Methylnaphthalene | <5 | 25 | ng | | | | | | | U |
| *Surrogate: 1,2-DCA-d4* | *101* | | *ng* | 100 | | *101* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *105* | | *ng* | 100 | | *105* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *97.2* | | *ng* | 100 | | *97.2* | *70-130* | | | |

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23G009 - Batch: 23G0009 - Instrument: S System - File ID: S23070302.D**

***23G0009-BS1 (LCS, Calibration Source Verification)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 41.7 | 10 | ng | 50.0 | | 83.4 | 70-130 | | | |
| 1,1-Dichloroethene | 45.1 | 10 | ng | 50.0 | | 90.3 | 70-130 | | | |
| Methylene Chloride | 47.6 | 10 | ng | 50.0 | | 95.2 | 70-130 | | | |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 46.4 | 10 | ng | 50.0 | | 92.8 | 70-130 | | | |
| trans-1,2-Dichloroethene | 49.8 | 10 | ng | 50.0 | | 99.7 | 70-130 | | | |
| Methyl-t-butyl ether | 47.0 | 25 | ng | 50.0 | | 93.9 | 70-130 | | | |
| 1,1-Dichloroethane | 46.6 | 10 | ng | 50.0 | | 93.2 | 70-130 | | | |
| cis-1,2-Dichloroethene | 47.8 | 10 | ng | 50.0 | | 95.6 | 70-130 | | | |
| Chloroform | 45.9 | 10 | ng | 50.0 | | 91.8 | 70-130 | | | |
| 1,2-Dichloroethane | 46.1 | 10 | ng | 50.0 | | 92.2 | 70-130 | | | |
| 1,1,1-Trichloroethane | 42.6 | 10 | ng | 50.0 | | 85.2 | 70-130 | | | |
| Carbon Tetrachloride | 40.7 | 10 | ng | 50.0 | | 81.4 | 70-130 | | | |
| Benzene | 50.2 | 25 | ng | 50.0 | | 100 | 70-130 | | | |
| Trichloroethene | 46.7 | 10 | ng | 50.0 | | 93.3 | 70-130 | | | |
| 1,4-Dioxane | 49.3 | 10 | ng | 50.0 | | 98.5 | 70-130 | | | |
| 1,1,2-Trichloroethane | 47.0 | 10 | ng | 50.0 | | 94.1 | 70-130 | | | |
| Toluene | 52.0 | 25 | ng | 50.0 | | 104 | 70-130 | | | |
| 1,2-Dibromoethane (EDB) | 44.2 | 10 | ng | 50.0 | | 88.4 | 70-130 | | | |
| Tetrachloroethene | 49.0 | 10 | ng | 50.0 | | 98.0 | 70-130 | | | |
| 1,1,1,2-Tetrachloroethane | 41.2 | 10 | ng | 50.0 | | 82.3 | 70-130 | | | |
| Chlorobenzene | 49.5 | 10 | ng | 50.0 | | 99.0 | 70-130 | | | |
| Ethylbenzene | 49.6 | 25 | ng | 50.0 | | 99.1 | 70-130 | | | |
| p & m-Xylene | 49.7 | 25 | ng | 50.0 | | 99.5 | 70-130 | | | |
| o-Xylene | 50.4 | 25 | ng | 50.0 | | 101 | 70-130 | | | |
| 1,2,3-Trichloropropane | 47.3 | 10 | ng | 50.0 | | 94.6 | 70-130 | | | |
| Isopropylbenzene | 50.0 | 25 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,3,5-Trimethylbenzene | 47.9 | 25 | ng | 50.0 | | 95.8 | 70-130 | | | |
| 1,2,4-Trimethylbenzene | 48.0 | 25 | ng | 50.0 | | 95.9 | 70-130 | | | |
| 1,3-Dichlorobenzene | 49.5 | 10 | ng | 50.0 | | 99.0 | 70-130 | | | |
| 1,4-Dichlorobenzene | 49.7 | 10 | ng | 50.0 | | 99.3 | 70-130 | | | |
| 1,2-Dichlorobenzene | 48.8 | 10 | ng | 50.0 | | 97.7 | 70-130 | | | |
| 1,2,4-Trichlorobenzene | 47.2 | 10 | ng | 50.0 | | 94.4 | 70-130 | | | |
| Naphthalene | 40.2 | 25 | ng | 50.0 | | 80.4 | 70-130 | | | |
| 1,2,3-Trichlorobenzene | 40.9 | 10 | ng | 50.0 | | 81.8 | 70-130 | | | |
| 2-Methylnaphthalene | 42.0 | 25 | ng | 50.0 | | 84.1 | 70-130 | | | |
| *Surrogate: 1,2-DCA-d4* | *46.9* | | *ng* | 50.0 | | *93.9* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *52.4* | | *ng* | 50.0 | | *105* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *48.1* | | *ng* | 50.0 | | *96.1* | *70-130* | | | |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23G009 - Batch: 23G0009 - Instrument: S System - File ID: S23070303.D**

***23G0009-BLK1 (Lab Blank)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | <0.601 | 0.601 | µg/m³ | | | | | | | U |
| 1,1-Dichloroethene | <1.47 | 1.47 | µg/m³ | | | | | | | U |
| Methylene Chloride | <1.39 | 1.39 | µg/m³ | | | | | | | U |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | <0.547 | 0.547 | µg/m³ | | | | | | | U |
| trans-1,2-Dichloroethene | <1.11 | 1.11 | µg/m³ | | | | | | | U |
| Methyl-t-butyl ether | <2.43 | 2.43 | µg/m³ | | | | | | | U |
| 1,1-Dichloroethane | <0.573 | 0.573 | µg/m³ | | | | | | | U |
| cis-1,2-Dichloroethene | <0.918 | 0.918 | µg/m³ | | | | | | | U |
| Chloroform | <1.39 | 1.39 | µg/m³ | | | | | | | U |
| 1,2-Dichloroethane | <0.869 | 0.869 | µg/m³ | | | | | | | U |
| 1,1,1-Trichloroethane | <0.463 | 0.463 | µg/m³ | | | | | | | U |
| Carbon Tetrachloride | <1.13 | 1.13 | µg/m³ | | | | | | | U |
| Benzene | <2.30 | 2.30 | µg/m³ | | | | | | | U |
| Trichloroethene | <1.47 | 1.47 | µg/m³ | | | | | | | U |
| 1,4-Dioxane | <1.19 | 1.19 | µg/m³ | | | | | | | U |
| 1,1,2-Trichloroethane | <1.47 | 1.47 | µg/m³ | | | | | | | U |
| Toluene | <3.04 | 3.04 | µg/m³ | | | | | | | U |
| 1,2-Dibromoethane (EDB) | <1.25 | 1.25 | µg/m³ | | | | | | | U |
| Tetrachloroethene | <1.19 | 1.19 | µg/m³ | | | | | | | U |
| 1,1,1,2-Tetrachloroethane | <1.19 | 1.19 | µg/m³ | | | | | | | U |
| Chlorobenzene | <0.573 | 0.573 | µg/m³ | | | | | | | U |
| Ethylbenzene | <1.43 | 1.43 | µg/m³ | | | | | | | U |
| p & m-Xylene | <1.38 | 1.38 | µg/m³ | | | | | | | U |
| o-Xylene | <1.38 | 1.38 | µg/m³ | | | | | | | U |
| 1,2,3-Trichloropropane | <0.649 | 0.649 | µg/m³ | | | | | | | U |
| Isopropylbenzene | <1.47 | 1.47 | µg/m³ | | | | | | | U |
| 1,3,5-Trimethylbenzene | <1.47 | 1.47 | µg/m³ | | | | | | | U |
| 1,2,4-Trimethylbenzene | <1.47 | 1.47 | µg/m³ | | | | | | | U |
| 1,3-Dichlorobenzene | <0.649 | 0.649 | µg/m³ | | | | | | | U |
| 1,4-Dichlorobenzene | <0.649 | 0.649 | µg/m³ | | | | | | | U |
| 1,2-Dichlorobenzene | <0.649 | 0.649 | µg/m³ | | | | | | | U |
| 1,2,4-Trichlorobenzene | <1.25 | 1.25 | µg/m³ | | | | | | | U |
| Naphthalene | <1.52 | 1.52 | µg/m³ | | | | | | | U |
| 1,2,3-Trichlorobenzene | <1.25 | 1.25 | µg/m³ | | | | | | | U |
| 2-Methylnaphthalene | <1.60 | 1.60 | µg/m³ | | | | | | | U |
| *Surrogate: 1,2-DCA-d4* | *90.8* | | *ng* | 100 | | *90.8* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *104* | | *ng* | 100 | | *104* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *89.8* | | *ng* | 100 | | *89.8* | *70-130* | | | |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23G009 - Instrument: S System - File ID: S23070304.D**

***B23G009-ICV1 (LCSD/Second Source Verification/CALV)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 43.3 | 10 | ng | 50.0 | | 86.7 | 70-130 | | | |
| 1,1-Dichloroethene | 44.3 | 10 | ng | 50.0 | | 88.5 | 70-130 | | | |
| Methylene Chloride | 46.7 | 10 | ng | 50.0 | | 93.4 | 70-130 | | | |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 47.0 | 10 | ng | 50.0 | | 94.0 | 70-130 | | | |
| trans-1,2-Dichloroethene | 50.3 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| Methyl-t-butyl ether | 46.3 | 25 | ng | 50.0 | | 92.6 | 70-130 | | | |
| 1,1-Dichloroethane | 46.2 | 10 | ng | 50.0 | | 92.4 | 70-130 | | | |
| cis-1,2-Dichloroethene | 48.5 | 10 | ng | 50.0 | | 97.1 | 70-130 | | | |
| Chloroform | 45.9 | 10 | ng | 50.0 | | 91.8 | 70-130 | | | |
| 1,2-Dichloroethane | 46.9 | 10 | ng | 50.0 | | 93.7 | 70-130 | | | |
| 1,1,1-Trichloroethane | 43.2 | 10 | ng | 50.0 | | 86.3 | 70-130 | | | |
| Carbon Tetrachloride | 41.0 | 10 | ng | 50.0 | | 82.0 | 70-130 | | | |
| Benzene | 50.8 | 25 | ng | 50.0 | | 102 | 70-130 | | | |
| Trichloroethene | 48.2 | 10 | ng | 50.0 | | 96.4 | 70-130 | | | |
| 1,4-Dioxane | 48.8 | 10 | ng | 50.0 | | 97.6 | 70-130 | | | |
| 1,1,2-Trichloroethane | 47.8 | 10 | ng | 50.0 | | 95.7 | 70-130 | | | |
| Toluene | 52.6 | 25 | ng | 50.0 | | 105 | 70-130 | | | |
| 1,2-Dibromoethane (EDB) | 44.8 | 10 | ng | 50.0 | | 89.6 | 70-130 | | | |
| Tetrachloroethene | 50.0 | 10 | ng | 50.0 | | 99.9 | 70-130 | | | |
| 1,1,1,2-Tetrachloroethane | 42.0 | 10 | ng | 50.0 | | 84.0 | 70-130 | | | |
| Chlorobenzene | 50.5 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| Ethylbenzene | 50.8 | 25 | ng | 50.0 | | 102 | 70-130 | | | |
| p & m-Xylene | 51.2 | 25 | ng | 50.0 | | 102 | 70-130 | | | |
| o-Xylene | 51.5 | 25 | ng | 50.0 | | 103 | 70-130 | | | |
| 1,2,3-Trichloropropane | 48.3 | 10 | ng | 50.0 | | 96.6 | 70-130 | | | |
| Isopropylbenzene | 50.8 | 25 | ng | 50.0 | | 102 | 70-130 | | | |
| 1,3,5-Trimethylbenzene | 49.0 | 25 | ng | 50.0 | | 97.9 | 70-130 | | | |
| 1,2,4-Trimethylbenzene | 49.2 | 25 | ng | 50.0 | | 98.4 | 70-130 | | | |
| 1,3-Dichlorobenzene | 50.6 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| 1,4-Dichlorobenzene | 50.1 | 10 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,2-Dichlorobenzene | 50.7 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| 1,2,4-Trichlorobenzene | 45.7 | 10 | ng | 50.0 | | 91.5 | 70-130 | | | |
| Naphthalene | 39.9 | 25 | ng | 50.0 | | 79.8 | 70-130 | | | |
| 1,2,3-Trichlorobenzene | 41.4 | 10 | ng | 50.0 | | 82.8 | 70-130 | | | |
| 2-Methylnaphthalene | 39.0 | 25 | ng | 50.0 | | 78.1 | 70-130 | | | |
| *Surrogate: 1,2-DCA-d4* | *45.6* | | *ng* | 50.0 | | *91.3* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *51.7* | | *ng* | 50.0 | | *103* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *46.6* | | *ng* | 50.0 | | *93.3* | *70-130* | | | |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23G009 - Instrument: S System - File ID: S23070311.D**

***B23G009-CCV1 (LCS, Closing Calibration Verification)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 42.6 | 10 | ng | 50.0 | | 85.3 | 70-130 | | | |
| 1,1-Dichloroethene | 45.8 | 10 | ng | 50.0 | | 91.7 | 70-130 | | | |
| Methylene Chloride | 48.2 | 10 | ng | 50.0 | | 96.3 | 70-130 | | | |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 46.0 | 10 | ng | 50.0 | | 92.1 | 70-130 | | | |
| trans-1,2-Dichloroethene | 48.5 | 10 | ng | 50.0 | | 97.0 | 70-130 | | | |
| Methyl-t-butyl ether | 46.4 | 25 | ng | 50.0 | | 92.7 | 70-130 | | | |
| 1,1-Dichloroethane | 48.3 | 10 | ng | 50.0 | | 96.7 | 70-130 | | | |
| cis-1,2-Dichloroethene | 47.5 | 10 | ng | 50.0 | | 95.0 | 70-130 | | | |
| Chloroform | 47.9 | 10 | ng | 50.0 | | 95.8 | 70-130 | | | |
| 1,2-Dichloroethane | 47.9 | 10 | ng | 50.0 | | 95.8 | 70-130 | | | |
| 1,1,1-Trichloroethane | 44.3 | 10 | ng | 50.0 | | 88.6 | 70-130 | | | |
| Carbon Tetrachloride | 42.2 | 10 | ng | 50.0 | | 84.4 | 70-130 | | | |
| Benzene | 49.6 | 25 | ng | 50.0 | | 99.1 | 70-130 | | | |
| Trichloroethene | 47.6 | 10 | ng | 50.0 | | 95.2 | 70-130 | | | |
| 1,4-Dioxane | 50.3 | 10 | ng | 50.0 | | 101 | 70-130 | | | |
| 1,1,2-Trichloroethane | 48.4 | 10 | ng | 50.0 | | 96.8 | 70-130 | | | |
| Toluene | 51.3 | 25 | ng | 50.0 | | 103 | 70-130 | | | |
| 1,2-Dibromoethane (EDB) | 45.0 | 10 | ng | 50.0 | | 89.9 | 70-130 | | | |
| Tetrachloroethene | 52.2 | 10 | ng | 50.0 | | 104 | 70-130 | | | |
| 1,1,1,2-Tetrachloroethane | 43.4 | 10 | ng | 50.0 | | 86.7 | 70-130 | | | |
| Chlorobenzene | 48.9 | 10 | ng | 50.0 | | 97.7 | 70-130 | | | |
| Ethylbenzene | 49.9 | 25 | ng | 50.0 | | 99.8 | 70-130 | | | |
| p & m-Xylene | 49.6 | 25 | ng | 50.0 | | 99.2 | 70-130 | | | |
| o-Xylene | 50.1 | 25 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,2,3-Trichloropropane | 48.0 | 10 | ng | 50.0 | | 96.0 | 70-130 | | | |
| Isopropylbenzene | 49.8 | 25 | ng | 50.0 | | 99.5 | 70-130 | | | |
| 1,3,5-Trimethylbenzene | 49.5 | 25 | ng | 50.0 | | 99.0 | 70-130 | | | |
| 1,2,4-Trimethylbenzene | 49.4 | 25 | ng | 50.0 | | 98.7 | 70-130 | | | |
| 1,3-Dichlorobenzene | 50.2 | 10 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,4-Dichlorobenzene | 48.2 | 10 | ng | 50.0 | | 96.4 | 70-130 | | | |
| 1,2-Dichlorobenzene | 50.2 | 10 | ng | 50.0 | | 100 | 70-130 | | | |
| 1,2,4-Trichlorobenzene | 44.4 | 10 | ng | 50.0 | | 88.8 | 70-130 | | | |
| Naphthalene | 38.6 | 25 | ng | 50.0 | | 77.2 | 70-130 | | | |
| 1,2,3-Trichlorobenzene | 41.8 | 10 | ng | 50.0 | | 83.6 | 70-130 | | | |
| 2-Methylnaphthalene | 39.9 | 25 | ng | 50.0 | | 79.7 | 70-130 | | | |
| *Surrogate: 1,2-DCA-d4* | *48.8* | | *ng* | 50.0 | | *97.7* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *53.4* | | *ng* | 50.0 | | *107* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *46.8* | | *ng* | 50.0 | | *93.5* | *70-130* | | | |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23G009 - Instrument: S System - File ID: S23070312.D**

***B23G009-CCB1 (Lab Blank)***

| Analyte | Result | LOQ | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | <5 | 10 | ng | | | | | | | U |
| 1,1-Dichloroethene | <5 | 10 | ng | | | | | | | U |
| Methylene Chloride | <5 | 10 | ng | | | | | | | U |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | <5 | 10 | ng | | | | | | | U |
| trans-1,2-Dichloroethene | <5 | 10 | ng | | | | | | | U |
| Methyl-t-butyl ether | <10 | 25 | ng | | | | | | | U |
| 1,1-Dichloroethane | <5 | 10 | ng | | | | | | | U |
| cis-1,2-Dichloroethene | <5 | 10 | ng | | | | | | | U |
| Chloroform | <5 | 10 | ng | | | | | | | U |
| 1,2-Dichloroethane | <5 | 10 | ng | | | | | | | U |
| 1,1,1-Trichloroethane | <5 | 10 | ng | | | | | | | U |
| Carbon Tetrachloride | <5 | 10 | ng | | | | | | | U |
| Benzene | <10 | 25 | ng | | | | | | | U |
| Trichloroethene | <5 | 10 | ng | | | | | | | U |
| 1,4-Dioxane | <5 | 10 | ng | | | | | | | U |
| 1,1,2-Trichloroethane | <5 | 10 | ng | | | | | | | U |
| Toluene | <10 | 25 | ng | | | | | | | U |
| 1,2-Dibromoethane (EDB) | <5 | 10 | ng | | | | | | | U |
| Tetrachloroethene | <5 | 10 | ng | | | | | | | U |
| 1,1,1,2-Tetrachloroethane | <5 | 10 | ng | | | | | | | U |
| Chlorobenzene | <5 | 10 | ng | | | | | | | U |
| Ethylbenzene | <10 | 25 | ng | | | | | | | U |
| p & m-Xylene | <10 | 25 | ng | | | | | | | U |
| o-Xylene | <10 | 25 | ng | | | | | | | U |
| 1,2,3-Trichloropropane | <5 | 10 | ng | | | | | | | U |
| Isopropylbenzene | <10 | 25 | ng | | | | | | | U |
| 1,3,5-Trimethylbenzene | <10 | 25 | ng | | | | | | | U |
| 1,2,4-Trimethylbenzene | <10 | 25 | ng | | | | | | | U |
| 1,3-Dichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 1,4-Dichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 1,2-Dichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 1,2,4-Trichlorobenzene | <5 | 10 | ng | | | | | | | U |
| Naphthalene | <5 | 25 | ng | | | | | | | U |
| 1,2,3-Trichlorobenzene | <5 | 10 | ng | | | | | | | U |
| 2-Methylnaphthalene | <5 | 25 | ng | | | | | | | U |
| *Surrogate: 1,2-DCA-d4* | *90.8* | | *ng* | 100 | | *90.8* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *103* | | *ng* | 100 | | *103* | *70-130* | | | |
| *Surrogate: Bromofluorobenzene* | *91.4* | | *ng* | 100 | | *91.4* | *70-130* | | | |

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *TO-17 (Passive) - LCS/LCSD RPD Quality Control Summary*

***LCS: 23G0009-BS1*** ***File ID: S23070302.D*** Analyzed: 7/3/23 13:00

***LCSD: B23G009-ICV1*** ***File ID: S23070304.D*** Analyzed: 7/3/23 12:13

| Analyte | CAS# | LCS Result (ng) | %REC | Q | Spike Level (ng) | LCSD Result (ng) | %REC | %REC Limits | RPD | RPD Limit | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 75-01-4 | 41.68 | 83.36 | | 50 | 43.34 | 86.70 | 70-130 | 3.90 | 30 | |
| 1,1-Dichloroethene | 75-35-4 | 45.13 | 90.26 | | 50 | 44.26 | 88.50 | 70-130 | 1.95 | 30 | |
| Methylene Chloride | 75-09-2 | 47.58 | 95.16 | | 50 | 46.7 | 93.40 | 70-130 | 1.87 | 30 | |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 76-13-1 | 46.40 | 92.8 | | 50 | 47.02 | 94.00 | 70-130 | 1.33 | 30 | |
| trans-1,2-Dichloroethene | 156-60-5 | 49.84 | 99.68 | | 50 | 50.26 | 101.00 | 70-130 | 0.84 | 30 | |
| Methyl-t-butyl ether | 1634-04-4 | 46.97 | 93.94 | | 50 | 46.32 | 92.60 | 70-130 | 1.39 | 30 | |
| 1,1-Dichloroethane | 75-34-3 | 46.58 | 93.16 | | 50 | 46.2 | 92.40 | 70-130 | 0.82 | 30 | |
| cis-1,2-Dichloroethene | 156-59-2 | 47.82 | 95.64 | | 50 | 48.53 | 97.10 | 70-130 | 1.47 | 30 | |
| Chloroform | 67-66-3 | 45.91 | 91.82 | | 50 | 45.88 | 91.80 | 70-130 | 0.07 | 30 | |
| 1,2-Dichloroethane | 107-06-2 | 46.09 | 92.18 | | 50 | 46.86 | 93.70 | 70-130 | 1.66 | 30 | |
| 1,1,1-Trichloroethane | 71-55-6 | 42.62 | 85.24 | | 50 | 43.15 | 86.30 | 70-130 | 1.24 | 30 | |
| Carbon Tetrachloride | 56-23-5 | 40.70 | 81.4 | | 50 | 41.02 | 82.00 | 70-130 | 0.78 | 30 | |
| Benzene | 71-43-2 | 50.15 | 100.3 | | 50 | 50.76 | 102.00 | 70-130 | 1.21 | 30 | |
| Trichloroethene | 79-01-6 | 46.65 | 93.3 | | 50 | 48.19 | 96.40 | 70-130 | 3.25 | 30 | |
| 1,4-Dioxane | 123-91-1 | 49.26 | 98.52 | | 50 | 48.79 | 97.60 | 70-130 | 0.96 | 30 | |
| 1,1,2-Trichloroethane | 79-00-5 | 47.03 | 94.06 | | 50 | 47.84 | 95.70 | 70-130 | 1.71 | 30 | |
| Toluene | 108-88-3 | 52.00 | 104 | | 50 | 52.56 | 105.00 | 70-130 | 1.07 | 30 | |
| 1,2-Dibromoethane (EDB) | 106-93-4 | 44.21 | 88.42 | | 50 | 44.82 | 89.60 | 70-130 | 1.37 | 30 | |
| Tetrachloroethene | 127-18-4 | 49.02 | 98.04 | | 50 | 49.95 | 99.90 | 70-130 | 1.88 | 30 | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 41.16 | 82.32 | | 50 | 42.01 | 84.00 | 70-130 | 2.04 | 30 | |
| Chlorobenzene | 108-90-7 | 49.48 | 98.96 | | 50 | 50.5 | 101.00 | 70-130 | 2.04 | 30 | |
| Ethylbenzene | 100-41-4 | 49.55 | 99.1 | | 50 | 50.79 | 102.00 | 70-130 | 2.47 | 30 | |
| p & m-Xylene | 179601-23-1 | 49.74 | 99.48 | | 50 | 51.22 | 102.00 | 70-130 | 2.93 | 30 | |
| o-Xylene | 95-47-6 | 50.42 | 100.84 | | 50 | 51.49 | 103.00 | 70-130 | 2.10 | 30 | |
| 1,2,3-Trichloropropane | 96-18-4 | 47.29 | 94.58 | | 50 | 48.32 | 96.60 | 70-130 | 2.15 | 30 | |
| Isopropylbenzene | 98-82-8 | 50.00 | 100 | | 50 | 50.78 | 102.00 | 70-130 | 1.55 | 30 | |
| 1,3,5-Trimethylbenzene | 108-67-8 | 47.89 | 95.78 | | 50 | 48.96 | 97.90 | 70-130 | 2.21 | 30 | |
| 1,2,4-Trimethylbenzene | 95-63-6 | 47.96 | 95.92 | | 50 | 49.19 | 98.40 | 70-130 | 2.53 | 30 | |
| 1,3-Dichlorobenzene | 541-73-1 | 49.48 | 98.96 | | 50 | 50.61 | 101.00 | 70-130 | 2.26 | 30 | |
| 1,4-Dichlorobenzene | 106-46-7 | 49.67 | 99.34 | | 50 | 50.12 | 100.00 | 70-130 | 0.90 | 30 | |
| 1,2-Dichlorobenzene | 95-50-1 | 48.84 | 97.68 | | 50 | 50.73 | 101.00 | 70-130 | 3.80 | 30 | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 47.22 | 94.44 | | 50 | 45.74 | 91.50 | 70-130 | 3.18 | 30 | |
| Naphthalene | 91-20-3 | 40.19 | 80.38 | | 50 | 39.88 | 79.80 | 70-130 | 0.77 | 30 | |
| 1,2,3-Trichlorobenzene | 87-61-6 | 40.88 | 81.76 | | 50 | 41.38 | 82.80 | 70-130 | 1.22 | 30 | |
| 2-Methylnaphthalene | 91-57-6 | 42.03 | 84.06 | | 50 | 39.03 | 78.10 | 70-130 | 7.40 | 30 | |

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| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# *Additional QC Information*

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## Sample Result Calculation Summary (Concentration)

### TO-17 (Passive)

**Lab ID:** 0007049-01 **Sample Name:** 04R_SSG01_20230623 **X̄ Temp (°C):** 28.90

| Analyte | t<br>Sampling Time<br>minutes | DF<br>Dilution<br>Factor | Uc<br>Uptake<br>Rate | M<br>Initial Result<br>ng | C<br>Calculated Result<br>µg/m³ | File ID |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 20,130 | 1.00 | 0.827 | U | U | S23070308.D |
| 1,1-Dichloroethene | 20,130 | 1.00 | 0.337 | U | U | S23070308.D |
| Methylene Chloride | 20,130 | 1.00 | 0.357 g | U | U | S23070308.D |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 20,130 | 1.00 | 0.909 g | U | U | S23070308.D |
| trans-1,2-Dichloroethene | 20,130 | 1.00 | 0.449 | U | U | S23070308.D |
| Methyl-t-butyl ether | 20,130 | 1.00 | 0.510 g | U | U | S23070308.D |
| 1,1-Dichloroethane | 20,130 | 1.00 | 0.868 | U | U | S23070308.D |
| cis-1,2-Dichloroethene | 20,130 | 1.00 | 0.541 | U | U | S23070308.D |
| Chloroform | 20,130 | 1.00 | 0.357 g | 17.15 | 2.38 | S23070308.D |
| 1,2-Dichloroethane | 20,130 | 1.00 | 0.572 | U | U | S23070308.D |
| 1,1,1-Trichloroethane | 20,130 | 1.00 | 1.072 | U | U | S23070308.D |
| Carbon Tetrachloride | 20,130 | 1.00 | 0.439 g | U | U | S23070308.D |
| Benzene | 20,130 | 1.00 | 0.541 | U | U | S23070308.D |
| Trichloroethene | 20,130 | 1.00 | 0.337 | U | U | S23070308.D |
| 1,4-Dioxane | 20,130 | 1.00 | 0.419 g | U | U | S23070308.D |
| 1,1,2-Trichloroethane | 20,130 | 1.00 | 0.337 g | U | U | S23070308.D |
| Toluene | 20,130 | 1.00 | 0.408 | U | U | S23070308.D |
| 1,2-Dibromoethane (EDB) | 20,130 | 1.00 | 0.398 g | U | U | S23070308.D |
| Tetrachloroethene | 20,130 | 1.00 | 0.419 | U | U | S23070308.D |
| 1,1,1,2-Tetrachloroethane | 20,130 | 1.00 | 0.419 g | U | U | S23070308.D |
| Chlorobenzene | 20,130 | 1.00 | 0.868 g | U | U | S23070308.D |
| Ethylbenzene | 20,130 | 1.00 | 0.868 | U | U | S23070308.D |
| p & m-Xylene | 20,130 | 1.00 | 0.898 | U | U | S23070308.D |
| o-Xylene | 20,130 | 1.00 | 0.898 | U | U | S23070308.D |
| 1,2,3-Trichloropropane | 20,130 | 1.00 | 0.766 g | U | U | S23070308.D |
| Isopropylbenzene | 20,130 | 1.00 | 0.847 g | U | U | S23070308.D |
| 1,3,5-Trimethylbenzene | 20,130 | 1.00 | 0.847 g | U | U | S23070308.D |
| 1,2,4-Trimethylbenzene | 20,130 | 1.00 | 0.847 g | U | U | S23070308.D |
| 1,3-Dichlorobenzene | 20,130 | 1.00 | 0.766 g | U | U | S23070308.D |
| 1,4-Dichlorobenzene | 20,130 | 1.00 | 0.766 g | U | U | S23070308.D |
| 1,2-Dichlorobenzene | 20,130 | 1.00 | 0.766 g | U | U | S23070308.D |
| 1,2,4-Trichlorobenzene | 20,130 | 1.00 | 0.398 g | U | U | S23070308.D |
| Naphthalene | 20,130 | 1.00 | 0.817 g | U | U | S23070308.D |
| 1,2,3-Trichlorobenzene | 20,130 | 1.00 | 0.398 g | U | U | S23070308.D |
| 2-Methylnaphthalene | 20,130 | 1.00 | 0.776 g | U | U | S23070308.D |

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## Sample Result Calculation Summary (Concentration)

### TO-17 (Passive)

**Lab ID:** 0007049-02 **Sample Name:** 04R_SSG02_20230623 **$\bar{x}$ Temp (°C):** 28.90

| Analyte | t<br>Sampling Time<br>minutes | DF<br>Dilution<br>Factor | Uc<br>Uptake<br>Rate | M<br>Initial Result<br>ng | C<br>Calculated Result<br>µg/m³ | File ID |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 20,110 | 1.00 | 0.827 | U | U | S23070309.D |
| 1,1-Dichloroethene | 20,110 | 1.00 | 0.337 | U | U | S23070309.D |
| Methylene Chloride | 20,110 | 1.00 | 0.357 g | 12.10 | 1.68 | S23070309.D |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 20,110 | 1.00 | 0.909 g | U | U | S23070309.D |
| trans-1,2-Dichloroethene | 20,110 | 1.00 | 0.449 | U | U | S23070309.D |
| Methyl-t-butyl ether | 20,110 | 1.00 | 0.510 g | U | U | S23070309.D |
| 1,1-Dichloroethane | 20,110 | 1.00 | 0.868 | U | U | S23070309.D |
| cis-1,2-Dichloroethene | 20,110 | 1.00 | 0.541 | U | U | S23070309.D |
| Chloroform | 20,110 | 1.00 | 0.357 g | 11.12 | 1.55 | S23070309.D |
| 1,2-Dichloroethane | 20,110 | 1.00 | 0.572 | U | U | S23070309.D |
| 1,1,1-Trichloroethane | 20,110 | 1.00 | 1.072 | U | U | S23070309.D |
| Carbon Tetrachloride | 20,110 | 1.00 | 0.439 g | U | U | S23070309.D |
| Benzene | 20,110 | 1.00 | 0.541 | U | U | S23070309.D |
| Trichloroethene | 20,110 | 1.00 | 0.337 | U | U | S23070309.D |
| 1,4-Dioxane | 20,110 | 1.00 | 0.419 g | U | U | S23070309.D |
| 1,1,2-Trichloroethane | 20,110 | 1.00 | 0.337 g | U | U | S23070309.D |
| Toluene | 20,110 | 1.00 | 0.408 | U | U | S23070309.D |
| 1,2-Dibromoethane (EDB) | 20,110 | 1.00 | 0.398 g | U | U | S23070309.D |
| Tetrachloroethene | 20,110 | 1.00 | 0.419 | U | U | S23070309.D |
| 1,1,1,2-Tetrachloroethane | 20,110 | 1.00 | 0.419 g | U | U | S23070309.D |
| Chlorobenzene | 20,110 | 1.00 | 0.868 g | U | U | S23070309.D |
| Ethylbenzene | 20,110 | 1.00 | 0.868 | U | U | S23070309.D |
| p & m-Xylene | 20,110 | 1.00 | 0.898 | U | U | S23070309.D |
| o-Xylene | 20,110 | 1.00 | 0.898 | U | U | S23070309.D |
| 1,2,3-Trichloropropane | 20,110 | 1.00 | 0.766 g | U | U | S23070309.D |
| Isopropylbenzene | 20,110 | 1.00 | 0.847 g | U | U | S23070309.D |
| 1,3,5-Trimethylbenzene | 20,110 | 1.00 | 0.847 g | U | U | S23070309.D |
| 1,2,4-Trimethylbenzene | 20,110 | 1.00 | 0.847 g | U | U | S23070309.D |
| 1,3-Dichlorobenzene | 20,110 | 1.00 | 0.766 g | U | U | S23070309.D |
| 1,4-Dichlorobenzene | 20,110 | 1.00 | 0.766 g | 10.02 | 0.651 | S23070309.D |
| 1,2-Dichlorobenzene | 20,110 | 1.00 | 0.766 g | U | U | S23070309.D |
| 1,2,4-Trichlorobenzene | 20,110 | 1.00 | 0.398 g | U | U | S23070309.D |
| Naphthalene | 20,110 | 1.00 | 0.817 g | U | U | S23070309.D |
| 1,2,3-Trichlorobenzene | 20,110 | 1.00 | 0.398 g | U | U | S23070309.D |
| 2-Methylnaphthalene | 20,110 | 1.00 | 0.776 g | U | U | S23070309.D |

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## Sample Result Calculation Summary (Concentration)

### TO-17 (Passive)

**Lab ID:** 0007049-03 **Sample Name:** 04R_SSG03_20230623 **X̄ Temp (°C):** 28.90

| Analyte | t<br>Sampling Time<br>minutes | DF<br>Dilution<br>Factor | Uc<br>Uptake<br>Rate | M<br>Initial Result<br>ng | C<br>Calculated Result<br>µg/m³ | File ID |
|---|---|---|---|---|---|---|
| Vinyl Chloride | 20,080 | 1.00 | 0.827 | U | U | S23070310.D |
| 1,1-Dichloroethene | 20,080 | 1.00 | 0.337 | U | U | S23070310.D |
| Methylene Chloride | 20,080 | 1.00 | 0.357 g | 48.10 | 6.70 | S23070310.D |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 20,080 | 1.00 | 0.909 g | U | U | S23070310.D |
| trans-1,2-Dichloroethene | 20,080 | 1.00 | 0.449 | U | U | S23070310.D |
| Methyl-t-butyl ether | 20,080 | 1.00 | 0.510 g | U | U | S23070310.D |
| 1,1-Dichloroethane | 20,080 | 1.00 | 0.868 | U | U | S23070310.D |
| cis-1,2-Dichloroethene | 20,080 | 1.00 | 0.541 | U | U | S23070310.D |
| Chloroform | 20,080 | 1.00 | 0.357 g | 140.66 | 19.6 | S23070310.D |
| 1,2-Dichloroethane | 20,080 | 1.00 | 0.572 | U | U | S23070310.D |
| 1,1,1-Trichloroethane | 20,080 | 1.00 | 1.072 | U | U | S23070310.D |
| Carbon Tetrachloride | 20,080 | 1.00 | 0.439 g | U | U | S23070310.D |
| Benzene | 20,080 | 1.00 | 0.541 | U | U | S23070310.D |
| Trichloroethene | 20,080 | 1.00 | 0.337 | U | U | S23070310.D |
| 1,4-Dioxane | 20,080 | 1.00 | 0.419 g | U | U | S23070310.D |
| 1,1,2-Trichloroethane | 20,080 | 1.00 | 0.337 g | U | U | S23070310.D |
| Toluene | 20,080 | 1.00 | 0.408 | U | U | S23070310.D |
| 1,2-Dibromoethane (EDB) | 20,080 | 1.00 | 0.398 g | U | U | S23070310.D |
| Tetrachloroethene | 20,080 | 1.00 | 0.419 | U | U | S23070310.D |
| 1,1,1,2-Tetrachloroethane | 20,080 | 1.00 | 0.419 g | U | U | S23070310.D |
| Chlorobenzene | 20,080 | 1.00 | 0.868 g | U | U | S23070310.D |
| Ethylbenzene | 20,080 | 1.00 | 0.868 | U | U | S23070310.D |
| p & m-Xylene | 20,080 | 1.00 | 0.898 | 56.88 | 3.15 | S23070310.D |
| o-Xylene | 20,080 | 1.00 | 0.898 | 31.29 | 1.73 | S23070310.D |
| 1,2,3-Trichloropropane | 20,080 | 1.00 | 0.766 g | U | U | S23070310.D |
| Isopropylbenzene | 20,080 | 1.00 | 0.847 g | U | U | S23070310.D |
| 1,3,5-Trimethylbenzene | 20,080 | 1.00 | 0.847 g | U | U | S23070310.D |
| 1,2,4-Trimethylbenzene | 20,080 | 1.00 | 0.847 g | U | U | S23070310.D |
| 1,3-Dichlorobenzene | 20,080 | 1.00 | 0.766 g | U | U | S23070310.D |
| 1,4-Dichlorobenzene | 20,080 | 1.00 | 0.766 g | U | U | S23070310.D |
| 1,2-Dichlorobenzene | 20,080 | 1.00 | 0.766 g | U | U | S23070310.D |
| 1,2,4-Trichlorobenzene | 20,080 | 1.00 | 0.398 g | U | U | S23070310.D |
| Naphthalene | 20,080 | 1.00 | 0.817 g | U | U | S23070310.D |
| 1,2,3-Trichlorobenzene | 20,080 | 1.00 | 0.398 g | U | U | S23070310.D |
| 2-Methylnaphthalene | 20,080 | 1.00 | 0.776 g | U | U | S23070310.D |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

Calculations:

$$C = \frac{1000 \times M \times DF}{Uc \times t}$$

$$Uc = U * \left(\left(\frac{Ts + 273.15}{Tu + 273.15}\right)^{1/2}\right)$$

where:
- C = concentration (µg/m$^3$)
- M = mass (ng)
- DF = dilution factor
- Uc = uptake rate (ml/min), corrected
- t = sampling time (minutes)
- U = compound specific uptake rate
- Tu = uptake rate study temperature
- Ts = sample average temperature

**Note:** Tu is 16.65°C

[g] = Uptake rate determined using Graham's Law of Diffusion.

*Reference: Federal Register/Vol. 79, No. 125/June 30, 2014*

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# CERTIFICATE OF ANALYSIS

| | | |
|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## Method Detection and Reporting Limit Calculations (Concentration)

### TO-17 (Passive)

**Lab ID:** 0007049-01 **Sample Name:** 04R_SSG01_20230623 **X̄ Temp (°C):** 28.90

| Analyte | t Sampling Time minutes | DF Dilution Factor | Uc Uptake Rate | M Initial LOQ ng | C Calculated LOQ µg/m³ |
|---|---|---|---|---|---|
| Vinyl Chloride | 20,130 | 1.00 | 0.827 | 10.0 | 0.601 |
| 1,1-Dichloroethene | 20,130 | 1.00 | 0.337 | 10.0 | 1.47 |
| Methylene Chloride | 20,130 | 1.00 | 0.357 g | 10.0 | 1.39 |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 20,130 | 1.00 | 0.909 g | 10.0 | 0.547 |
| trans-1,2-Dichloroethene | 20,130 | 1.00 | 0.449 | 10.0 | 1.11 |
| Methyl-t-butyl ether | 20,130 | 1.00 | 0.510 g | 25.0 | 2.43 |
| 1,1-Dichloroethane | 20,130 | 1.00 | 0.868 | 10.0 | 0.572 |
| cis-1,2-Dichloroethene | 20,130 | 1.00 | 0.541 | 10.0 | 0.918 |
| Chloroform | 20,130 | 1.00 | 0.357 g | 10.0 | 1.39 |
| 1,2-Dichloroethane | 20,130 | 1.00 | 0.572 | 10.0 | 0.869 |
| 1,1,1-Trichloroethane | 20,130 | 1.00 | 1.072 | 10.0 | 0.463 |
| Carbon Tetrachloride | 20,130 | 1.00 | 0.439 g | 10.0 | 1.13 |
| Benzene | 20,130 | 1.00 | 0.541 | 25.0 | 2.30 |
| Trichloroethene | 20,130 | 1.00 | 0.337 | 10.0 | 1.47 |
| 1,4-Dioxane | 20,130 | 1.00 | 0.419 g | 10.0 | 1.19 |
| 1,1,2-Trichloroethane | 20,130 | 1.00 | 0.337 g | 10.0 | 1.47 |
| Toluene | 20,130 | 1.00 | 0.408 | 25.0 | 3.04 |
| 1,2-Dibromoethane (EDB) | 20,130 | 1.00 | 0.398 g | 10.0 | 1.25 |
| Tetrachloroethene | 20,130 | 1.00 | 0.419 | 10.0 | 1.19 |
| 1,1,1,2-Tetrachloroethane | 20,130 | 1.00 | 0.419 g | 10.0 | 1.19 |
| Chlorobenzene | 20,130 | 1.00 | 0.868 g | 10.0 | 0.572 |
| Ethylbenzene | 20,130 | 1.00 | 0.868 | 25.0 | 1.43 |
| p & m-Xylene | 20,130 | 1.00 | 0.898 | 25.0 | 1.38 |
| o-Xylene | 20,130 | 1.00 | 0.898 | 25.0 | 1.38 |
| 1,2,3-Trichloropropane | 20,130 | 1.00 | 0.766 g | 10.0 | 0.649 |
| Isopropylbenzene | 20,130 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,3,5-Trimethylbenzene | 20,130 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,2,4-Trimethylbenzene | 20,130 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,3-Dichlorobenzene | 20,130 | 1.00 | 0.766 g | 10.0 | 0.649 |
| 1,4-Dichlorobenzene | 20,130 | 1.00 | 0.766 g | 10.0 | 0.649 |
| 1,2-Dichlorobenzene | 20,130 | 1.00 | 0.766 g | 10.0 | 0.649 |
| 1,2,4-Trichlorobenzene | 20,130 | 1.00 | 0.398 g | 10.0 | 1.25 |
| Naphthalene | 20,130 | 1.00 | 0.817 g | 25.0 | 1.52 |
| 1,2,3-Trichlorobenzene | 20,130 | 1.00 | 0.398 g | 10.0 | 1.25 |
| 2-Methylnaphthalene | 20,130 | 1.00 | 0.776 g | 25.0 | 1.60 |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# Method Detection and Reporting Limit Calculations (Concentration)

## TO-17 (Passive)

**Lab ID:** 0007049-02 **Sample Name:** 04R_SSG02_20230623 **X̄ Temp (°C):** 28.90

| Analyte | t Sampling Time minutes | DF Dilution Factor | Uc Uptake Rate | M Initial LOQ ng | C Calculated LOQ µg/m³ |
|---|---|---|---|---|---|
| Vinyl Chloride | 20,110 | 1.00 | 0.827 | 10.0 | 0.601 |
| 1,1-Dichloroethene | 20,110 | 1.00 | 0.337 | 10.0 | 1.48 |
| Methylene Chloride | 20,110 | 1.00 | 0.357 g | 10.0 | 1.39 |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 20,110 | 1.00 | 0.909 g | 10.0 | 0.547 |
| trans-1,2-Dichloroethene | 20,110 | 1.00 | 0.449 | 10.0 | 1.11 |
| Methyl-t-butyl ether | 20,110 | 1.00 | 0.510 g | 25.0 | 2.44 |
| 1,1-Dichloroethane | 20,110 | 1.00 | 0.868 | 10.0 | 0.573 |
| cis-1,2-Dichloroethene | 20,110 | 1.00 | 0.541 | 10.0 | 0.919 |
| Chloroform | 20,110 | 1.00 | 0.357 g | 10.0 | 1.39 |
| 1,2-Dichloroethane | 20,110 | 1.00 | 0.572 | 10.0 | 0.870 |
| 1,1,1-Trichloroethane | 20,110 | 1.00 | 1.072 | 10.0 | 0.464 |
| Carbon Tetrachloride | 20,110 | 1.00 | 0.439 g | 10.0 | 1.13 |
| Benzene | 20,110 | 1.00 | 0.541 | 25.0 | 2.30 |
| Trichloroethene | 20,110 | 1.00 | 0.337 | 10.0 | 1.48 |
| 1,4-Dioxane | 20,110 | 1.00 | 0.419 g | 10.0 | 1.19 |
| 1,1,2-Trichloroethane | 20,110 | 1.00 | 0.337 g | 10.0 | 1.48 |
| Toluene | 20,110 | 1.00 | 0.408 | 25.0 | 3.04 |
| 1,2-Dibromoethane (EDB) | 20,110 | 1.00 | 0.398 g | 10.0 | 1.25 |
| Tetrachloroethene | 20,110 | 1.00 | 0.419 | 10.0 | 1.19 |
| 1,1,1,2-Tetrachloroethane | 20,110 | 1.00 | 0.419 g | 10.0 | 1.19 |
| Chlorobenzene | 20,110 | 1.00 | 0.868 g | 10.0 | 0.573 |
| Ethylbenzene | 20,110 | 1.00 | 0.868 | 25.0 | 1.43 |
| p & m-Xylene | 20,110 | 1.00 | 0.898 | 25.0 | 1.38 |
| o-Xylene | 20,110 | 1.00 | 0.898 | 25.0 | 1.38 |
| 1,2,3-Trichloropropane | 20,110 | 1.00 | 0.766 g | 10.0 | 0.649 |
| Isopropylbenzene | 20,110 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,3,5-Trimethylbenzene | 20,110 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,2,4-Trimethylbenzene | 20,110 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,3-Dichlorobenzene | 20,110 | 1.00 | 0.766 g | 10.0 | 0.649 |
| 1,4-Dichlorobenzene | 20,110 | 1.00 | 0.766 g | 10.0 | 0.649 |
| 1,2-Dichlorobenzene | 20,110 | 1.00 | 0.766 g | 10.0 | 0.649 |
| 1,2,4-Trichlorobenzene | 20,110 | 1.00 | 0.398 g | 10.0 | 1.25 |
| Naphthalene | 20,110 | 1.00 | 0.817 g | 25.0 | 1.52 |
| 1,2,3-Trichlorobenzene | 20,110 | 1.00 | 0.398 g | 10.0 | 1.25 |
| 2-Methylnaphthalene | 20,110 | 1.00 | 0.776 g | 25.0 | 1.60 |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# Method Detection and Reporting Limit Calculations (Concentration)

## TO-17 (Passive)

**Lab ID:** 0007049-03 **Sample Name:** 04R_SSG03_20230623 **X̄ Temp (°C):** 28.90

| Analyte | t Sampling Time minutes | DF Dilution Factor | Uc Uptake Rate | M Initial LOQ ng | C Calculated LOQ µg/m³ |
|---|---|---|---|---|---|
| Vinyl Chloride | 20,080 | 1.00 | 0.827 | 10.0 | 0.602 |
| 1,1-Dichloroethene | 20,080 | 1.00 | 0.337 | 10.0 | 1.48 |
| Methylene Chloride | 20,080 | 1.00 | 0.357 g | 10.0 | 1.39 |
| 1,1,2-Trichlorotrifluoroethane (Fr.113) | 20,080 | 1.00 | 0.909 g | 10.0 | 0.548 |
| trans-1,2-Dichloroethene | 20,080 | 1.00 | 0.449 | 10.0 | 1.11 |
| Methyl-t-butyl ether | 20,080 | 1.00 | 0.510 g | 25.0 | 2.44 |
| 1,1-Dichloroethane | 20,080 | 1.00 | 0.868 | 10.0 | 0.574 |
| cis-1,2-Dichloroethene | 20,080 | 1.00 | 0.541 | 10.0 | 0.920 |
| Chloroform | 20,080 | 1.00 | 0.357 g | 10.0 | 1.39 |
| 1,2-Dichloroethane | 20,080 | 1.00 | 0.572 | 10.0 | 0.871 |
| 1,1,1-Trichloroethane | 20,080 | 1.00 | 1.072 | 10.0 | 0.465 |
| Carbon Tetrachloride | 20,080 | 1.00 | 0.439 g | 10.0 | 1.13 |
| Benzene | 20,080 | 1.00 | 0.541 | 25.0 | 2.30 |
| Trichloroethene | 20,080 | 1.00 | 0.337 | 10.0 | 1.48 |
| 1,4-Dioxane | 20,080 | 1.00 | 0.419 g | 10.0 | 1.19 |
| 1,1,2-Trichloroethane | 20,080 | 1.00 | 0.337 g | 10.0 | 1.48 |
| Toluene | 20,080 | 1.00 | 0.408 | 25.0 | 3.05 |
| 1,2-Dibromoethane (EDB) | 20,080 | 1.00 | 0.398 g | 10.0 | 1.25 |
| Tetrachloroethene | 20,080 | 1.00 | 0.419 | 10.0 | 1.19 |
| 1,1,1,2-Tetrachloroethane | 20,080 | 1.00 | 0.419 g | 10.0 | 1.19 |
| Chlorobenzene | 20,080 | 1.00 | 0.868 g | 10.0 | 0.574 |
| Ethylbenzene | 20,080 | 1.00 | 0.868 | 25.0 | 1.43 |
| p & m-Xylene | 20,080 | 1.00 | 0.898 | 25.0 | 1.39 |
| o-Xylene | 20,080 | 1.00 | 0.898 | 25.0 | 1.39 |
| 1,2,3-Trichloropropane | 20,080 | 1.00 | 0.766 g | 10.0 | 0.650 |
| Isopropylbenzene | 20,080 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,3,5-Trimethylbenzene | 20,080 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,2,4-Trimethylbenzene | 20,080 | 1.00 | 0.847 g | 25.0 | 1.47 |
| 1,3-Dichlorobenzene | 20,080 | 1.00 | 0.766 g | 10.0 | 0.650 |
| 1,4-Dichlorobenzene | 20,080 | 1.00 | 0.766 g | 10.0 | 0.650 |
| 1,2-Dichlorobenzene | 20,080 | 1.00 | 0.766 g | 10.0 | 0.650 |
| 1,2,4-Trichlorobenzene | 20,080 | 1.00 | 0.398 g | 10.0 | 1.25 |
| Naphthalene | 20,080 | 1.00 | 0.817 g | 25.0 | 1.52 |
| 1,2,3-Trichlorobenzene | 20,080 | 1.00 | 0.398 g | 10.0 | 1.25 |
| 2-Methylnaphthalene | 20,080 | 1.00 | 0.776 g | 25.0 | 1.60 |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## *Laboratory Certification List*

| Certification ID | Certification No. | Description | Expires | Project Required |
|---|---|---|---|---|
| Alaska CS-LAP | 19-002 | Alaska Department of Environmental Conservation | 12/30/2024 | |
| DoD-ELAP | 72690/L22-563 | United States Department of Defense Environmental Laboratory Accreditation | 11/30/2024 | |
| ISO/IEC 17025:2017 | 72690/L22-563 | General Requirements for the Competence of Testing and Calibration Laboratories | 11/30/2024 | |
| NEFAP | 72690/L22-564 | TNI National Environmental Field Activities Program (NEFAP) | 11/30/2024 | |
| NY-NELAC | 12097 | New York Department of Health | 04/01/2024 | |
| Utah-NELAC | MD010912022-12 | Utah Department of Health | 12/31/2023 | |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

## Qualifiers/Notes and Definitions

***General Definitions:***

| | |
|---|---|
| DF | Dilution Factor |
| DL | Detection Limit |
| LOD | Limit of Detection |
| LOQ | Limit of Quantitation |
| NA | Not Applicable |
| Q | Qualifier |
| RPD | Relative Percent Difference |
| RT | Retention Times in Minutes |
| RRT | Evaluation of Relative Retention Times in RRT Units (qualified if outside $\pm$0.06 control limits) |
| 3σ | Uncertainty |
| ∉ | Compound not on scope of accreditation |
| + | values are outside method/contract required QC limits |
| ∅ | Compound not on scope of accreditation and analyzed with a one-point calibration |

### *Sample/Sample Receipt Qualifiers and Notes:*

| | |
|---|---|
| I1 | Internal Standard recovery was above laboratory and method acceptance limits, results biased low. |

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|---|---|---|
| **The Sigma Group** | **Site Name:** Oakfield Properties | **Beacon Proposal:** 230317R02 |
| 1300 West Canal Street | **Site Location:** Oakfield, WI | **Lab Work Order:** 0007049 |
| Milwaukee, WI 53233 | **Project Manager:** Steve Meer | **Reported:** 07/06/2023 |

# *Sample Management Records*

BEACON ENVIRONMENTAL
2203A Commerce Rd, Suite 1
Forest Hill, MD 21050, USA
1-410-838-8780
800-878-5510 Toll Free

# PASSIVE AIR SAMPLING - BEACON SAMPLER | CHAIN-OF-CUSTODY

| Client Information | | Project Manager: Steve Meer | Client PO: 21801 |
|---|---|---|---|
| Company: The Sigma Group, Inc. | | Project Name: Oakfield Properties | Turn around time (check one): [X] Normal [ ] Rush (specify) ____ days |
| Address: 1300 W. Canal St. | | Location: Oakfield Wisconsin | |
| City / State / Zip: Milwaukee WI | | Submitted by: Ryan Adamec | Analysis: [X] Method TO-17 [ ] Method 8260C |
| Phone: (414) 643-4124 | | Email: Smeer@thesigmagroup.com | |

| Location ID | Start Date | Start Time | Stop Date | Stop Time | Aver Temp (C) | Notes | INDOOR AIR | AMBIENT AIR | CRAWL SPACE | SEWER GAS |
|---|---|---|---|---|---|---|---|---|---|---|
| 04R_SSG01_20230623 | 6/9/23 | 12:20 | 6/23/23 | 11:50 | 28.9 | | | | | X |
| 04R_SSG02_20230623 | 6/9/23 | 12:30 | 6/23/23 | 11:40 | 28.9 | | | | | X |
| 04R_SSG03_20230623 | 6/9/23 | 12:50 | 6/23/23 | 11:30 | 28.9 | | | | | X |
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Special Notes / Instructions: Run full suite VOCs

| | | | |
|---|---|---|---|
| Relinquished by (signature): Ryan Adamec | Date / Time: 6/23/23 2:00 pm | Received by (signature): Nicole Keiper | Date / Time: 6/26/23 12:10 |
| Relinquished by (signature): | Date / Time: | Received by (signature): | Date / Time: |
| For Lab Use Only | Beacon Job No: 7049 | Beacon Proposal: 230317R02 | |
| Courier Name: FedEx | Shipment Condition: Good | Custody Seal Intact: [X] Yes [ ] No [ ] n/a | Custody Seal No: 5504783 |