Environmental Engineers, Geologists and Scientists

Tel 847.573.8900 Fax 847.573.8953 Polo Park Business Center 27834 N. Irma Lee Circle Lake Forest, Illinois 60045-5130

February 7, 2023

Mr. Riley Neumann Wisconsin Department of Natural Resources 2300 North Dr. Martin Luther King, Jr. Drive Milwaukee, Wisconsin 53212-3128

Re: Quarterly Groundwater Sampling Report
(January 2023 Results)
BRRTS #: 02-41-576336 & 02-41-579429
FID #: 241828620
Sunrise Shopping Center
2410-2424 10th Avenue & 1009 Marquette Avenue
South Milwaukee, Wisconsin 53172

#### Mr. Neumann:

Please find enclosed the *Quarterly Groundwater Sampling Report* for the Sunrise Shopping Center facility located at the above-referenced address. Quarterly groundwater sampling of three (3) monitoring wells on-site continues to monitor any changes in Polynuclear Aromatic Hydrocarbon (PAH) and Tetrachloroethene (Perc) concentrations. PAH groundwater contaminant concentrations are monitored at MW-3 and MW-4 to assess if there is a need for remedial actions. Sampling for Perc concentrations in MW-5 continues to assess remedial progress and to determine plume stability.

A brief discussion of the quarterly sampling protocol and results of the January 2023 groundwater sampling are included in this quarterly report. As required, this quarterly report and all supporting documentation have also been submitted electronically to WDNR. If you have any questions or require additional information in regard to this submission, please contact me at (847) 9963-3580. Thank you for your time.

Sincerely,

**DAI** Environmental, Inc.

Christopher Cailles, P.E.

Christopher Carlles

**Project Engineer** 

Enclosure



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# QUARTERLY GROUNDWATER SAMPLING REPORT (JANUARY 2023 RESULTS) SUNRISE SHOPPING CENTER 2410-2424 10<sup>TH</sup> AVENUE & 1009 MARQUETTE AVENUE SOUTH MILWAUKEE, WISCONSIN 53172 WDNR BRRTS ACTIVITY #02-41-576336 & 02-41-579429 WDNR FID #241828620

February 7, 2023

DAI Project Number: 6255

Prepared For:
Carol Investment Corporation
1410 South Clinton Street
Chicago, IL 60607

Prepared By:
DAI Environmental, Inc.
27834 North Irma Lee Circle
Lake Forest, Illinois 60045

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#### 1.0 INTRODUCTION

Soil and groundwater Remedial Actions are being performed at the Sunrise Shopping Center facility, addressed as 2410-2424 10<sup>th</sup> Avenue and 1009 Marquette Avenue in South Milwaukee, Wisconsin (Site). Figure B.1.b.1 in Attachment B provides an aerial view of the Site and surrounding property. The Remedial Actions to address Volatile Organic Compound (VOC) contamination are being performed under BRRTS number 02-41-576336, and the Remedial Actions to address Polynuclear Aromatic Hydrocarbon (PAH) contamination are being performed under BRRTS number 02-41-579429. As part of the Remedial Actions, quarterly groundwater sampling has been conducted since January 2018. A brief discussion of the quarterly sampling protocol and results are provided below.

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#### 2.0 QUARTERLY GROUNDWATER SAMPLING PROGRAM

Quarterly groundwater sampling was first performed on January 5, 2018. The first quarterly sampling event included a complete round of sampling from each of six (6) monitoring wells (MW-1 to MW-5 and MW-201) installed at the Site. Figure B.3.d provides the locations of the monitoring wells. As proposed in the December 28, 2017, *Site Investigation Work Plan*, the groundwater samples from all monitoring wells were submitted for analysis of PAHs, and a sample from MW-5 was also collected for VOC analysis. Results of the January 2018 groundwater sampling were provided to the Wisconsin Department of Natural Resources (WDNR) in the *Site Investigation Report Amendment Addendum* dated February 28, 2018. Results of subsequent 2018 quarterly sampling events were provided in *Quarterly Groundwater Sampling Reports*.

#### 2.1 Quarterly Sampling Protocol

Based upon the results of the January 2018 sampling event, quarterly groundwater sampling is conducted at monitoring wells MW-3 to MW-5. Since no contamination was observed in monitoring wells MW-1, MW-2, or MW-201, no groundwater samples are collected from these wells as part of the quarterly sampling protocol. However, four (4) additional groundwater monitoring wells (MW-600 to MW-603) were installed in January 2022 (see Figure B.3.d). Groundwater samples are not collected from these wells as part of the quarterly sampling event, although the new wells are gauged for static water elevation.

The purpose of the quarterly groundwater sampling is to monitor any changes in groundwater contaminant concentrations. The groundwater sampling has documented Tetrachloroethene (Perc) groundwater concentrations before, during, and following the chemical treatment Remedial Actions. The quarterly groundwater sampling has been performed as follows:

- Static water level measurements are collected from all accessible monitoring wells using an electronic water level indicator capable of detecting water depth with an accuracy of ±0.01 ft;
- Groundwater samples are collected from monitoring wells MW-3 and MW-4 for laboratory analysis of PAHs; and
- A groundwater sample is collected from monitoring well MW-5 for laboratory analysis of VOCs.

#### 2.2 Groundwater Sampling Procedures and Chemical Analysis

Consistent with sampling protocol followed during Site Investigation activities, the three (3) monitoring wells were purged prior to sample collection, to the extent practicable, to remove turbidity from the groundwater and allow the collection of a sediment-free sample that was representative of the surrounding groundwater conditions. Following purging, groundwater samples were collected from MW-3 to MW-5. Monitoring wells MW-4 and MW-5 were sampled using disposable PVC bailers; a groundwater sample was obtained from MW-3 using a peristaltic pump with dedicated PVC tubing. Groundwater samples were distributed directly into the appropriate sample containers for subsequent laboratory analyses as follows:

- MW-5: VOCs via USEPA Method SW8260; and
- MW-3 and MW-4: PAHs via USEPA Method SW8270E by SIM.

The sample submitted for analysis of VOCs was dispensed into 40-mL vials preserved with hydrochloric acid, and the samples submitted for analysis of PAHs were dispensed into unpreserved 100-mL amber glass containers. New disposable nitrile gloves were used to collect each sample to limit cross contamination. The samples were stored on ice immediately after collection and were maintained at a temperature of 4°C or lower via a cooler with ice. Samples were ultimately transferred to Pace Analytical Services, LLC (Pace Analytical) of Green Bay, Wisconsin, an independent analytical laboratory following the standard chain-of-custody procedures.

3.0 QUARTERLY GROUNDWATER SAMPLING RESULTS

3.1 Static Groundwater Elevations

To evaluate potential seasonal fluctuation in static water elevation and/or groundwater flow

direction, a complete round of static groundwater elevations was collected as part of the first

quarter 2023 groundwater sampling event, including the four (4) recently installed monitoring

wells. The static water level elevations were collected from all monitoring wells on

January 6, 2023, and referenced to the top of casing elevations based upon the complete resurvey

performed on February 1, 2022. Table A.6 in Attachment A provides a historical summary of

groundwater elevation information.

Review of Table A.6 shows that there is relatively high variability in elevation between quarters.

The highest quarterly variability is observed in monitoring wells MW-1 and MW-3, which are

located in areas of the Site with known subsurface disturbance, while monitoring wells MW-5 and

MW-201 generally fluctuate less between quarters. The 2022 installed monitoring wells also

appear to indicate a lower variability.

Prior to installation of the 600-series monitoring wells, the consistently observed groundwater flow

direction was northwesterly along the southern half of the Site and north-northeasterly along the

northern half of the Site. However, with the addition of the 600-series monitoring wells and the

exclusion of MW-1 and MW-3, which are influenced by large areas of backfill, a more east-

northeasterly groundwater flow direction has been observed. The potentiometric surface map

generated from the January 2023 data is included as Figure B.3.c.25 (see Attachment B).

3.2 Groundwater Analytical Results

Groundwater samples for the first quarter of 2023 (i.e., January-March 2023) were collected on

January 6, 2023, following the protocol described in Section 2.2. The groundwater sample

collected from MW-5 was analyzed for VOCs, and the samples from MW-3 and MW-4 were

analyzed for PAHs. A summary of all groundwater sampling data collected from monitoring wells

MW-3 to MW-5 since the beginning of Site Investigations is provided Tables A.1.A-A.1.B of

Attachment A. The tables are compared to the Preventative Action Limits PAL (PALs) and

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Enforcement Standards listed in Table 1 of NR 140. A copy of the laboratory analytical report for the first quarter 2023 sampling is provided in this report as Attachment C.1.E.

**Volatile Organic Compounds** 

Table A.1.A summarizes the quarterly groundwater sampling results from MW-5 for Perc and Trichloroethene (TCE), which are the only VOCs of concern observed in the groundwater (previous quarterly reports include a full summary of VOC analyses). Results of groundwater sampling at MW-5, installed to the rear of the 2410 tenant space (former Sunbrite Cleaners location), have indicated Perc at concentrations exceeding the Enforcement Standard of 0.005-mg/L since February 2016. These Perc concentrations increased through October 2018, followed by a decline in concentration, and then a period of general stability between September 2019 and May 2021.

The Perc concentrations between August 2021 and January 2023 have also remained rather stable, but at slightly increased concentrations than previously observed. With the exception of April 2022 (0.011-mg/L) and the most recent result of 0.013-mg/L in January 2023, Perc concentrations have ranged between 0.019-mg/L and 0.24-mg/L. Generally, the data indicate relatively stable Perc contaminant concentrations around MW-5. Figure B.3.b.1a provides a historical summary of Perc groundwater concentrations and the estimated extent of Perc groundwater contamination.

The monthly samples collected from the Ace Hardware sump, which continues to function for groundwater recovery, also indicates stable Perc concentrations. (The influent water in the sump is collected prior to treatment and final discharge to the stormwater sewer system). Table A.5 summarizes the monthly sump sample results, and Figure B.3.b.1a provides a summary of monthly Perc concentrations from the previous semi-annual period (i.e., July-December 2021) through January 2023.

Since the groundwater sampling was initiated, the TCE concentration in MW-5 was observed at a level above the PAL (0.0005-mg/L) on three (3) occasions: January 2019 (0.0027-mg/L), April 2019 (0.00071-mg/L), and most recently in January 2022 (0.00067). All other TCE

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January 2023 Quarterly Report Sunrise Shopping Center, DAI Project #6255 concentrations were below the PAL, including the most recently collected January 2023 sample. Figure B.3.b.1b provides a historical summary of TCE groundwater concentrations.

#### **Polynuclear Aromatic Hydrocarbons**

Table A.1.B summarizes the results of Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, and Naphthalene in MW-3 and MW-4, which are the PAH analyses of concern in the groundwater on the southern portion of the Site (previous quarterly reports include a full summary of PAH analyses). MW-3 is installed in the southern portion of the property where contamination from historical petroleum and/or coal storage was identified. MW-4 is installed to the rear of the 2414B tenant space in the approximate location of a former heating oil UST. Figures B.3.b.2a to B.3.b.2d provide a historical summary of groundwater results for Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, and Naphthalene, respectively.

A review of historical sampling results from MW-3 indicates the presence of PAH contamination in groundwater during each sampling event. Consistent with past sampling events, Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene were observed in MW-3 at groundwater concentrations above the Enforcement Standard (other PAH constituents were also observed but at concentrations below PALs). Following a period of general stability in concentration between July 2019 and May 2021 (excluding a concentration spike in October 2019), groundwater concentrations decreased in August 2021, then followed by increased concentrations each quarter through April 2022. The August 2022 concentrations were slightly lower, but generally consistent with the April 2022 concentrations. The October 2022 concentrations indicate a further decrease from August 2022, and the January 2023 results are nearly identical to October 2022 concentrations. With no active PAH source, the variability in groundwater concentrations is believed to be associated with the fluctuations in the groundwater table elevation through the contaminated fill material and possible negative impact on sampling results due to the damaged monitoring well casing.

As previously discussed, results of the PAH the February 2022 sampling of MW-601 and MW-602 (east and west MW-3) indicated Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene at concentrations above the PAL, but below the Enforcement Standards. Concentrations in

MW-601 to the east were higher than those in MW-602, consistent with the location of the known PAH soil contamination. Considering the known PAH soil impacts throughout the southern portion of the Site, low-level PAH concentrations in the groundwater at these locations was expected, but the results do indicate that the higher PAH groundwater impacts are limited to the area of contaminated fill material surrounding MW-3.

The results of the January 2023 sampling at MW-4 again indicate an increase in groundwater concentrations, with the concentrations closely matching those observed in January 2022. The concentrations of Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene exceed the Enforcement Standards, while the Naphthalene concentrations in MW-4 increased to slightly above the PAL. The concentration increase is assumed to be associated with higher groundwater levels and residual petroleum contamination in the subsurface soils leaching into the groundwater. Fluctuations in contaminant concentration have been observed throughout the period of sampling at this Site, however the concentrations are expected to gradually decline, as the sources of petroleum have been removed.

4.0 SUMP WATER SAMPLING RESULTS

To address the Perc contamination identified in the sump water from the basement of the Ace

Hardware building, an activated carbon treatment system was proposed to the WDNR. The

proposed treatment system discharge was issued coverage under WPDES Permit Number WI-

0046566-07-0 in a letter dated April 10, 2019, and the system began operation on May 14, 2019.

As a condition of the permit approval, weekly discharge samples were required to be collected for

a period of 4-weeks followed by monthly sampling thereafter. Weekly samples were collected on

May 15<sup>th</sup>, 23<sup>rd</sup>, 29<sup>th</sup>, and June 6, 2019. The first monthly sample was collected on June 25, 2019.

In addition to the required discharge samples, samples of the sump water have been collected for

VOC analysis to both monitor the groundwater contaminant concentrations around the Ace

Hardware building and verify the system is operating correctly.

While not strictly part of the quarterly sampling protocol, results of the sump water sampling are

included with this submission as an indication of the groundwater contaminant concentrations

below and around the Ace Hardware building. The results of the sump water samples are

summarized in Table A.5. (Because all VOCs are reported below the LOD with the exception of

Perc, Table A.5 only summarizes the Perc results.) The sump water sample results since July 2021

to the present are provided in Figure B.3.b.1a. (Previous reports included earlier sump data.)

As noted in Table A.5, the Perc concentrations in the influent sump water are often above the

Enforcement Standard, and always above the PAL. However, all corresponding discharge samples

indicate that the treatment system has been fully effective in removing Perc from the water prior

to discharge into the stormwater sewer system. None of the discharge samples are reported with a

detectable concentration of Perc.

Monthly sampling of the sump water influent and system effluent discharge will continue. The

discharge sample results are submitted electronically to WDNR, as required by the WPDES

permit.

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#### 5.0 SUMMARY AND SCHEDULE

- The Perc concentrations observed in monitoring well MW-5 have exceeded the Enforcement Standard since February 2016. Though the Perc concentrations have remained above the Enforcement Standard, the chemical injection activities performed in July 2018 and August 2019 in the vicinity of MW-5 have helped reduce the mass of Perc contamination. The Perc groundwater concentrations in MW-5 have remained relatively stable since that time. Quarterly monitoring of Perc concentrations in MW-5 will be continued until closure of the Site is approved.
- Sampling of the Ace Hardware sump water indicates influent Perc concentrations above the Enforcement Standard, although all effluent discharge samples from the treatment system are below detectable concentrations. Sump water influent and effluent sampling will continue on a monthly basis, as required.
- PAH contamination continues to be observed in MW-3 and MW-4, particularly the constituents Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, and Naphthalene. All other PAH constituents are typically observed at concentrations below the PALs. The site-wide presence of coal and cinder fill material remaining from the historical use of the property are believed to contribute to the observed groundwater impact, since a large portion of the Site exhibits low-level PAH soil contamination. Quarterly monitoring of PAH concentrations in MW-3 and MW-4 will be continued until closure of the Site is approved.
  - The February 2022 sampling of monitoring wells MW-601 and MW-602 (east and west of MW-3) verify low-level PAH concentrations in the groundwater within the southern portion of the Site, but that the elevated PAH in concentrations are isolated to monitoring well MW-3. The October 2022 sampling results indicate concentrations of Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene decreased from those observed in August 2022 and are comparable to those observed in October 2019. The January 2023 concentrations are nearly identical to those observed in October 2022.
  - o MW-4 again indicated an increase in contaminant concentrations, with the January 2023 sampling results generally consistent with the January 2022 results. No free-product petroleum was noted, so it is assumed that residual soil contamination leached into the groundwater. There is no active source on-site, so concentrations are anticipated to decline. If product is again observed in MW-4, further manual bailing will be performed.

# APPENDIX A TABLES

Table A.1.A. Groundwater Analytical Table for Volatile Organic Compounds (mg/L) (Quarterly Groundwater Sampling Wells)

Sample Location	Sample Date	Tetrachloroethene	Trichloroethene
	01/06/23	0.013	< 0.00032
	10/04/22	<u>0.019</u>	< 0.00032
	08/05/22	0.021	0.00069 (J)
	04/11/22	<u>0.011</u>	< 0.00032
	01/24/22	<u>0.021</u>	0.00067
	11/11/21	<u>0.024</u>	0.00034 (J)
	08/31/21	0.021	< 0.00032
	05/09/21	0.012	< 0.00032
	01/18/21	<u>0.01</u>	< 0.00026
	10/12/20	<u>0.014</u>	0.00047
	07/14/20	<u>0.01</u>	< 0.00026
	05/05/20	<u>0.0088</u>	< 0.00026
MW-5	01/17/20	<u>0.0084</u>	0.00038 (J)
IVI VV -3	10/24/19	<u>0.012</u>	0.00039 (J)
	09/05/19	<u>0.0153</u>	0.00038 (J)
	07/07/19	<u>0.0106</u>	0.00048 (J)
	04/29/19	<u>0.0114</u>	0.00071 (J)
	01/25/19	<u>0.0065</u>	0.0027
	10/11/18	0.021	0.00027 (J)
	07/30/18	<u>0.0086</u>	< 0.00026
	04/07/18	<u>0.0203</u>	< 0.00033
	01/05/18	<u>0.0181</u>	< 0.00033
	05/30/17	<u>0.0124</u>	< 0.00033
	02/23/16	<u>0.0083</u>	< 0.00033
	01/27/15	0.0026	< 0.00033
	11/12/14 (TW-2)		< 0.00033
PA	$\Lambda$ L <sup>1</sup>	0.0005	0.0005
Enforcement	nt Standard <sup>2</sup>	0.005	0.005

<sup>&</sup>lt;sup>1</sup> – Preventive Action Limits (PALs) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

<u>Underlined</u> – Concentration exceeds the PAL and the ES

(J) – Concentration reported by the laboratory above the Limit of Detection, but below the Limit of Quantification VOCs via USEPA Method SW8260

<sup>&</sup>lt;sup>2</sup> – Enforcement Standards (ES) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1 **Bold** – Concentration exceeds the PAL

Table A.1.B. Groundwater Analytical Table for Polynuclear Aromatics (mg/L) (Quarterly Groundwater Sampling Wells)

<b>Sample Location</b>	Sample Date	Benzo(a)pyrene	Benzo(b)fluoranthene	Chrysene	Naphthalene
	01/06/23	0.011	0.022	0.014	0.000047 (J)
	10/04/22	0.011	0.02	0.013	< 0.000092
	08/05/22	<u>0.024</u>	<u>0.04</u>	<u>0.03</u>	< 0.00036
	04/11/22	<u>0.026</u>	<u>0.061</u>	<u>0.056</u>	< 0.00036
	01/24/22	0.0095	<u>0.017</u>	<u>0.013</u>	< 0.00009
	11/11/21	0.0008	0.0022	<u>0.0015</u>	< 0.000019
	08/31/21	0.00021	0.0005	<u>0.00036</u>	0.00005
	05/03/21	0.0024	0.0054	0.005	0.0001 (J)
	01/18/21	<u>0.0024</u>	<u>0.005</u>	<u>0.0028</u>	0.00013
	10/12/20	0.0013	0.0027	<u>0.0015</u>	0.0001
	07/14/20	0.0012	0.0022	<u>0.0014</u>	0.00003
MW-3	05/05/20	0.0011	0.0023	<u>0.0012</u>	< 0.000018
IVI W - 3	01/17/20	0.0063	<u>0.0104</u>	<u>0.0013</u>	0.0001
	10/24/19	0.015	0.03	0.016	0.00015
	07/07/19	<u>0.0019</u>	<u>0.0036</u>	<u>0.0026</u>	0.000019 (J)
	04/29/19	<u>0.115</u>	0.209	<u>0.13</u>	0.00035
	01/25/19	0.00017	<u>0.00034</u>	<u>0.00028</u>	0.000022 (J)
	10/11/18	0.000024 (J)	0.000074	0.000079	0.000032 (J)
	07/30/18	<u>0.00068</u>	<u>0.0013</u>	<u>0.00095</u>	0.000053 (J)
	04/07/18	<u>0.0019</u>	0.0039	<u>0.003</u>	0.000051
	01/05/18	< 0.0000096	0.000037	0.000047 (J)	0.00046
	05/30/17	0.001	<u>0.002</u>	<u>0.0015</u>	0.00012
	01/27/15	$0.0\overline{00011}$ (J)	$0.0\overline{0002}$ (J)	0.00005	< 0.000056
	11/13/14 (TW-5)	<u>0.0006</u>	0.00077	<u>0.00084</u>	0.00016
PA	$\Lambda$ L <sup>1</sup>	0.00002	0.00002	0.00002	0.017
Enforcemen	nt Standard <sup>2</sup>	0.0002	0.0002	0.0002	0.1

<sup>&</sup>lt;sup>1</sup> – Preventive Action Limits (PALs) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

<u>Underlined</u> – Concentration exceeds the PAL and the ES

(J) – Concentration reported by the laboratory above the Limit of Detection, but below the Limit of Quantification

NL – Not Listed in Wisconsin Administrative Code

PAHs via USEPA Method SW8270E by SIM

Note: Fluoranthene and Pyrene indicated an exceedance of the PALs during the April 29, 2019, and April 11, 2022, sampling events

<sup>&</sup>lt;sup>2</sup> – Enforcement Standards (ES) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

Table A.1.B (Continued). Groundwater Analytical Table for Polynuclear Aromatics (mg/L) (Quarterly Groundwater Sampling Wells)

Sample Location	Sample Date	Benzo(a)pyrene	Benzo(b)fluoranthene	Chrysene	Naphthalene
	01/06/23	< 0.0056	< 0.004	0.0079 (J)	0.035
	10/04/22	<u>&lt;0.00057</u>	<u>0.00073 (J)</u>	<u>0.0021 (J)</u>	0.016
	08/05/22	<u>&lt;0.00091</u>	0.00014	0.00014	0.0015
	04/11/22	<u>&lt;0.00039</u>	<u>&lt;0.00039</u>	<u>&lt;0.00053</u>	0.0022
	01/24/22	<u>&lt;0.018</u>	<u>&lt;0.018</u>	<u>&lt;0.025</u>	0.037
	11/11/21	<u>0.0024 (J)</u>	<u>0.0035 (J)</u>	<u>0.016</u>	0.089
	08/31/21	< <u>0.0017</u>	<u>&lt;0.0017</u>	<u>&lt;0.0024</u>	0.01
	05/03/21	<u>0.0003 (J)</u>	<u>0.00061</u>	0.0022	0.0091
	01/18/21	0.00013 (J)	<u>0.00029</u>	0.00082	0.0055
	10/12/20	<u>0.00029 (J)</u>	<u>0.00065</u>	<u>0.0015</u>	0.007
	07/14/20	<u>0.00046 (J)</u>	<u>0.00098</u>	<u>0.0038</u>	0.025
	05/05/20	<u>0.0012 (J)</u>	<u>0.0032</u>	<u>0.005</u>	0.035
MW-4	01/17/20	<u>0.0031</u>	<u>0.0056</u>	0.0074	0.0074
	10/24/19	<u>0.00045</u>	<u>0.00086</u>	<u>0.0016</u>	0.0026
	07/07/19	< 0.000037	< 0.00002	< 0.000046	0.0034
	04/29/19	0.000041 (J)	0.000093	0.00017	0.0014
	01/25/19	< 0.0000095	0.000012 (J)	0.000033 (J)	0.00078
	10/11/18	<0.000029	0.000022	0.000084 (J)	0.00081
	07/30/18	<0.00048	<0.000026	<0.00006	0.0015
	04/07/18	< 0.0000095	0.0000096 (J)	0.000031 (J)	0.0022
	01/05/18	< 0.0002	0.00022 (J)	<u>0.001 (J)</u>	0.0151
	05/30/17	<u>&lt;0.00049</u>	<0.00027	<u>0.0018 (J)</u>	0.0243
	02/23/16	0.00006	0.000014 (J)	0.000017 (J)	0.00047
	01/27/15	0.000017 (J)	0.000043 (J)	0.000042 (J)	0.00027
	11/13/14 (TW-6)	0.0000053 (J)	0.0000093 (J)	0.000021 (J)	0.0022
PA	$\Lambda$ L <sup>1</sup>	0.00002	0.00002	0.00002	0.017
Enforcemen	nt Standard <sup>2</sup>	0.0002	0.0002	0.0002	0.1

<sup>&</sup>lt;sup>1</sup> – Preventive Action Limits (PALs) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

Underlined – Concentration exceeds the PAL and the ES

NL – Not Listed in Wisconsin Administrative Code

PAHs via USEPA Method SW8270E by SIM

Note: Fluorene indicated an exceedance of the PAL during the May 5, 2020; Fluorene and Pyrene indicated exceedances during the November 11, 2021, sampling event

<sup>&</sup>lt;sup>2</sup> – Enforcement Standards (ES) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

<sup>(</sup>J) – Concentration reported by the laboratory above the Limit of Detection, but below the Limit of Quantification

<sup>\* –</sup> Limit of detection reported greater than most stringent applicable standard; "non-detect" concentration not taken as exceedance per NR140.14(3)(a)

Table A.1.B (Continued). Groundwater Analytical Table for Polynuclear Aromatics (mg/L) (Quarterly Groundwater Sampling Wells)

Polynuclear Aromatic		Location le Date)	PAL <sup>1</sup>	ES <sup>2</sup>
Folynucieal Atomatic	MW-601 (02/03/22)	MW-602 (02/04/22)	PAL	ES
Acenaphthene	0.000056	< 0.000012	NL	NL
Acenaphthylene	0.000015	< 0.000011	NL	NL
Anthracene	0.00012	< 0.000017	0.6	3
Benzo(a)anthracene	0.00019	0.000025 (J)	NL	NL
Benzo(a)pyrene	0.00015	0.000035 (J)	0.00002	0.0002
Benzo(b)fluoranthene	0.00016	0.000057	0.00002	0.0002
Benzo(g,h,i)perylene	0.00018	0.000055	NL	NL
Benzo(k)fluoranthene	0.000064	0.00002	NL	NL
Chrysene	0.00035	0.000073	0.00002	0.0002
Dibenzo(a,h)anthracene	0.000048	0.000016	NL	NL
Fluoranthene	0.00032	0.00011	0.08	0.4
Fluorene	0.000068	0.000021	0.08	0.4
Indeno(1,2,3-cd)pyrene	0.000081	0.000028 (J)	NL	NL
1-Methylnaphthalene	0.00013	0.000024 (J)	NL	NL
2-Methylnaphthalene	0.000093	0.000017 (J)	NL	NL
Naphthalene	0.000033	0.000018	0.017	0.1
Phenanthrene	0.0002	0.000087	NL	NL
Pyrene	0.00096	0.00011	0.05	0.25

<u>Underlined</u> – Concentration exceeds the PAL and the ES

NL – Not Listed in Wisconsin Administrative Code

PAHs via USEPA Method SW8270E by SIM

Preventive Action Limits (PALs) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1
 Enforcement Standards (ES) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

<sup>(</sup>J) – Concentration reported by the laboratory above the Limit of Detection, but below the Limit of Quantification

<sup>\* -</sup> Limit of detection reported greater than most stringent applicable standard; "non-detect" concentration not taken as exceedance per NR140.14(3)(a)

Table A.5. Ace Hardware Sump Water Analytical Table for Tetrachlorethene (mg/L)

Sample Location	Sample Date	Tetrachloroethene
	01/13/23	0.0081
	12/05/22	0.0076
	11/21/22	0.0077
	10/03/22	0.011
	09/13/22	0.0091
	08/01/22	0.01
	07/14/22	$\overline{0.01}$
	06/02/22	0.012
	05/06/22	0.006
	04/01/22	0.0041
	03/03/22	0.01
	02/01/22	$\frac{0.01}{0.01}$
	01/18/22	0.013
	12/06/21	0.013
	11/05/21	0.014
	10/04/21	0.016
	09/10/21	0.015
	08/06/21	<u>0.016</u>
	07/02/21	$\frac{0.010}{0.014}$
	06/14/21	$\frac{0.011}{0.013}$
	05/03/21	<u>0.016</u>
Sump	04/06/21	$\frac{0.010}{0.012}$
Sump	03/08/21	$\frac{0.012}{0.01}$
	02/02/21	<u>0.014</u>
	01/12/21	$\frac{0.014}{0.005}$
	12/09/20	0.0048
	11/12/20	0.0068
	10/12/20	0.009
	09/03/20	0.0065
	08/17/20	$\frac{0.0005}{0.01}$
	07/14/20	$\frac{0.01}{0.0078}$
	06/03/20	$\frac{0.0078}{0.0068}$
	05/05/20	$\frac{0.0003}{0.0054}$
	04/06/20	$\frac{0.0034}{0.005}$
	03/10/20	0.0063
	02/03/20	<u>0.006</u>
	01/07/20	<u>0.0065</u>
	12/03/19	<u>0.0068</u>
	11/04/19	<u>0.008</u>
	10/02/19	<u>0.008</u> 0.0069
	09/05/19	0.0076
	09/03/19	0.0076
	08/02/19	0.005
70		
	L1	0.0005
Enforcement	0.005	

<sup>&</sup>lt;sup>1</sup> – Preventive Action Limits (PALs) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

 $\underline{Underlined}-Concentration\ exceeds\ the\ PAL\ and\ the\ ES$ 

NOTE – All other VOCs reported below the Limit of Detection

VOCs via USEPA Method SW8260

<sup>&</sup>lt;sup>2</sup> – Enforcement Standards (ES) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

Table A.5 (Continued). Ace Hardware Sump Water Analytical Table for Tetrachlorethene (mg/L)

Sample Location	Sample Date	Tetrachloroethene
	01/13/23	<u>0.0081</u>
	12/05/22	<u>0.0076</u>
	11/21/22	<u>0.0077</u>
	10/03/22	<u>0.011</u>
	06/25/19 (first monthly)	<u>0.0054</u>
Summ	06/06/19 (week 4)	<u>0.0069</u>
Sump	05/29/19 (week 3)	0.0043
	05/23/19 (week 2)	0.0042
	05/15/19 (week 1)	<u>0.0093</u>
	02/04/19	<u>0.0064</u>
	01/05/18	<u>0.0082</u>
	06/04/17	<u>0.006</u>
PA	0.0005	
Enforcemen	nt Standard <sup>2</sup>	0.005

<sup>&</sup>lt;sup>1</sup> – Preventive Action Limits (PALs) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

<u>Underlined</u> – Concentration exceeds the PAL and the ES

NOTE – All other VOCs reported below the Limit of Detection

VOCs via USEPA Method SW8260

<sup>&</sup>lt;sup>2</sup> – Enforcement Standards (ES) taken from Wisconsin Administrative Code, Chapter NR 140, Table 1

# **Table A.6. Water Level Elevations**

Monitoring Well	Top of Casing Elevation*	Date	Measured Depth to Groundwater (ft)	Relative Groundwater
	Elevation*		Groundwater (It)	Elevation (ft)
		01/06/23	2.28	95.80
		10/03/22	3.05	95.03
	98.08	08/02/22	2.69	95.39
	(2022 survey)	04/11/22	1.18	96.90
	, , , , , , , , , , , , , , , , , , , ,	02/03/22	5.52	92.56
		01/24/22	4.22	93.83
		11/11/21	3.97	95.16
		08/31/21	3.75	95.38
		05/03/21	2.97	96.16
		01/18/21	3.34	95.79
		10/12/20	Obstructed	
		07/14/20	1.79	97.34
2.037.4		05/05/20	1.80	97.33
MW-1		01/17/20	2.74	96.39
		10/24/19	3.07	96.06
	99.13	07/07/19	3.46	95.67
	(2015 survey)	04/29/19	2.35	96.78
	(======================================	01/25/19	4.65	94.48
		10/11/18	1.66	97.47
		07/30/18	3.32	95.81
		04/08/18	2.24	96.89
		02/27/18	1.58	97.55
		05/30/17	2.17	96.96
		04/24/15	1.46	97.67
		03/30/15	1.98	97.15
		01/27/15	3.93	95.20
		01/06/23	7.68	91.64
		10/03/22	7.46	91.86
	99.32	08/02/22	6.95	92.37
	(2022 survey)	04/11/22	6.57	92.75
	(	02/03/22	9.32	90.00
		01/24/22	8.20	91.12
		11/11/21	7.99	92.76
		08/31/21	7.70	93.05
		05/03/21	7.55	93.20
		01/18/21	8.12	92.63
		10/12/20	7.82	92.93
		07/14/20	6.36	94.39
MW		05/05/20	6.24	94.51
MW-2		01/17/20	6.83	93.92
		10/24/19	Obstructed	
	100.75	07/07/19	7.51	93.24
	(2015 survey)	04/29/19	8.47	92.28
		01/25/19	8.42	92.33
		10/11/18	6.45	94.30
		07/30/18	7.45	93.30
		04/08/18	8.36	92.39
		02/27/18	8.54	92.21
		05/30/17	7.95	92.80
		04/24/15	7.21	93.54
		03/30/15	8.01	92.74
		01/27/15	8.60	92.15

# **Table A.6. Water Level Elevations**

Monitoring Well	Top of Casing Elevation*	Date	Measured Depth to Groundwater (ft)	Relative Groundwater Elevation (ft)
		01/06/23	3.30	95.67
		10/03/22	5.71	93.26
	98.97	08/02/22	<1	≈98.97
	(2022 survey)	04/11/22	1.85	91.12
	•	02/03/22	5.20	93.77
		01/24/22	4.90	94.07
		11/11/21	4.12	95.93
		08/31/21	4.37	95.68
		05/03/21	3.45	96.60
		01/18/21	4.50	95.55
		10/12/20	4.25	95.80
		07/14/20	3.37	96.68
MW 2		05/05/20	2.27	97.78
MW-3		01/17/20	3.20	96.85
		10/24/19	3.61	96.44
	100.05	07/07/19	3.73	96.32
	(2015 survey)	04/29/19	2.61	97.44
	, , , , , , , , , , , , , , , , , , , ,	01/25/19	4.44	95.61
		10/11/18	2.35	97.70
		07/30/18	3.62	96.43
		04/08/18	2.53	97.52
		02/27/18	2.43	97.62
		05/30/17	2.45	97.60
		04/24/15	2.27	97.78
		03/30/15	2.73	97.32
		01/27/15	4.46	95.59
		01/06/23	4.50	95.25
		10/03/22	5.59	94.16
	99.75	08/02/22	5.75	94.00
	(2022 survey)	04/11/22	5.20	94.55
		02/03/22	8.86	90.89
		01/24/22	7.75	92.00
		11/11/21	6.78	93.79
		08/31/21	6.51	94.06
		05/03/21	6.19	94.38
		01/18/21	6.51	94.06
		10/12/20	6.65	93.92
		07/14/20	5.34	95.23
MW-4		05/05/20	5.07	95.50
IVI VV -4		01/17/20	6.21	94.36
		10/24/19	6.14	94.43
	100.57	07/07/19	6.98	93.59
	(2015 survey)	04/29/19	7.30	93.27
	•	01/25/19	6.88	93.69
		10/11/18	5.43	95.14
		07/30/18	6.91	93.66
		04/08/18	7.26	93.31
		02/27/18	7.23	93.34
		05/30/17	6.38	94.19
		04/24/15	5.94	94.63
		03/30/15	7.04	93.53
		01/27/15	6.53	94.04

# **Table A.6. Water Level Elevations**

Monitoring Well	Top of Casing Elevation*	Date	Measured Depth to Groundwater (ft)	Relative Groundwater Elevation (ft)
		01/06/23	5.99	93.37
		10/03/22	6.21	93.15
	99.36	08/02/22	6.24	93.12
	(2022 survey)	04/11/22	5.96	93.40
	(======================================	02/03/22	7.42	91.94
		01/24/22	7.13	92.23
		11/11/21	6.69	93.55
		08/31/21	6.48	93.76
		05/03/21	6.25	93.99
		01/18/21	5.90	94.34
		10/12/20	6.30	93.94
		07/14/20	5.84	94.39
		05/05/20	5.83	94.41
MW-5		01/17/20	5.87	94.37
		10/24/19	5.98	94.26
	100.24	07/07/19	6.25	93.99
	(2015 survey)	04/29/19	6.33	93.91
	(2013 survey)	01/25/19	6.35	93.89
		10/11/18	5.85	94.39
		07/30/18	6.19	94.05
		04/08/18	6.27	93.97
		02/27/18	6.15	94.09
		05/30/17	5.96	94.28
		04/24/15	5.92	94.32
		03/30/15	6.26	93.98
		01/27/15	6.50	93.74
		01/06/23	8.00	91.43
		10/03/22	7.50	91.93
	99.43	08/02/22	7.45	91.98
	(2022 survey)	04/11/22	6.48	92.96
	(2022 Survey)	02/03/22	8.67	90.76
		01/24/22	8.48	90.95
		11/11/21	8.12	91.98
		08/31/21	7.78	92.32
		05/03/21	7.76	92.54
		01/18/21	8.24	91.86
		10/12/20	7.95	92.15
		07/14/20	7.11	92.29
		05/05/20	6.44	93.66
MW-201		01/17/20	7.00	93.10
		10/24/19	6.57	93.53
	100.10	07/07/19	6.72	93.38
	(2015 survey)	04/29/19	6.82	93.28
	(2013 Survey)	01/25/19	6.88	93.28
		10/11/18	6.22	93.22
		07/30/18	6.69	93.41
		04/08/18	6.79	93.34
		02/27/18	6.46	93.64
		05/30/17	6.26	93.84
		04/24/15	5.91	94.19
		03/30/15	6.28	93.82
		03/30/13	Not Installed	Not Installed

**Table A.6. Water Level Elevations** 

Monitoring Well	Top of Casing Elevation*	Date	Measured Depth to Groundwater (ft)	Relative Groundwater Elevation (ft)
		01/06/23	8.02	89.70
		10/03/22	7.58	90.14
MW-600	97.72	08/02/22	8.76	88.96
IVI VV -000	(2022 survey)	04/11/22	Inaccessible	
		02/03/22	9.60	88.12
		01/24/22	8.80	88.92
		01/06/23	8.80	89.31
		10/03/22	8.81	89.30
MW-601	98.11	08/02/22	9.09	89.02
MW-601	(2022 survey)	04/11/22	9.27	88.84
		02/03/22	10.41	87.70
		01/24/22	10.12	87.99
		01/06/23	9.09	90.09
		10/03/22	9.12	90.06
MW-602	99.18	08/02/22	9.22	89.96
W - 002	(2022 survey)	04/11/22	8.36	90.82
		02/03/22	10.30	88.88
		01/24/22	10.21	88.97
		01/06/23	5.98	93.54
		10/03/22	5.51	94.01
MW 602	99.52	08/02/22	5.52	94.00
MW-603	(2022 survey)	04/11/22	5.14	94.38
	• /	02/03/22	6.54	92.98
		01/24/22	6.42	93.10

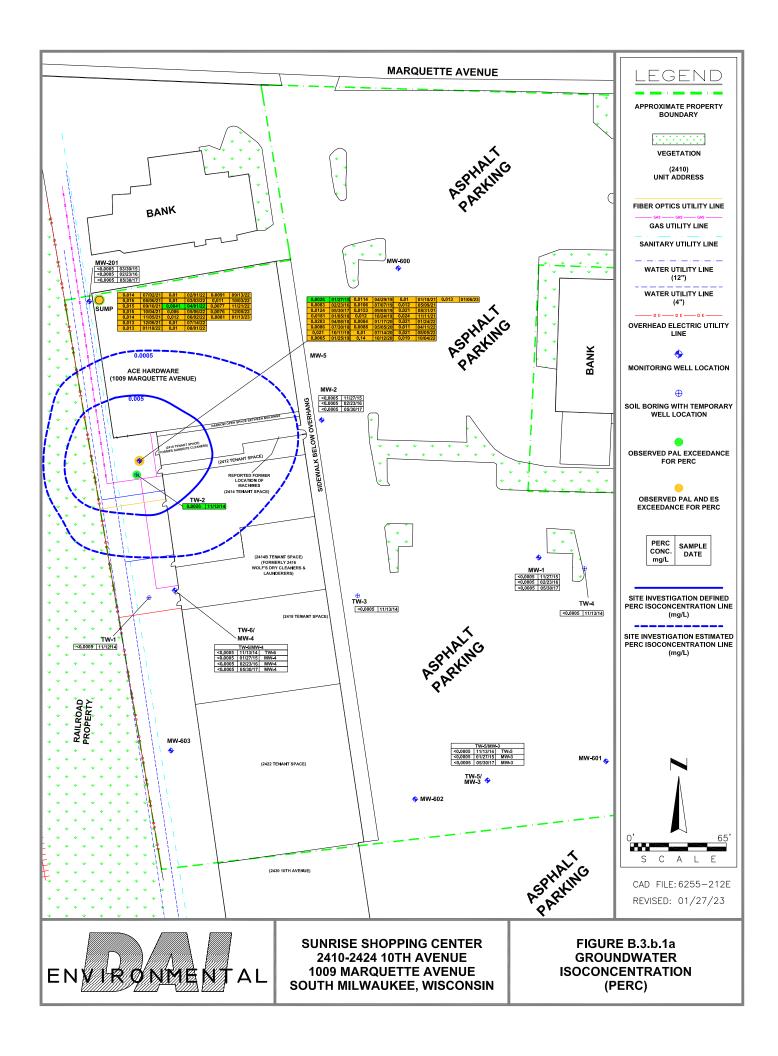
<sup>\* –</sup> Relative Elevation compared to a generic 100-ft on-site datum. Static water level measurements collected prior to 2022 compared to survey data from on January 27 and March 30, 2015. Static water level measurements collected beginning in January 2022 compared to a complete resurvey performed on February 1, 2022.

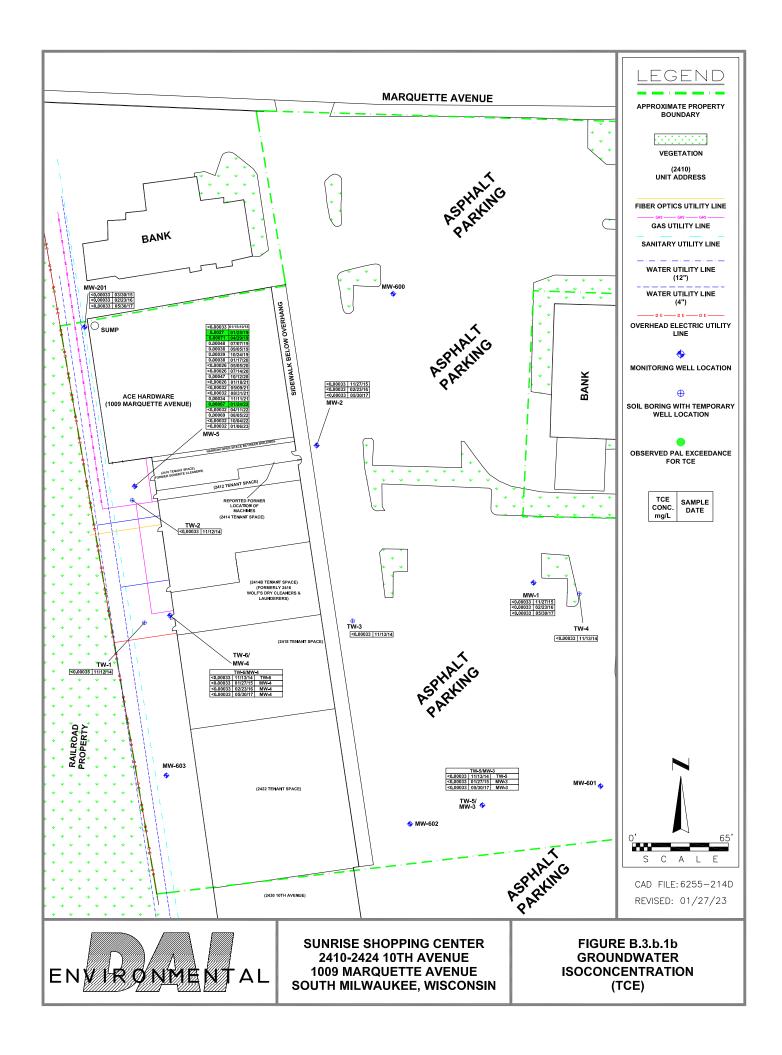
# APPENDIX B FIGURES

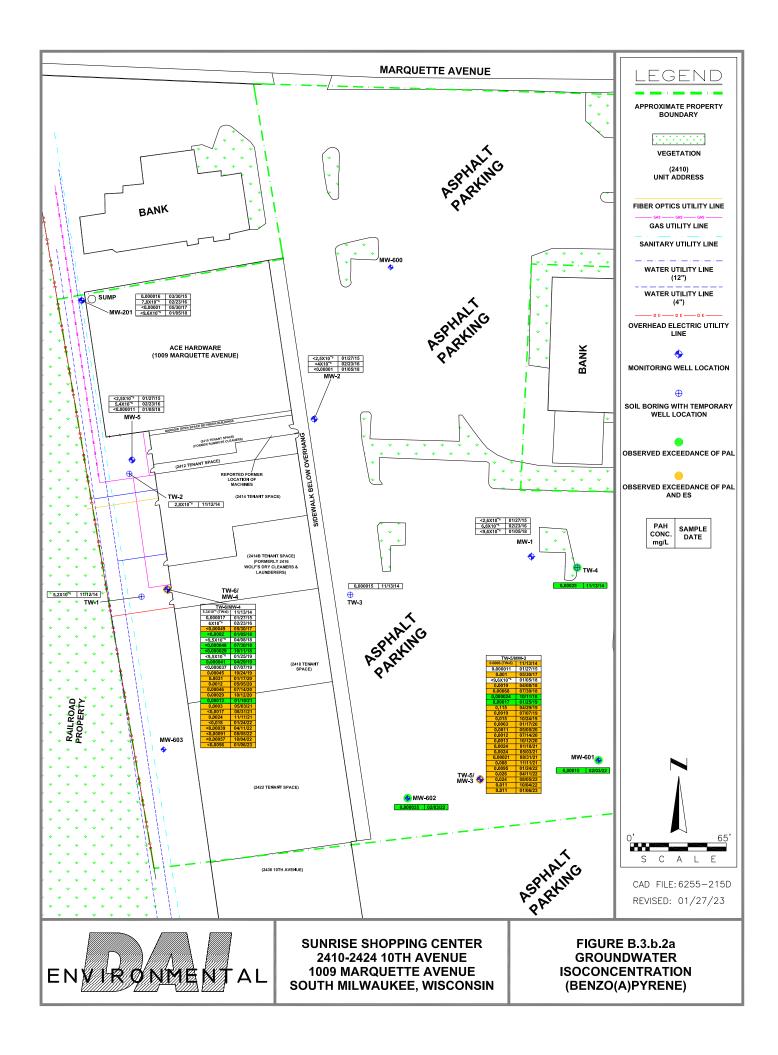


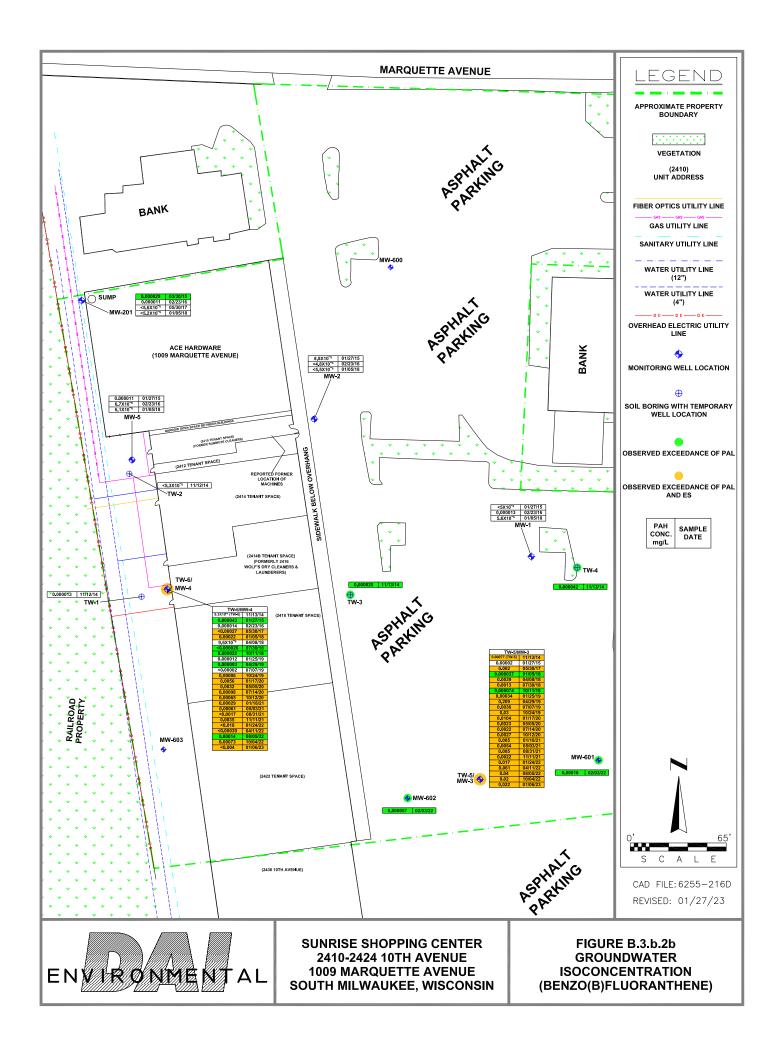
ENCLAL

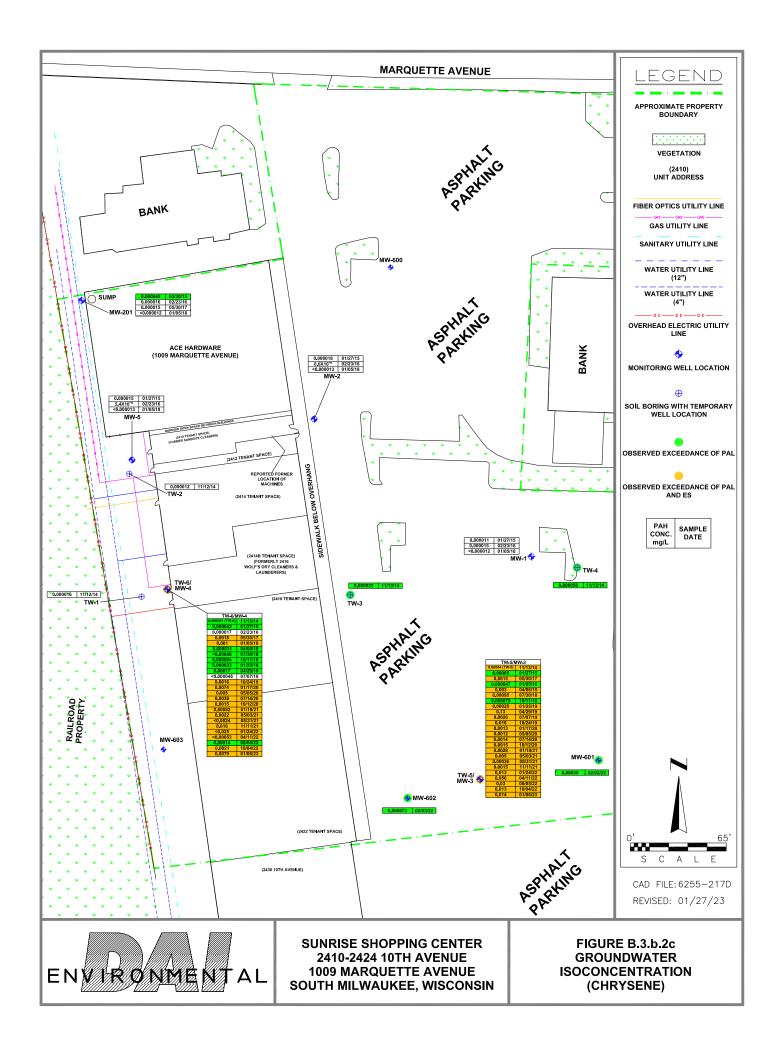
SUNRISE SHOPPING CENTER 2410-2424 10TH AVENUE 1009 MARQUETTE AVENUE SOUTH MILWAUKEE, WISCONSIN FIGURE B.1.b.1
DETAILED SITE MAP WITH AERIAL VIEW
OF SITE AND SURROUNDING PROPERTY
(2019 AERIAL TAKEN FROM GOOGLE EARTH)

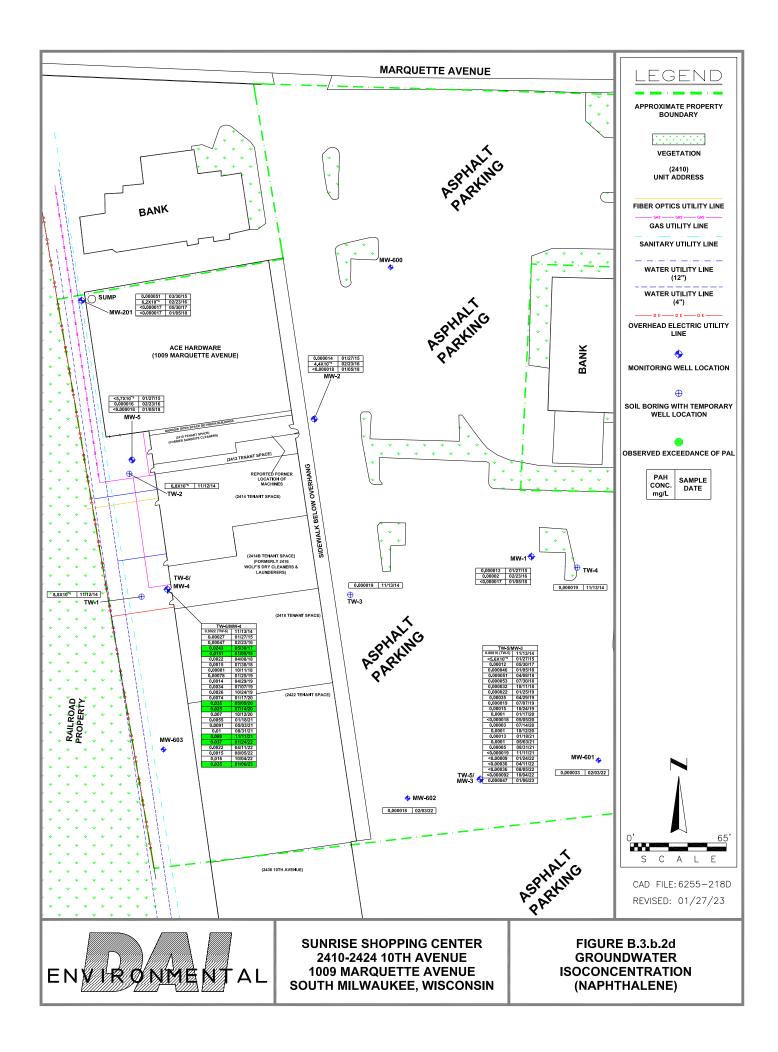


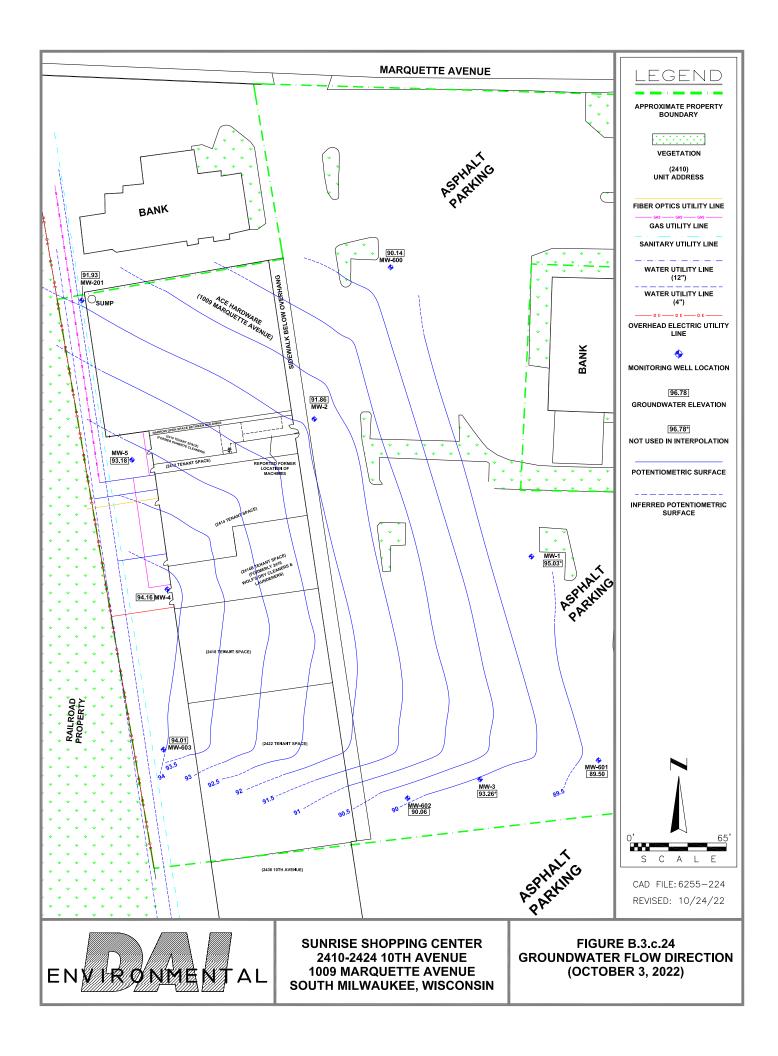


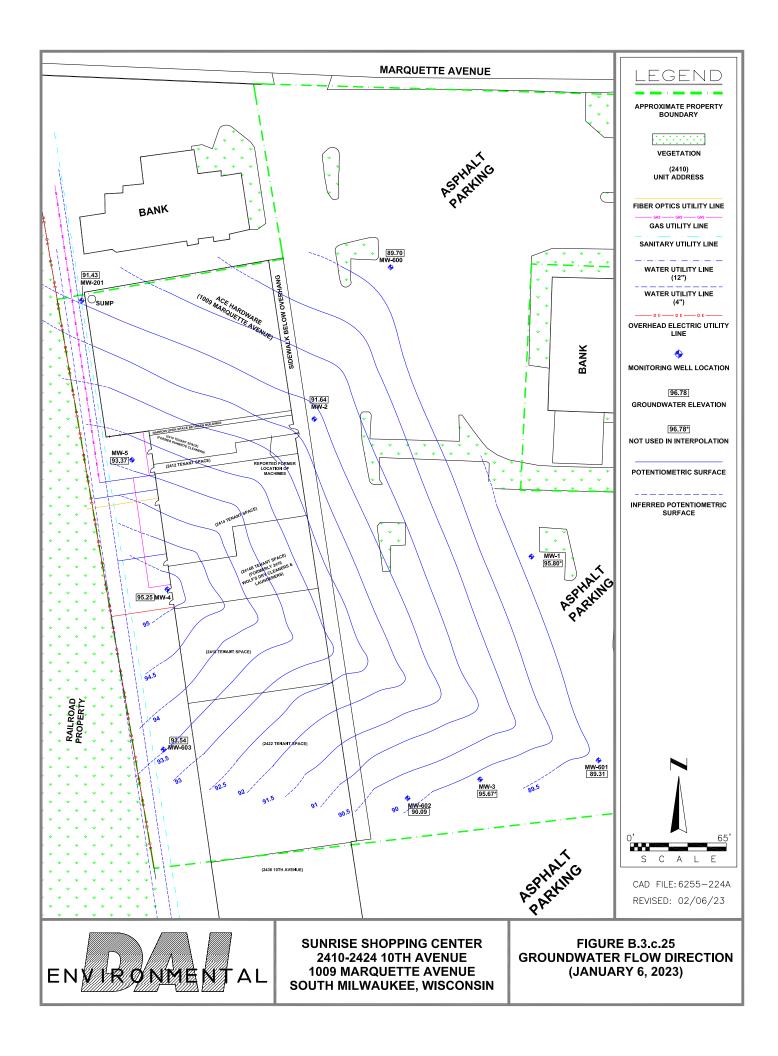


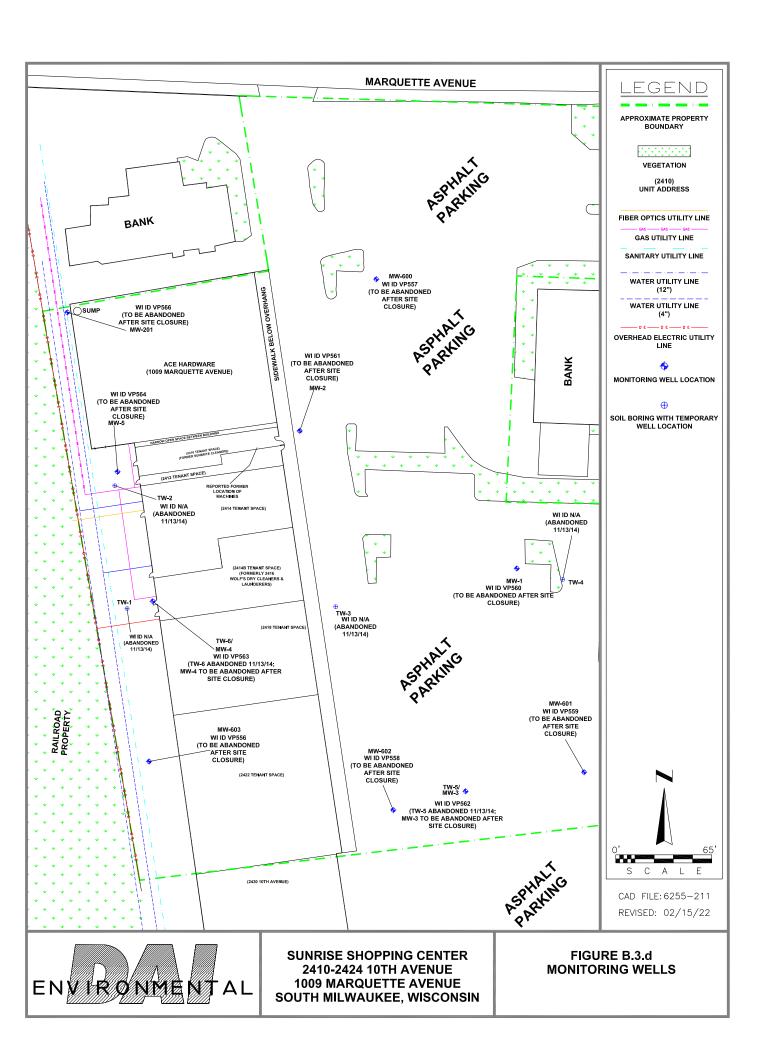












APPENDIX C.1.E LABORATORY ANALYTICAL REPORT (FIRST QUARTER 2023)





January 20, 2023

Chris Cailles
DAI Environmental
Polo Park Business Center
27834 Irma Lee Circle
Lake Forest, IL 60045

RE: Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

#### Dear Chris Cailles:

Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko

DVM

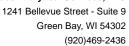
steve.mleczko@pacelabs.com

(920)469-2436 Project Manager

Enclosures

cc: Jenny Rovzar, DAI







#### **CERTIFICATIONS**

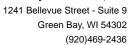
Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

#### Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302 Florida/NELAP Certification #: E87948 Illinois Certification #: 200050 Kentucky UST Certification #: 82 Louisiana Certification #: 04168 Minnesota Certification #: 055-999-334 New York Certification #: 12064 North Dakota Certification #: R-150

South Carolina Certification #: 83006001 Texas Certification #: T104704529-21-8 Virginia VELAP Certification ID: 11873 Wisconsin Certification #: 405132750 Wisconsin DATCP Certification #: 105-444 USDA Soil Permit #: P330-21-00008 Federal Fish & Wildlife Permit #: 51774A





# **SAMPLE SUMMARY**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
40257105001	MW-3	Water	01/06/23 12:00	01/14/23 08:55	
40257105002	MW-4	Water	01/06/23 12:30	01/14/23 08:55	
40257105003	MW-5	Water	01/06/23 13:00	01/14/23 08:55	

(920)469-2436



# **SAMPLE ANALYTE COUNT**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40257105001	MW-3	EPA 8270E by SIM	RJN	20
40257105002	MW-4	EPA 8270E by SIM	RJN	20
40257105003	MW-5	EPA 8260	EIB	64

PASI-G = Pace Analytical Services - Green Bay



# **SUMMARY OF DETECTION**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40257105001	MW-3					
EPA 8270E by SIM	Acenaphthene	0.00013	mg/L	0.000089	01/18/23 11:38	НЗ
EPA 8270E by SIM	Acenaphthylene	0.00051	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Anthracene	0.0012	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Benzo(a)anthracene	0.0049	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Benzo(a)pyrene	0.011	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Benzo(b)fluoranthene	0.022	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Benzo(g,h,i)perylene	0.014	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Benzo(k)fluoranthene	0.0070	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Chrysene	0.014	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Dibenz(a,h)anthracene	0.0023	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Fluoranthene	0.025	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Fluorene	0.00030	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Indeno(1,2,3-cd)pyrene	0.011	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Naphthalene	0.000047J	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Phenanthrene	0.010	mg/L	0.000089	01/18/23 11:38	H3
EPA 8270E by SIM	Pyrene	0.018	mg/L	0.000089	01/18/23 11:38	H3
10257105002	MW-4					
EPA 8270E by SIM	Acenaphthene	0.076	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Acenaphthylene	0.014J	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Anthracene	0.027	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Chrysene	0.0079J	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Fluoranthene	0.023	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Fluorene	0.093	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	1-Methylnaphthalene	0.072	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Naphthalene	0.035	mg/L	0.022	01/18/23 11:58	D3,H3
EPA 8270E by SIM	Phenanthrene	0.080	mg/L	0.022	01/18/23 11:58	H3
EPA 8270E by SIM	Pyrene	0.11	mg/L	0.022	01/18/23 11:58	H3
10257105003	MW-5					
EPA 8260	Tetrachloroethene	0.013	mg/L	0.0010	01/17/23 14:34	
EPA 8260	1,1,1-Trichloroethane	0.00031J	mg/L	0.0010	01/17/23 14:34	

01/17/23 09:41 01/18/23 11:38 1718-51-0



# **ANALYTICAL RESULTS**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Terphenyl-d14 (S)

Date: 01/20/2023 11:19 AM

Sample: MW-3	Lab ID:	40257105001	Collecte	ed: 01/06/23	3 12:00	Received: 01/	14/23 08:55 Ma	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV PAH	Analytical	Method: EPA	8270E by S	IM Preparat	tion Me	thod: EPA 3510			
	Pace Ana	lytical Services	- Green B	ау					
Acenaphthene	0.00013	mg/L	0.000089	0.000025	2	01/17/23 09:41	01/18/23 11:38	83-32-9	H3
Acenaphthylene	0.00051	mg/L	0.000089	0.000022	2	01/17/23 09:41	01/18/23 11:38	208-96-8	H3
Anthracene	0.0012	mg/L	0.000089	0.000033	2	01/17/23 09:41	01/18/23 11:38	120-12-7	H3
Benzo(a)anthracene	0.0049	mg/L	0.000089	0.000024	2	01/17/23 09:41	01/18/23 11:38	56-55-3	H3
Benzo(a)pyrene	0.011	mg/L	0.000089	0.000023	2	01/17/23 09:41	01/18/23 11:38	50-32-8	H3
Benzo(b)fluoranthene	0.022	mg/L	0.000089	0.000016	2	01/17/23 09:41	01/18/23 11:38	205-99-2	H3
Benzo(g,h,i)perylene	0.014	mg/L	0.000089	0.000041	2	01/17/23 09:41	01/18/23 11:38	191-24-2	H3
Benzo(k)fluoranthene	0.0070	mg/L	0.000089	0.000040	2	01/17/23 09:41	01/18/23 11:38	207-08-9	H3
Chrysene	0.014	mg/L	0.000089	0.000022	2	01/17/23 09:41	01/18/23 11:38	218-01-9	H3
Dibenz(a,h)anthracene	0.0023	mg/L	0.000089	0.000032	2	01/17/23 09:41	01/18/23 11:38	53-70-3	H3
Fluoranthene	0.025	mg/L	0.000089	0.000046	2	01/17/23 09:41	01/18/23 11:38	206-44-0	H3
Fluorene	0.00030	mg/L	0.000089	0.000042	2	01/17/23 09:41	01/18/23 11:38	86-73-7	НЗ
Indeno(1,2,3-cd)pyrene	0.011	mg/L	0.000089	0.000028	2	01/17/23 09:41	01/18/23 11:38	193-39-5	H3
1-Methylnaphthalene	< 0.000032	mg/L	0.000089	0.000032	2	01/17/23 09:41	01/18/23 11:38	90-12-0	НЗ
2-Methylnaphthalene	<0.000025	mg/L	0.000089	0.000025	2	01/17/23 09:41	01/18/23 11:38	91-57-6	НЗ
Naphthalene	0.000047J	mg/L	0.000089	0.000035	2	01/17/23 09:41	01/18/23 11:38	91-20-3	НЗ
Phenanthrene	0.010	mg/L	0.000089	0.000045	2	01/17/23 09:41	01/18/23 11:38	85-01-8	НЗ
Pyrene	0.018	mg/L	0.000089	0.000040	2	01/17/23 09:41	01/18/23 11:38	129-00-0	НЗ
Surrogates		J							
2-Fluorobiphenyl (S)	55	%	44-120		2	01/17/23 09:41	01/18/23 11:38	321-60-8	

49-120

70

500 01/17/23 09:41 01/18/23 11:58 1718-51-0



# **ANALYTICAL RESULTS**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Terphenyl-d14 (S)

Date: 01/20/2023 11:19 AM

Sample: MW-4	Lab ID:	40257105002	Collected	d: 01/06/2	3 12:30	Received: 01/	14/23 08:55 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV PAH	Analytical	Method: EPA 8	270E by SIN	M Prepara	tion Met	thod: EPA 3510			
	Pace Ana	lytical Services	- Green Bay	/					
Acenaphthene	0.076	mg/L	0.022	0.0062	500	01/17/23 09:41	01/18/23 11:58	83-32-9	НЗ
Acenaphthylene	0.014J	mg/L	0.022	0.0056	500	01/17/23 09:41	01/18/23 11:58	208-96-8	H3
Anthracene	0.027	mg/L	0.022	0.0082	500	01/17/23 09:41	01/18/23 11:58	120-12-7	H3
Benzo(a)anthracene	<0.0060	mg/L	0.022	0.0060	500	01/17/23 09:41	01/18/23 11:58	56-55-3	H3
Benzo(a)pyrene	<0.0056	mg/L	0.022	0.0056	500	01/17/23 09:41	01/18/23 11:58	50-32-8	H3
Benzo(b)fluoranthene	< 0.0040	mg/L	0.022	0.0040	500	01/17/23 09:41	01/18/23 11:58	205-99-2	H3
Benzo(g,h,i)perylene	<0.010	mg/L	0.022	0.010	500	01/17/23 09:41	01/18/23 11:58	191-24-2	H3
Benzo(k)fluoranthene	< 0.0099	mg/L	0.022	0.0099	500	01/17/23 09:41	01/18/23 11:58	207-08-9	H3
Chrysene	0.0079J	mg/L	0.022	0.0056	500	01/17/23 09:41	01/18/23 11:58	218-01-9	H3
Dibenz(a,h)anthracene	< 0.0079	mg/L	0.022	0.0079	500	01/17/23 09:41	01/18/23 11:58	53-70-3	H3
Fluoranthene	0.023	mg/L	0.022	0.012	500	01/17/23 09:41	01/18/23 11:58	206-44-0	H3
Fluorene	0.093	mg/L	0.022	0.010	500	01/17/23 09:41	01/18/23 11:58	86-73-7	H3
Indeno(1,2,3-cd)pyrene	< 0.0069	mg/L	0.022	0.0069	500	01/17/23 09:41	01/18/23 11:58	193-39-5	H3
1-Methylnaphthalene	0.072	mg/L	0.022	0.0079	500	01/17/23 09:41	01/18/23 11:58	90-12-0	H3
2-Methylnaphthalene	< 0.0061	mg/L	0.022	0.0061	500	01/17/23 09:41	01/18/23 11:58	91-57-6	H3
Naphthalene	0.035	mg/L	0.022	0.0088	500	01/17/23 09:41	01/18/23 11:58	91-20-3	D3,H3
Phenanthrene	0.080	mg/L	0.022	0.011	500	01/17/23 09:41	01/18/23 11:58	85-01-8	H3
Pyrene	0.11	mg/L	0.022	0.010	500	01/17/23 09:41	01/18/23 11:58	129-00-0	H3
Surrogates		-							
2-Fluorobiphenyl (S)	0	%	44-120		500	01/17/23 09:41	01/18/23 11:58	321-60-8	S4

49-120

%



#### **ANALYTICAL RESULTS**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

Sample: MW-5 Lab ID: 40257105003 Collected: 01/06/23 13:00 Received: 01/14/23 08:55 Matrix: Water

Campie. IIIV C	Lab ib.	40207 100000	Ooncore	d. 01/00/20	7 10.00	reconved. o	171-4720 00:00	atrix. Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	260						
	Pace Anal	ytical Services	- Green Ba	ıy					
Benzene	<0.00030	mg/L	0.0010	0.00030	1		01/17/23 14:34	71-43-2	
Bromobenzene	< 0.00036	mg/L	0.0010	0.00036	1		01/17/23 14:34	108-86-1	
Bromochloromethane	< 0.00036	mg/L	0.0050	0.00036	1		01/17/23 14:34	74-97-5	
Bromodichloromethane	< 0.00042	mg/L	0.0010	0.00042	1		01/17/23 14:34	75-27-4	
Bromoform	< 0.0038	mg/L	0.0050	0.0038	1		01/17/23 14:34	75-25-2	
Bromomethane	< 0.0012	mg/L	0.0050	0.0012	1		01/17/23 14:34	74-83-9	
n-Butylbenzene	<0.00086	mg/L	0.0010	0.00086	1		01/17/23 14:34	104-51-8	
sec-Butylbenzene	< 0.00042	mg/L	0.0010	0.00042	1		01/17/23 14:34		
tert-Butylbenzene	< 0.00059	mg/L	0.0010	0.00059	1		01/17/23 14:34		
Carbon tetrachloride	< 0.00037	mg/L	0.0010	0.00037	1		01/17/23 14:34		
Chlorobenzene	<0.00086	mg/L	0.0010	0.00086	1		01/17/23 14:34		
Chloroethane	< 0.0014	mg/L	0.0050	0.0014	1		01/17/23 14:34		
Chloroform	<0.0012	mg/L	0.0050	0.0012	1		01/17/23 14:34		
Chloromethane	<0.0016	mg/L	0.0050	0.0016	1		01/17/23 14:34		
2-Chlorotoluene	<0.00089	mg/L	0.0050	0.00089	1		01/17/23 14:34		
4-Chlorotoluene	<0.00089	mg/L	0.0050	0.00089	1		01/17/23 14:34		
1,2-Dibromo-3-chloropropane	<0.0024	mg/L	0.0050	0.0003	1		01/17/23 14:34		
Dibromochloromethane	< 0.0024	mg/L	0.0050	0.0024	1		01/17/23 14:34		
1,2-Dibromoethane (EDB)	<0.0020	mg/L	0.0030	0.0020	1		01/17/23 14:34		
Dibromomethane	<0.00099	mg/L	0.0050	0.00099	1		01/17/23 14:34		
1,2-Dichlorobenzene	<0.00033	mg/L	0.0030	0.00033	1		01/17/23 14:34		
1,3-Dichlorobenzene	<0.00035	mg/L	0.0010	0.00035	1		01/17/23 14:34		
1,4-Dichlorobenzene	<0.00033	mg/L	0.0010	0.00033	1		01/17/23 14:34		
Dichlorodifluoromethane		-		0.00089	1		01/17/23 14:34		
	<0.00046	mg/L	0.0050		1				
1,1-Dichloroethane	<0.00030	mg/L	0.0010	0.00030			01/17/23 14:34		
1,2-Dichloroethane	<0.00029	mg/L	0.0010	0.00029	1		01/17/23 14:34		
1,1-Dichloroethene	<0.00058	mg/L	0.0010	0.00058	1		01/17/23 14:34		
cis-1,2-Dichloroethene	<0.00047	mg/L	0.0010	0.00047	1		01/17/23 14:34		
trans-1,2-Dichloroethene	<0.00053	mg/L	0.0010	0.00053	1		01/17/23 14:34		
1,2-Dichloropropane	<0.00045	mg/L	0.0010	0.00045	1		01/17/23 14:34		
1,3-Dichloropropane	<0.00030	mg/L	0.0010	0.00030	1		01/17/23 14:34		
2,2-Dichloropropane	<0.0042	mg/L	0.0050	0.0042	1		01/17/23 14:34		
1,1-Dichloropropene	<0.00041	mg/L	0.0010	0.00041	1		01/17/23 14:34		
cis-1,3-Dichloropropene	<0.00036	mg/L	0.0010	0.00036	1		01/17/23 14:34		
trans-1,3-Dichloropropene	<0.0035	mg/L	0.0050	0.0035	1		01/17/23 14:34		
Diisopropyl ether	<0.0011	mg/L	0.0050	0.0011	1		01/17/23 14:34		
Ethylbenzene	<0.00033	mg/L	0.0010	0.00033	1		01/17/23 14:34		
Hexachloro-1,3-butadiene	<0.0027	mg/L	0.0050	0.0027	1		01/17/23 14:34		
Isopropylbenzene (Cumene)	<0.0010	mg/L	0.0050	0.0010	1		01/17/23 14:34		
p-Isopropyltoluene	<0.0010	mg/L	0.0050	0.0010	1		01/17/23 14:34		
Methylene Chloride	<0.00032	mg/L	0.0050	0.00032	1		01/17/23 14:34		
Methyl-tert-butyl ether	<0.0011	mg/L	0.0050	0.0011	1		01/17/23 14:34		
Naphthalene	<0.0011	mg/L	0.0050	0.0011	1		01/17/23 14:34		
n-Propylbenzene	<0.00035	mg/L	0.0010	0.00035	1		01/17/23 14:34	103-65-1	
Styrene	<0.00036	mg/L	0.0010	0.00036	1		01/17/23 14:34	100-42-5	

Matrix: Water

01/17/23 14:34 75-69-4

01/17/23 14:34 96-18-4

01/17/23 14:34 95-63-6

01/17/23 14:34 108-67-8

01/17/23 14:34 75-01-4

01/17/23 14:34 95-47-6

01/17/23 14:34 460-00-4

01/17/23 14:34 2199-69-1

01/17/23 14:34 2037-26-5

01/17/23 14:34 179601-23-1



#### **ANALYTICAL RESULTS**

Collected: 01/06/23 13:00

0.00042

0.00056

0.00045

0.00036

0.00017

0.00070

0.00035

1

1

1

1

1

1

Received: 01/14/23 08:55

Lab ID: 40257105003

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

%

%

%

< 0.00042

< 0.00056

< 0.00045

< 0.00036

<0.00017

<0.00070

<0.00035

100

103

101

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Sample: MW-5

Trichlorofluoromethane

1,2,3-Trichloropropane

1,2,4-Trimethylbenzene

1,3,5-Trimethylbenzene

4-Bromofluorobenzene (S)

1,2-Dichlorobenzene-d4 (S)

Date: 01/20/2023 11:19 AM

Vinyl chloride

m&p-Xylene

Surrogates

Toluene-d8 (S)

o-Xylene

LOQ LOD DF Results Units Prepared CAS No. **Parameters** Analyzed Qual Analytical Method: EPA 8260 8260 MSV Pace Analytical Services - Green Bay 1,1,1,2-Tetrachloroethane < 0.00036 mg/L 0.0010 0.00036 01/17/23 14:34 630-20-6 1 <0.00038 01/17/23 14:34 79-34-5 1,1,2,2-Tetrachloroethane mg/L 0.0010 0.00038 1 Tetrachloroethene 0.013 mg/L 0.0010 0.00041 1 01/17/23 14:34 127-18-4 Toluene < 0.00029 mg/L 0.0010 0.00029 1 01/17/23 14:34 108-88-3 1,2,3-Trichlorobenzene < 0.0010 mg/L 0.0050 0.0010 01/17/23 14:34 87-61-6 1 1,2,4-Trichlorobenzene < 0.00095 mg/L 0.0050 0.00095 01/17/23 14:34 120-82-1 1 1,1,1-Trichloroethane 0.00031J mg/L 0.0010 0.00030 01/17/23 14:34 71-55-6 01/17/23 14:34 79-00-5 1,1,2-Trichloroethane < 0.00034 mg/L 0.0050 0.00034 Trichloroethene < 0.00032 mg/L 0.0010 0.00032 01/17/23 14:34 79-01-6

0.0010

0.0050

0.0010

0.0010

0.0010

0.0020

0.0010

70-130

70-130

70-130

(920)469-2436



# **QUALITY CONTROL DATA**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

QC Batch: 435856 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40257105003

METHOD BLANK: 2507118 Matrix: Water

Associated Lab Samples: 40257105003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	<0.00036	0.0010	01/17/23 10:05	
1,1,1-Trichloroethane	mg/L	< 0.00030	0.0010	01/17/23 10:05	
1,1,2,2-Tetrachloroethane	mg/L	< 0.00038	0.0010	01/17/23 10:05	
1,1,2-Trichloroethane	mg/L	< 0.00034	0.0050	01/17/23 10:05	
1,1-Dichloroethane	mg/L	< 0.00030	0.0010	01/17/23 10:05	
1,1-Dichloroethene	mg/L	<0.00058	0.0010	01/17/23 10:05	
1,1-Dichloropropene	mg/L	< 0.00041	0.0010	01/17/23 10:05	
1,2,3-Trichlorobenzene	mg/L	< 0.0010	0.0050	01/17/23 10:05	
1,2,3-Trichloropropane	mg/L	< 0.00056	0.0050	01/17/23 10:05	
1,2,4-Trichlorobenzene	mg/L	< 0.00095	0.0050	01/17/23 10:05	
1,2,4-Trimethylbenzene	mg/L	< 0.00045	0.0010	01/17/23 10:05	
1,2-Dibromo-3-chloropropane	mg/L	< 0.0024	0.0050	01/17/23 10:05	
1,2-Dibromoethane (EDB)	mg/L	< 0.00031	0.0010	01/17/23 10:05	
1,2-Dichlorobenzene	mg/L	< 0.00033	0.0010	01/17/23 10:05	
1,2-Dichloroethane	mg/L	< 0.00029	0.0010	01/17/23 10:05	
1,2-Dichloropropane	mg/L	< 0.00045	0.0010	01/17/23 10:05	
1,3,5-Trimethylbenzene	mg/L	< 0.00036	0.0010	01/17/23 10:05	
1,3-Dichlorobenzene	mg/L	< 0.00035	0.0010	01/17/23 10:05	
1,3-Dichloropropane	mg/L	< 0.00030	0.0010	01/17/23 10:05	
1,4-Dichlorobenzene	mg/L	<0.00089	0.0010	01/17/23 10:05	
2,2-Dichloropropane	mg/L	< 0.0042	0.0050	01/17/23 10:05	
2-Chlorotoluene	mg/L	<0.00089	0.0050	01/17/23 10:05	
4-Chlorotoluene	mg/L	<0.00089	0.0050	01/17/23 10:05	
Benzene	mg/L	< 0.00030	0.0010	01/17/23 10:05	
Bromobenzene	mg/L	< 0.00036	0.0010	01/17/23 10:05	
Bromochloromethane	mg/L	< 0.00036	0.0050	01/17/23 10:05	
Bromodichloromethane	mg/L	< 0.00042	0.0010	01/17/23 10:05	
Bromoform	mg/L	<0.0038	0.0050	01/17/23 10:05	
Bromomethane	mg/L	< 0.0012	0.0050	01/17/23 10:05	
Carbon tetrachloride	mg/L	< 0.00037	0.0010	01/17/23 10:05	
Chlorobenzene	mg/L	<0.00086	0.0010	01/17/23 10:05	
Chloroethane	mg/L	< 0.0014	0.0050	01/17/23 10:05	
Chloroform	mg/L	< 0.0012	0.0050	01/17/23 10:05	
Chloromethane	mg/L	< 0.0016	0.0050	01/17/23 10:05	
cis-1,2-Dichloroethene	mg/L	< 0.00047	0.0010	01/17/23 10:05	
cis-1,3-Dichloropropene	mg/L	< 0.00036	0.0010	01/17/23 10:05	
Dibromochloromethane	mg/L	< 0.0026	0.0050	01/17/23 10:05	
Dibromomethane	mg/L	< 0.00099	0.0050	01/17/23 10:05	
Dichlorodifluoromethane	mg/L	< 0.00046	0.0050	01/17/23 10:05	
Diisopropyl ether	mg/L	<0.0011	0.0050	01/17/23 10:05	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

METHOD BLANK: 2507118 Matrix: Water

Associated Lab Samples: 40257105003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Ethylbenzene	mg/L	<0.00033	0.0010	01/17/23 10:05	
Hexachloro-1,3-butadiene	mg/L	< 0.0027	0.0050	01/17/23 10:05	
Isopropylbenzene (Cumene)	mg/L	< 0.0010	0.0050	01/17/23 10:05	
m&p-Xylene	mg/L	< 0.00070	0.0020	01/17/23 10:05	
Methyl-tert-butyl ether	mg/L	< 0.0011	0.0050	01/17/23 10:05	
Methylene Chloride	mg/L	< 0.00032	0.0050	01/17/23 10:05	
n-Butylbenzene	mg/L	<0.00086	0.0010	01/17/23 10:05	
n-Propylbenzene	mg/L	< 0.00035	0.0010	01/17/23 10:05	
Naphthalene	mg/L	< 0.0011	0.0050	01/17/23 10:05	
o-Xylene	mg/L	< 0.00035	0.0010	01/17/23 10:05	
p-Isopropyltoluene	mg/L	< 0.0010	0.0050	01/17/23 10:05	
sec-Butylbenzene	mg/L	< 0.00042	0.0010	01/17/23 10:05	
Styrene	mg/L	< 0.00036	0.0010	01/17/23 10:05	
tert-Butylbenzene	mg/L	< 0.00059	0.0010	01/17/23 10:05	
Tetrachloroethene	mg/L	< 0.00041	0.0010	01/17/23 10:05	
Toluene	mg/L	< 0.00029	0.0010	01/17/23 10:05	
trans-1,2-Dichloroethene	mg/L	< 0.00053	0.0010	01/17/23 10:05	
trans-1,3-Dichloropropene	mg/L	< 0.0035	0.0050	01/17/23 10:05	
Trichloroethene	mg/L	< 0.00032	0.0010	01/17/23 10:05	
Trichlorofluoromethane	mg/L	< 0.00042	0.0010	01/17/23 10:05	
Vinyl chloride	mg/L	< 0.00017	0.0010	01/17/23 10:05	
1,2-Dichlorobenzene-d4 (S)	%	101	70-130	01/17/23 10:05	
4-Bromofluorobenzene (S)	%	100	70-130	01/17/23 10:05	
Toluene-d8 (S)	%	101	70-130	01/17/23 10:05	

LABORATORY CONTROL SAMPLE:	2507119					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	mg/L	0.05	0.061	121	70-134	
1,1,2,2-Tetrachloroethane	mg/L	0.05	0.051	101	69-130	
1,1,2-Trichloroethane	mg/L	0.05	0.051	102	70-130	
1,1-Dichloroethane	mg/L	0.05	0.056	112	70-130	
1,1-Dichloroethene	mg/L	0.05	0.056	112	74-131	
1,2,4-Trichlorobenzene	mg/L	0.05	0.048	97	68-130	
1,2-Dibromo-3-chloropropane	mg/L	0.05	0.049	98	64-137	
1,2-Dibromoethane (EDB)	mg/L	0.05	0.050	101	70-130	
1,2-Dichlorobenzene	mg/L	0.05	0.053	106	70-130	
1,2-Dichloroethane	mg/L	0.05	0.055	110	70-137	
1,2-Dichloropropane	mg/L	0.05	0.057	113	80-121	
1,3-Dichlorobenzene	mg/L	0.05	0.054	108	70-130	
1,4-Dichlorobenzene	mg/L	0.05	0.050	101	70-130	
Benzene	mg/L	0.05	0.055	109	70-130	
Bromodichloromethane	mg/L	0.05	0.055	109	70-130	
Bromoform	mg/L	0.05	0.051	102	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

LABORATORY CONTROL SAMPLE:	2507119					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Bromomethane	mg/L	0.05	0.046	91	21-147	
Carbon tetrachloride	mg/L	0.05	0.063	126	80-146	
hlorobenzene	mg/L	0.05	0.055	110	70-130	
loroethane	mg/L	0.05	0.052	105	52-165	
loroform	mg/L	0.05	0.057	114	80-123	
oromethane	mg/L	0.05	0.058	116	51-122	
-1,2-Dichloroethene	mg/L	0.05	0.054	108	70-130	
-1,3-Dichloropropene	mg/L	0.05	0.054	108	70-130	
romochloromethane	mg/L	0.05	0.050	100	70-130	
hlorodifluoromethane	mg/L	0.05	0.051	102	25-121	
/lbenzene	mg/L	0.05	0.057	113	80-120	
propylbenzene (Cumene)	mg/L	0.05	0.054	108	70-130	
p-Xylene	mg/L	0.1	0.11	108	70-130	
thyl-tert-butyl ether	mg/L	0.05	0.047	95	70-130	
thylene Chloride	mg/L	0.05	0.053	105	70-130	
ylene	mg/L	0.05	0.054	109	70-130	
rene	mg/L	0.05	0.063	126	70-130	
achloroethene	mg/L	0.05	0.055	110	70-130	
iene	mg/L	0.05	0.054	109	80-120	
s-1,2-Dichloroethene	mg/L	0.05	0.056	112	70-130	
ns-1,3-Dichloropropene	mg/L	0.05	0.051	102	70-130	
chloroethene	mg/L	0.05	0.055	110	70-130	
chlorofluoromethane	mg/L	0.05	0.057	115	65-160	
yl chloride	mg/L	0.05	0.057	115	63-134	
Dichlorobenzene-d4 (S)	%			100	70-130	
romofluorobenzene (S)	%			101	70-130	
luene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SF	PIKE DUPL	ICATE: 2507	160 MS	MSD	2507161							
		40257047001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,1,1-Trichloroethane	mg/L	<0.30 ug/L	0.05	0.05	0.060	0.059	119	117	70-134	2	20	
1,1,2,2-Tetrachloroethane	mg/L	<0.38 ug/L	0.05	0.05	0.052	0.053	104	105	61-135	1	20	
1,1,2-Trichloroethane	mg/L	<0.34 ug/L	0.05	0.05	0.051	0.051	103	103	70-130	0	20	
1,1-Dichloroethane	mg/L	<0.30 ug/L	0.05	0.05	0.055	0.054	110	109	70-130	1	20	
1,1-Dichloroethene	mg/L	<0.58 ug/L	0.05	0.05	0.056	0.056	112	112	71-130	0	20	
1,2,4-Trichlorobenzene	mg/L	<0.95 ug/L	0.05	0.05	0.053	0.053	107	107	68-131	0	20	
1,2-Dibromo-3- chloropropane	mg/L	<2.4 ug/L	0.05	0.05	0.056	0.058	111	116	51-141	4	20	
1,2-Dibromoethane (EDB)	mg/L	<0.31 ug/L	0.05	0.05	0.050	0.052	101	104	70-130	3	20	
1,2-Dichlorobenzene	mg/L	<0.33 ug/L	0.05	0.05	0.053	0.052	106	103	70-130	2	20	
1,2-Dichloroethane	mg/L	<0.29 ug/L	0.05	0.05	0.055	0.054	109	107	70-137	2	20	
1,2-Dichloropropane	mg/L	<0.45 ug/L	0.05	0.05	0.055	0.055	111	110	80-121	1	20	
1,3-Dichlorobenzene	mg/L	<0.35 ug/L	0.05	0.05	0.055	0.053	109	106	70-130	3	20	

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# **REPORT OF LABORATORY ANALYSIS**

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Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 2507	160		2507161							
			MS	MSD								
_		40257047001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
1,4-Dichlorobenzene	mg/L	<0.89 ug/L	0.05	0.05	0.050	0.049	101	99	70-130	2	20	
Benzene	mg/L	<0.30 ug/L	0.05	0.05	0.054	0.053	107	106	70-130	1	20	
Bromodichloromethane	mg/L	<0.42 ug/L	0.05	0.05	0.055	0.054	110	108	70-130	1	20	
Bromoform	mg/L	<3.8 ug/L	0.05	0.05	0.050	0.052	101	104	70-133	3	20	
Bromomethane	mg/L	<1.2 ug/L	0.05	0.05	0.050	0.051	100	102	21-149	2	22	
Carbon tetrachloride	mg/L	<0.37 ug/L	0.05	0.05	0.062	0.062	125	125	80-146	0	20	
Chlorobenzene	mg/L	<0.86 ug/L	0.05	0.05	0.055	0.054	109	107	70-130	1	20	
Chloroethane	mg/L	<1.4 ug/L	0.05	0.05	0.052	0.051	104	102	52-165	2	20	
Chloroform	mg/L	<1.2 ug/L	0.05	0.05	0.056	0.056	112	111	80-123	0	20	
Chloromethane	mg/L	<1.6 ug/L	0.05	0.05	0.055	0.055	110	111	42-125	0	20	
cis-1,2-Dichloroethene	mg/L	<0.47 ug/L	0.05	0.05	0.054	0.052	107	105	70-130	2	20	
cis-1,3-Dichloropropene	mg/L	<0.36 ug/L	0.05	0.05	0.055	0.054	109	107	70-130	2	20	
Dibromochloromethane	mg/L	<2.6 ug/L	0.05	0.05	0.050	0.051	100	102	70-130	2	20	
Dichlorodifluoromethane	mg/L	<0.46 ug/L	0.05	0.05	0.046	0.046	91	91	25-121	0	20	
Ethylbenzene	mg/L	<0.33 ug/L	0.05	0.05	0.056	0.055	112	110	80-121	2	20	
Isopropylbenzene (Cumene)	mg/L	<1.0 ug/L	0.05	0.05	0.053	0.052	107	105	70-130	2	20	
m&p-Xylene	mg/L	1.5J ug/L	0.1	0.1	0.11	0.11	108	104	70-130	3	20	
Methyl-tert-butyl ether	mg/L	<1.1 ug/L	0.05	0.05	0.049	0.050	97	101	70-130	4	20	
Methylene Chloride	mg/L	<0.32 ug/L	0.05	0.05	0.052	0.051	103	102	70-130	1	20	
o-Xylene	mg/L	<0.35 ug/L	0.05	0.05	0.053	0.052	107	105	70-130	2	20	
Styrene	mg/L	<0.36 ug/L	0.05	0.05	0.064	0.062	127	124	70-132	3	20	
Tetrachloroethene	mg/L	<0.41 ug/L	0.05	0.05	0.054	0.054	107	107	70-130	0	20	
Toluene	mg/L	<0.29 ug/L	0.05	0.05	0.054	0.054	108	107	80-120	0	20	
trans-1,2-Dichloroethene	mg/L	<0.53 ug/L	0.05	0.05	0.055	0.055	111	110	70-130	1	20	
trans-1,3-Dichloropropene	mg/L	<3.5 ug/L	0.05	0.05	0.050	0.052	101	104	70-130	3	20	
Trichloroethene	mg/L	<0.32 ug/L	0.05	0.05	0.054	0.054	108	108	70-130	0	20	
Trichlorofluoromethane	mg/L	<0.42 ug/L	0.05	0.05	0.056	0.055	112	109	65-160	2	20	
Vinyl chloride	mg/L	<0.17 ug/L	0.05	0.05	0.055	0.055	111	110	60-137	1	20	
1,2-Dichlorobenzene-d4 (S)	%						101	100	70-130			
4-Bromofluorobenzene (S)	%						103	103	70-130			
Toluene-d8 (S)	%						102	102	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

QC Batch: 435865 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270E Water PAH

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40257105001, 40257105002

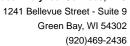
METHOD BLANK: 2507137 Matrix: Water

Associated Lab Samples: 40257105001, 40257105002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	mg/L	<0.00018	0.000050	01/18/23 08:38	
2-Methylnaphthalene	mg/L	< 0.000014	0.000050	01/18/23 08:38	
Acenaphthene	mg/L	< 0.000014	0.000050	01/18/23 08:38	
Acenaphthylene	mg/L	< 0.000013	0.000050	01/18/23 08:38	
Anthracene	mg/L	< 0.000018	0.000050	01/18/23 08:38	
Benzo(a)anthracene	mg/L	< 0.000014	0.000050	01/18/23 08:38	
Benzo(a)pyrene	mg/L	< 0.000013	0.000050	01/18/23 08:38	
Benzo(b)fluoranthene	mg/L	< 0.0000091	0.000050	01/18/23 08:38	
Benzo(g,h,i)perylene	mg/L	< 0.000023	0.000050	01/18/23 08:38	
Benzo(k)fluoranthene	mg/L	< 0.000022	0.000050	01/18/23 08:38	
Chrysene	mg/L	< 0.000013	0.000050	01/18/23 08:38	
Dibenz(a,h)anthracene	mg/L	<0.00018	0.000050	01/18/23 08:38	
Fluoranthene	mg/L	< 0.000026	0.000050	01/18/23 08:38	
Fluorene	mg/L	< 0.000024	0.000050	01/18/23 08:38	
ndeno(1,2,3-cd)pyrene	mg/L	< 0.000016	0.000050	01/18/23 08:38	
Naphthalene	mg/L	< 0.000020	0.000050	01/18/23 08:38	
Phenanthrene	mg/L	< 0.000026	0.000050	01/18/23 08:38	
Pyrene	mg/L	< 0.000023	0.000050	01/18/23 08:38	
2-Fluorobiphenyl (S)	%	71	44-120	01/18/23 08:38	
Terphenyl-d14 (S)	%	86	49-120	01/18/23 08:38	

LABORATORY CONTROL SAMPLE & L	CSD: 2507138		25	07139						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1-Methylnaphthalene	mg/L	0.002	0.0015	0.0015	77	73	51-120	6	20	
2-Methylnaphthalene	mg/L	0.002	0.0015	0.0014	75	71	50-120	6	20	
Acenaphthene	mg/L	0.002	0.0017	0.0016	85	80	65-120	6	20	
Acenaphthylene	mg/L	0.002	0.0017	0.0016	84	81	61-120	4	20	
Anthracene	mg/L	0.002	0.0018	0.0017	92	85	61-104	7	20	
Benzo(a)anthracene	mg/L	0.002	0.0016	0.0015	81	77	51-96	4	20	
Benzo(a)pyrene	mg/L	0.002	0.0017	0.0016	87	82	68-120	6	20	
Benzo(b)fluoranthene	mg/L	0.002	0.0016	0.0015	82	75	55-97	9	20	
Benzo(g,h,i)perylene	mg/L	0.002	0.0018	0.0017	91	86	69-120	6	20	
Benzo(k)fluoranthene	mg/L	0.002	0.0016	0.0016	82	80	73-120	2	20	
Chrysene	mg/L	0.002	0.0019	0.0018	96	90	72-126	6	20	
Dibenz(a,h)anthracene	mg/L	0.002	0.0019	0.0018	96	91	57-115	6	20	
Fluoranthene	mg/L	0.002	0.0017	0.0016	87	82	58-111	6	20	
Fluorene	mg/L	0.002	0.0017	0.0016	84	81	62-120	4	20	
Indeno(1,2,3-cd)pyrene	mg/L	0.002	0.0018	0.0017	91	84	66-120	7	20	

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Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

LABORATORY CONTROL SAMPLE	& LCSD: 2507138		25	07139						
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	 mg/L	0.002	0.0016	0.0016	82	78	53-120	5	20	
Phenanthrene	mg/L	0.002	0.0017	0.0015	84	77	59-120	8	20	
Pyrene	mg/L	0.002	0.0017	0.0016	86	81	59-120	6	20	
2-Fluorobiphenyl (S)	%				84	76	44-120			
Terphenyl-d14 (S)	%				89	83	49-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALIFIERS**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

#### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

#### **BATCH QUALIFIERS**

Batch: 435899

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

#### **ANALYTE QUALIFIERS**

Date: 01/20/2023 11:19 AM

- D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
- H3 Sample was received or analysis requested beyond the recognized method holding time.
- S4 Surrogate recovery not evaluated against control limits due to sample dilution.





# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 6255 SOUTH MILWAUKEE

Pace Project No.: 40257105

Date: 01/20/2023 11:19 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40257105001	MW-3	EPA 3510	435865	EPA 8270E by SIM	435899
40257105002	MW-4	EPA 3510	435865	EPA 8270E by SIM	435899
40257105003	MW-5	EPA 8260	435856		

DC#\_Title: ENV-FRM-GBAY-0035 v03\_Sample Preservation Receipt Form

Effective Date: 8/16/2022

	Client Name: DAT En Nombred Project # Project # Project # Initial when Date/ Lab Lot# of pH paper Lab Std #ID of preservation (if pH adjusted)* completed Time																																	
	_	_	L	Glass	J		_		L	Plastic							als				Jars				General		]	s (>6mm) *	pH <2	ا کے	pH≥12	H \$2	after adjusted	Volume (mL)
Pace ab#	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	везп	BP1U	врзи	BP3B	BP3N	BP3S	BP2Z	769V	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2	VOA Vials	H2SO4	NaOH+Zr	NaOH p	ниоз рн	pH after	(1112)
001					d																													2.5 / 5
02					2		10° 25	Marian Andreas	<b>强快</b> 点	14000	P.A.K	9-86.2	·4	1	1	¥ * \$1	41°	10	8 = 1	·	441	700				e 25- 5	A <sub>4-100</sub>	jul.	100	W/3	1		i di	2.5 / 5
03													<u> </u>				3																<u> </u>	2.5 / 5
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20					7/4	reas	237	1000		236362	W.	H W	LII	9. W	å v d		影响	<b>6</b> 70		UNIX.			: 261	1 1	4.00	* - 13	额基金	Švi sij		Soc.		<b>新教工</b>	6/11	2.5 / 5
					VOA,	Colif	form,	TOC,					RO, P	henoli	cs, Ot	h <u>er:</u>				<b>-</b>	Hea	dspac	e in V	OA Vi	als (>6	imm) .	□Ye	s 171	<b>1</b> 0 □	N/A	*If ye	s look	in hea	dspace colu
			oer gla					P1U		r plas							9C			ar asc			1		FU	4 oz :		•	,					
			ar glas ber gla		CI			P3U P3B		mL pla mL pla							39T 39U			ber Na ar vial					9U SFU	9 oz : 4 oz :				5				
			mber :			04		73D		mL pla							99U	40 m			•	70								6				
5U	100	mL a	mber	glass	unpre	es	I	P3S		mL pla							9M	1		ar vial		Н			5T			c jar unpres astic Na Thiosulfate					1	
32S	500	mL a	mber	glass	H2SC	04	В	P2Z	500 r	mL pla	astic N	NaOH	+ Zn			VG	9D			ar vial				ZPLC ziploc bag										
33U	250	mL cl	ear gl	ass u	npres	i																			N 1								_	, -
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DC#\_Title: ENV-FRM-GBAY-0014 v03\_SCUR

Effective Date: 8/17/2022

# **Sample Condition Upon Receipt Form (SCUR)**

	,	Project #:
Client Name: DAT Enwannerta	1	WO#:40257105
Courier: CS Logistics Fed Ex Speedee Full		/altco
Client Pace Other:		
Tracking #:		40257105
Custody Seal on Cooler/Box Present: yes no Se		/
	: T yes T no	
Packing Material: Bubble Wrap Bubble Bags		
	Ice Wet	Blue Dry None Meltwater Only
Cooler Temperature Uncorr: 1.0 /Corr: 2.0		Person examining contents:
Temp Blank Present:	iological <sup>*</sup>	Tissue is Frozen: yes no Date: 1/4/25/Initials:
Temp should be above freezing to 6°C. Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.		Labeled By Initials: MA
Chain of Custody Present:	No □N/A	1.
Chain of Custody Filled Out:   ☐Yes ☐	]No □N/A	2.
	]No □N/A	3.
Sampler Name & Signature on COC: ✓ Yes □	No □N/A	4.
Samples Arrived within Hold Time:	INo	5.
- DI VOA Samples frozen upon receipt □Yes □	lNo	Date/Time:
Short Hold Time Analysis (<72hr): □Yes ⊅	ÍNo	6.
Rush Turn Around Time Requested:	ÍNo	7.
Sufficient Volume:		8.
For Analysis: ☑Yes □No MS/MSD: □Yes ☑	No □N/A	
Correct Containers Used:  ☐Yes ☐	lNo	9.
Correct Type (Pace Green Bay) Pace IR, Non-Pace		
Containers Intact:	lNo	10.
Filtered volume received for Dissolved tests		
Sample Labels match COC:	ÎNa) □N/A	12. Date on Samples " 12/6/22"
-Includes date/time/ID/Analysis Matrix:		1/14/2-386
Trip Blank Present: □Yes □	]No [7/N/A	
Trip Blank Custody Seals Present □Yes □	]No ZIN/A	
Pace Trip Blank Lot # (if purchased):		
Client Notification/ Resolution:	D=1 1	If checked, see attached form for additional comments
Person Contacted: Comments/ Resolution:	Date/	I ime:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logic Page 2 of 2