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November 21, 2019

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*  
(October 2019 Results)  
BRRTS #: 02-41-576336 & 02-41-579429  
FID #: 241828620  
Sunrise Shopping Center  
2410-2424 10<sup>th</sup> 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. As discussed in the October 18, 2018, *Design Report Addendum/Remedial Action Plan*, quarterly groundwater sampling will continue to be performed at three (3) monitoring wells on-site. Sampling is performed to monitor any changes in Polynuclear Aromatic Hydrocarbon groundwater contaminant concentrations at MW-3 and MW-4, and to determine the need for any future remedial actions. Sampling is also conducted document Tetrachloroethene groundwater concentrations in MW-5 during and following the chemical injections.

A brief discussion of the quarterly sampling protocol and results of the October 2019 groundwater sampling are included in this quarterly report. The results of the groundwater sample collected from monitoring well MW-5 as part of post-injection progress monitoring are also provided 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 regards to this submission, please contact me at 847-573-8900 extension 580. Thank you for your time.

Sincerely,  
**DAI Environmental, Inc.**



Christopher Cailles, P.E.  
Project Engineer

Enclosure

cc: Steven Dukatt – Carol Investment Corporation (w/enclosure electronically)



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**QUARTERLY GROUNDWATER SAMPLING REPORT  
(OCTOBER 2019 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**

November 21, 2019

DAI Project Number: 6255

**Prepared For:  
Carol Investment Corporation  
1410 South Clinton Street  
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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.

## **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 the 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**

Quarterly groundwater sampling is being conducted at monitoring wells MW-3 to MW-5. The purpose of the quarterly groundwater sampling is to monitor any changes in groundwater contaminant concentrations and determine the need for any future remedial actions. The groundwater sampling will document Tetrachloroethene (Perc) groundwater concentrations during and following the chemical injections as described in October 18, 2018, *Design Report Addendum/Remedial Action Plan* (RAP) approved by the WDNR in a letter dated December 19, 2018. Based upon the historical sampling results provided in the RAP, the quarterly groundwater sampling shall continue 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  $\pm 0.01$  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 SW8270 by HVI.

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 fourth quarter 2019 groundwater sampling event. The static water level elevations were collected from all monitoring wells on October 24, 2019, with the exception of MW-2 which was obstructed at the time of sampling. Table A.6 in Attachment A provides a historical summary of groundwater elevation information.

Review of Table A.6 shows that the October groundwater elevations were slightly higher than observed in July. In general, monitoring wells MW-1 through MW-4 indicate the highest quarterly variability, while MW-5 and MW-201 fluctuate less between quarters. The highest static elevation differences are noted in monitoring wells MW-1 and MW-3, which are located in areas of the Site with known subsurface disturbance.

While some variability in elevation between quarters is noted, the groundwater flow direction is generally consistent. The groundwater flow direction along the southern half of the Site remains northwesterly, and a northerly groundwater flow direction is indicated along the northern half of the Site. The potentiometric surface map generated from the October 2019 data is included as Figure B.3.c.11 (see Attachment B).

### **3.2 Groundwater Analytical Results**

Groundwater samples for the fourth quarter 2019 (i.e., October-December 2019) were collected on October 24, 2019, 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. An additional groundwater sample was also collected from MW-5 in September 2019 to monitor the remedial progress following October's chemical injections. 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 (see Attachment A). The tables are compared to the Preventative Action Limits PAL (s) and Enforcement Standards

listed in Table 1 of NR 140. A copy of the laboratory analytical report for the fourth quarter 2019 sampling is provided in this report as Attachment C.1.E. The laboratory report for the September 2019 sample from MW-5 is also provided in Attachment C.1.E

### **Volatile Organic Compounds**

Table A.1.A summarizes the groundwater results for VOC analyses at MW-5, installed to the rear of the 2410 tenant space (former Sunbrite Cleaners location). As observed in the table, Perc has been consistently noted in monitoring well MW-5, with concentrations exceeding the Enforcement Standard of 0.005-mg/L since February 2016. The recent Perc concentrations observed in MW-5 of 0.0153-mg/L (September) and 0.012-mg/L (October) are generally consistent with the previous two (2) quarters, 0.0114-mg/L (April) and 0.0106-mg/L (July). Figure B.3.b.1a provides a historical summary of Perc groundwater concentrations and the estimated extent of Perc groundwater contamination.

Trichloroethene (TCE), a breakdown product of Perc, was first detected in MW-5 in January 2019. The January and April 2019 concentrations of 0.0027-mg/L and 0.00071-mg/L both exceeded the PAL. However, all subsequent TCE concentrations are below the PAL, with the most recent concentration from October 2019 of 0.00039-mg/L. Figure B.3.b.1b has been added to provide a historical summary of TCE groundwater concentrations.

The chemical injection of RemOx® to remediate the subsurface chlorinated solvent contamination was proposed in the October 2018 RAP, and was approved by WDNR in a letter dated December 19, 2018. The chemical injections were initiated in May 2019 and have been ongoing since then. These chemical injections have primarily targeted the Perc source area located within the 2410-2412 tenant spaces. Chemical injections were also performed outside the building around MW-5 in August 2019.

## **Polynuclear Aromatic Hydrocarbons**

Table A.1.B summarizes the results of the PAH analyses for MW-3 and MW-4. 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 (which is installed in the southern portion of the property where contamination from historical petroleum and/or coal storage is identified) 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 groundwater contamination was observed in MW-3. The most recent October 2019 results remain above the Enforcement Standards and indicate an increase from the July 2019 results, though the concentrations remain an order of magnitude lower than the April 2019 concentration spike. No discernable trend in PAH concentrations can be determined thus far due to the high variability in observed concentrations with time. It appears that the groundwater concentrations are most influenced by fluctuations in the groundwater table elevation changes through the contaminated fill material, particularly in the area for MW-3. However, these impacts are still limited to the area along the southern property boundary.

Several PAH constituents continue to be observed at concentrations above the Limit of Detection (LOD) in MW-4 (installed to the rear of the 2414B tenant space in the approximate location of a former heating oil UST). Consistent with the observations in MW-3, PAH concentrations in MW-4 increased in October 2019. Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene concentrations in MW-4 are all observed slightly above the Enforcement Standards, the first such observation since January 2018. All concentrations were below the PALs in July 2019, and review of the historical data indicates that the Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene concentrations are approximately equal to the PALs. PAH concentrations will be closely observed for signs of an increasing trend, but it is anticipated that concentrations will slowly decline to levels below the PALs.

## **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 historical sump water sample results are also provided in Figure B.3.b.1a.

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 and the results of the sump water sampling will be provided in future quarterly sampling reports.

## **5.0 SUMMARY AND SCHEDULE**

- Perc has been observed in monitoring well MW-5 at concentrations exceeding the Enforcement Standard since February 2016. The concentrations were increasing with time until July 2018 when the pilot-scale chemical injection was performed. The Perc concentration measured in MW-5 in July 2018 indicated a reduction in concentration, demonstrating that the chemical injection activities helped reduce the Perc concentration in the area of MW-5. However, because not all the Perc contamination in the soil was removed during the pilot scale test, the groundwater Perc concentrations rebounded to levels above the Enforcement Standard. Chemical injections in the area of MW-5 were continued in August 2019, although no significant change in groundwater concentration was observed.
- 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. Influent and effluent sampling will continue on a monthly basis.
- The PAH concentrations observed in MW-3 in July and October 2019 are below the results obtained April 2019, but remain above the Enforcement Standards for Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene. The October 2019 Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene concentrations in MW-4 increased from the July 2019 sampling event, but this increase is likely associated with the 0.87-ft increase in groundwater elevation that may have flushed residual contamination from the former tank cavity backfill material into the well.
- The next quarterly sampling event is scheduled for January 2020.

## **APPENDIX A**

### **TABLES**

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

Volatile Organic Compound	Sample Location (Sample Date)				PAL <sup>1</sup>	ES <sup>2</sup>
	TW-2 (11/12/14)	MW-5 (01/27/15)	MW-5 (02/23/16)	MW-5 (05/30/17)		
Benzene	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.005
Bromobenzene	<0.00023	<0.00023	<0.00023	<0.00023	NL	NL
Bromo-chloromethane	<0.00034	<0.00034	<0.00034	<0.00034	NL	NL
Bromo-dichloromethane	<0.0005*	<0.0005*	<0.0005*	<0.0005*	0.00006	0.0006
Bromoform	<0.0005*	<0.0005*	<0.0005*	<0.0005*	0.00044	0.0044
Bromo-methane	<0.0024*	<0.0024*	<0.0024*	<0.0024*	0.001	0.01
n-Butylbenzene	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
sec-Butylbenzene	<0.0022	<0.0022	<0.0022	<0.0022	NL	NL
tert-Butylbenzene	<0.00018	<0.00018	<0.00018	<0.00018	NL	NL
Carbon tetrachloride	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.005
Chlorobenzene	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
Chloroethane	<0.00037	<0.00037	<0.00037	<0.00037	0.08	0.4
Chloroform	<0.0025*	<0.0025*	<0.0025*	<0.0025*	0.0006	0.006
Chloromethane	<0.0005	<0.0005	<0.0005	<0.0005	0.003	0.03
2-Chlorotoluene	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
4-Chlorotoluene	<0.00021	<0.00021	<0.00021	<0.00021	NL	NL
Dibromo-chloromethane	<0.0005	<0.0005	<0.0005	<0.0005	0.006	0.006
1,2-Dibromo-3-chloropropane	<0.0022*	<0.0022*	<0.0022*	<0.0022*	0.00002	0.0002
1,2-Dibromoethane (EDB)	<0.00016*	<0.00018*	<0.00018*	<0.00018*	0.000005	0.00005
Dibromomethane	<0.00043	<0.00043	<0.00043	<0.00043	NL	NL
1,2-Dichlorobenzene	<0.0005	<0.0005	<0.0005	<0.0005	0.06	0.6
1,3-Dichlorobenzene	<0.0005	<0.0005	<0.0005	<0.0005	0.12	0.6
1,4-Dichlorobenzene	<0.0005	<0.0005	<0.0005	<0.0005	0.015	0.075
Dichlorodifluoromethane	<0.0002	<0.00022	<0.00022	<0.00022	0.2	1
1,1-Dichloroethane	<0.00024	<0.00024	<0.00024	<0.00024	0.085	0.85
1,2-Dichloroethane	<0.00017	<0.00017	<0.00017	<0.00017	0.0005	0.005
1,1-Dichloroethene	<0.00041	<0.00041	<0.00041	<0.00041	0.0007	0.007
cis-1,2-Dichloroethene	<0.00026	<0.00026	<0.00026	<0.00026	0.007	0.07
trans-1,2-Dichloroethene	<0.00026	<0.00026	<0.00026	<0.00026	0.02	0.1
1,2-Dichloropropane	<0.00023	<0.00023	<0.00023	<0.00023	0.0005	0.005
1,3-Dichloropropane	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
2,2-Dichloropropane	<0.00048	<0.00048	<0.00048	<0.00048	NL	NL
1,1-Dichloropropene	<0.00044	<0.00044	<0.00044	<0.00044	NL	NL
1,3-Dichloropropene (c & t)	<0.00073*	<0.00073*	<0.00073*	<0.00073*	0.00004	0.0004
Diisopropyl ether	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
Ethylbenzene	<0.0005	<0.0005	<0.0005	<0.0005	0.14	0.7
Hexachloro-1,3-butadiene	<0.0021	<0.0021	<0.0021	<0.0021	NL	NL
Isopropyl benzene	<0.00014	<0.00014	<0.00014	<0.00014	NL	NL
p-Isopropyltoluene	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
Methylene chloride	<0.00023	<0.00023	<0.00023	<0.00023	0.0005	0.005
Methyl tertiary-butyl ether	<0.00017	<0.00017	<0.00017	<0.00017	0.012	0.06
Naphthalene	<0.0025	<0.0025	<0.0025	<0.0025	0.01	0.1
n-Propylbenzene	<0.0005	<0.0005	<0.0005	<0.0005	NL	NL
Styrene	<0.0005	<0.0005	<0.0005	<0.0005	0.01	0.1
1,1,1,2-Tetrachloroethane	<0.00018	<0.00018	<0.00018	<0.00018	0.007	0.07
1,1,2,2-Tetrachloroethane	<0.00025*	<0.00025*	<0.00025*	<0.00025*	0.00002	0.0002
Tetrachloroethene	<b>0.0026</b>	<b>0.0026</b>	<b>0.0083</b>	<b>0.0124</b>	0.0005	0.005

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

Volatile Organic Compound	Sample Location (Sample Date)				PAL <sup>1</sup>	ES <sup>2</sup>
	TW-2 (11/12/14)	MW-5 (01/27/15)	MW-5 (02/23/16)	MW-5 (05/30/17)		
Toluene	<0.0005	<0.0005	<0.0005	<0.0005	0.16	0.8
1,2,3-Trichlorobenzene	<0.0021	<0.0021	<0.0021	<0.0021	NL	NL
1,2,4-Trichlorobenzene	<0.0022	<0.0022	<0.0022	<0.0022	0.014	0.07
1,1,1-Trichloroethane	<0.0005	<0.0005	<0.0005	<0.0005	0.04	0.2
1,1,2-Trichloroethane	<0.00016	<0.0002	<0.0002	<0.0002	0.0005	0.005
Trichloroethylene	<0.00033	<0.00033	<0.00033	<0.00033	0.0005	0.005
Trichlorofluoromethane	<0.00017	<0.00018	<0.00018	<0.00018	0.7	3.5
1,2,3-Trichloropropane	<0.0005	<0.0005	<0.0005	<0.0005	0.012	0.06
1,2,4-Trimethylbenzene	<0.0005	<0.0005	<0.0005	<0.0005	0.096	0.48
1,3,5-Trimethylbenzene	<0.0005	<0.0005	<0.0005	<0.0005		
Vinyl chloride	<0.00018	<0.00018	<0.00018	<0.00018	0.4	2
Xylenes (total)	<0.0015	<0.0015	<0.0015	<0.0015	3.96	260

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

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

**Bold** – Concentration exceeds the PAL

Underlined – Concentration exceeds the PAL and the ES

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

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

NL – Not Listed in NR 140

VOCs via USEPA Method SW8260

NOTE – MW-5 generally duplicated TW-2

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

Volatile Organic Compound	Sample Location (Sample Date)				PAL <sup>1</sup>	ES <sup>2</sup>
	MW-5 (01/05/18)	MW-5 (04/07/18)	MW-5 (07/30/18)	MW-5 (10/11/18)		
Benzene	<0.0005	<0.0005	<0.00025	<0.00025	0.0005	0.005
Bromobenzene	<0.00023	<0.00023	<0.00024	<0.00024	NL	NL
Bromo(chloromethane)	<0.00034	<0.00034	<0.00036	<0.00036	NL	NL
Bromodichloromethane	<0.0005*	<0.0005*	<0.00036*	<0.00036*	0.00006	0.0006
Bromoform	<0.0005*	<0.0005*	<0.004*	<0.004*	0.00044	0.0044
Bromomethane	<0.0024*	<0.0024*	<0.00097	<0.00097	0.001	0.01
n-Butylbenzene	<0.0005	<0.0005	<0.00071	<0.00071	NL	NL
sec-Butylbenzene	<0.0022	<0.0022	<0.00085	<0.00085	NL	NL
tert-Butylbenzene	<0.00018	<0.00018	<0.0003	<0.0003	NL	NL
Carbon tetrachloride	<0.0005	<0.0005	<0.00017	<0.00017	0.0005	0.005
Chlorobenzene	<0.0005	<0.0005	<0.00071	<0.00071	NL	NL
Chloroethane	<0.00037	<0.00037	<0.0013	<0.0013	0.08	0.4
Chloroform	<0.0025*	<0.0025*	<0.0013*	<0.0013*	0.0006	0.006
Chloromethane	<0.0005	<0.0005	<0.0022	<0.0022	0.003	0.03
2-Chlorotoluene	<0.0005	<0.0005	<0.00093	<0.00093	NL	NL
4-Chlorotoluene	<0.00021	<0.00021	<0.00076	<0.00076	NL	NL
Dibromo(chloromethane)	<0.0005	<0.0005	<0.0026	<0.0026	0.006	0.006
1,2-Dibromo-3-chloropropane	<0.0022*	<0.0022*	<0.0018*	<0.0018*	0.00002	0.0002
1,2-Dibromoethane (EDB)	<0.00018*	<0.00018*	<0.00083*	<0.00083*	0.000005	0.00005
Dibromomethane	<0.00043	<0.00043	<0.00094	<0.00094	NL	NL
1,2-Dichlorobenzene	<0.0005	<0.0005	<0.00071	<0.00071	0.06	0.6
1,3-Dichlorobenzene	<0.0005	<0.0005	<0.00063	<0.00063	0.12	0.6
1,4-Dichlorobenzene	<0.0005	<0.0005	<0.00094	<0.00094	0.015	0.075
Dichlorodifluoromethane	<0.00022	<0.00022	<0.0005	<0.0005	0.2	1
1,1-Dichloroethane	<0.00024	<0.00024	<0.00027	<0.00027	0.085	0.85
1,2-Dichloroethane	<0.00017	<0.00017	<0.00028	<0.00028	0.0005	0.005
1,1-Dichloroethene	<0.00041	<0.00041	<0.00024	<0.00024	0.0007	0.007
cis-1,2-Dichloroethene	<0.00026	<0.00026	<0.00027	<0.00027	0.007	0.07
trans-1,2-Dichoroethene	<0.00026	<0.00026	<0.0011	<0.0011	0.02	0.1
1,2-Dichloropropane	<0.00023	<0.00023	<0.00028	<0.00028	0.0005	0.005
1,3-Dichloropropane	<0.0005	<0.0005	<0.00083	<0.00083	NL	NL
2,2-Dichloropropane	<0.00048	<0.00048	<0.0023	<0.0023	NL	NL
1,1-Dichloropropene	<0.00044	<0.00044	<0.00054	<0.00054	NL	NL
1,3-Dichloropropene (c & t)	<0.00073*	<0.00073*	<0.008*	<0.008*	0.00004	0.0004
Diisopropyl ether	<0.0005	<0.0005	<0.0019	<0.0019	NL	NL
Ethylbenzene	<0.0005	<0.0005	<0.00022	<0.00022	0.14	0.7
Hexachloro-1,3-butadiene	<0.0021	<0.0021	<0.0012	<0.0012	NL	NL
Isopropyl benzene	<0.00014	<0.00014	<0.00039	<0.00039	NL	NL
p-Isopropyltoluene	<0.0005	<0.0005	<0.0008	<0.0008	NL	NL
Methylene chloride	<0.00023	<0.00023	<0.00058*	<0.00058*	0.0005	0.005
Methyl tertiary-butyl ether	<0.00017	<0.00017	<0.0012	<0.0012	0.012	0.06
Naphthalene	<0.0025	<0.0025	<0.0012	<0.0012	0.01	0.1
n-Propylbenzene	<0.0005	<0.0005	<0.00081	<0.00081	NL	NL
Styrene	<0.0005	<0.0005	<0.00047	<0.00047	0.01	0.1
1,1,1,2-Tetrachloroethane	<0.00018	<0.00018	<0.00027	<0.00027	0.007	0.07
1,1,2,2-Tetrachloroethane	<0.00025*	<0.00025*	<0.00028*	<0.00028*	0.00002	0.0002

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

Volatile Organic Compound	Sample Location (Sample Date)				PAL <sup>1</sup>	ES <sup>2</sup>
	MW-5 (01/05/18)	MW-5 (04/07/18)	MW-5 (07/30/18)	MW-5 (10/11/18)		
Tetrachloroethene	<b>0.0181</b>	<b>0.0203</b>	<b>0.0086</b>	<b>0.021</b>	0.0005	0.005
Toluene	<0.0005	<0.0005	<0.00017	<0.00017	0.16	0.8
1,2,3-Trichlorobenzene	<0.0021	<0.0021	<0.00063	<0.00063	NL	NL
1,2,4-Trichlorobenzene	<0.0022	<0.0022	<0.00095	<0.00095	0.014	0.07
1,1,1-Trichloroethane	<0.00057	0.000897	0.00088	0.00095 (J)	0.04	0.2
1,1,2-Trichloroethane	<0.0002	<0.0002	<0.00055*	<0.00055*	0.0005	0.005
Trichloroethene	<0.00033	<0.00033	<0.00026	0.00027 (J)	0.0005	0.005
Trichlorofluoromethane	<0.00018	<0.00018	<0.00021	<0.00021	0.7	3.5
1,2,3-Trichloropropane	<0.0005	<0.0005	<0.00059	<0.00059	0.012	0.06
1,2,4-Trimethylbenzene	<0.0005	<0.0005	<0.00084	<0.00084	0.096	0.48
1,3,5-Trimethylbenzene	<0.0005	<0.0005	<0.00087	<0.00087		
Vinyl chloride	<0.00018	<0.00018	<0.00017	<0.00017	0.4	2
Xylenes (total)	<0.0015	<0.0015	<0.00073	<0.00073	3.96	260

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

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

**Bold** – Concentration exceeds the PAL

Underlined – Concentration exceeds the PAL and the ES

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

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

NL – Not Listed in NR 140

VOCs via USEPA Method SW8260

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

Volatile Organic Compound	Sample Location (Sample Date)					PAL <sup>1</sup>	ES <sup>2</sup>
	MW-5 (01/25/19)	MW-5 (04/29/19)	MW-5 (07/07/19)	MW-5 (09/05/19)	MW-5 (10/24/19)		
Benzene	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	0.0005	0.005
Bromobenzene	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	NL	NL
Bromoform	<0.00036	<0.00036	<0.00036	<0.00036	<0.00036	NL	NL
Bromochloromethane	<0.00036*	<0.00036*	<0.00036*	<0.00036*	<0.00036*	0.00006	0.0006
Bromodichloromethane	<0.00036*	<0.00036*	<0.00036*	<0.00036*	<0.00036*	0.00006	0.0006
Bromoform	<0.004*	<0.004*	<0.004*	<0.004*	<0.004*	0.00044	0.0044
Bromomethane	<0.00097	<0.00097	<0.00097	<0.00097	<0.00097	0.001	0.01
n-Butylbenzene	<0.00071	<0.00071	<0.00071	<0.00071	<0.00071	NL	NL
sec-Butylbenzene	<0.00085	<0.00085	<0.00085	<0.00085	<0.00085	NL	NL
tert-Butylbenzene	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	NL	NL
Carbon tetrachloride	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	0.0005	0.005
Chlorobenzene	<0.00071	<0.00071	<0.00071	<0.00071	<0.00071	NL	NL
Chloroethane	<0.0013	0.0036 (J)	<0.0013	<0.0013	<0.0013	0.08	0.4
Chloroform	<0.0013*	<0.0013*	<0.0013*	<0.0013*	<0.0013*	0.0006	0.006
Chloromethane	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	0.003	0.03
2-Chlorotoluene	<0.00093	<0.00093	<0.00093	<0.00093	<0.00093	NL	NL
4-Chlorotoluene	<0.00076	<0.00076	<0.00076	<0.00076	<0.00076	NL	NL
Dibromochloromethane	<0.0026	<0.0026	<0.0026	<0.0026	<0.0026	0.006	0.006
1,2-Dibromo-3-chloropropane	<0.0018*	<0.0018*	<0.0018*	<0.0018*	<0.0018*	0.00002	0.0002
1,2-Dibromoethane (EDB)	<0.00083*	<0.00083*	<0.00083*	<0.00083*	<0.00083*	0.000005	0.00005
Dibromomethane	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	NL	NL
1,2-Dichlorobenzene	<0.00071	<0.00071	<0.00071	<0.00071	<0.00071	0.06	0.6
1,3-Dichlorobenzene	<0.00063	<0.00063	<0.00063	<0.00063	<0.00063	0.12	0.6
1,4-Dichlorobenzene	<0.00094	<0.00094	<0.00094	<0.00094	<0.00094	0.015	0.075
Dichlorodifluoromethane	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.2	1
1,1-Dichloroethane	0.0016	<0.00027	<0.00027	<0.00027	<0.00027	0.085	0.85
1,2-Dichloroethane	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	0.0005	0.005
1,1-Dichloroethene	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	0.0007	0.007
cis-1,2-Dichloroethene	<0.00027	<0.00027	<0.00027	<0.00027	<0.00027	0.007	0.07
trans-1,2-Dichoroethene	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	0.02	0.1
1,2-Dichloropropane	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	0.0005	0.005
1,3-Dichloropropane	<0.00083	<0.00083	<0.00083	<0.00083	<0.00083	NL	NL
2,2-Dichloropropane	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	NL	NL
1,1-Dichloropropene	<0.00054	<0.00054	<0.00054	<0.00054	<0.00054	NL	NL
1,3-Dichloropropene (c & t)	<0.008*	<0.008*	<0.008*	<0.008*	<0.008*	0.00004	0.0004
Diisopropyl ether	<0.0019	<0.0019	<0.0019	<0.0019	--	NL	NL
Ethylbenzene	0.00037 (J)	<0.00022	<0.00022	<0.00022	<0.00022	0.14	0.7
Hexachloro-1,3-butadiene	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	NL	NL
Isopropyl benzene	<0.00039	<0.00039	<0.00039	<0.00039	<0.00039	NL	NL
p-Isopropyltoluene	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	NL	NL
Methylene chloride	<0.00058*	<0.00058*	<0.00058*	<0.00058*	<0.00058*	0.0005	0.005
Methyl tertiary-butyl ether	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	0.012	0.06
Naphthalene	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	0.01	0.1
n-Propylbenzene	<0.00081	<0.00081	<0.00081	<0.00081	<0.00081	NL	NL
Styrene	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	0.01	0.1
1,1,1,2-Tetrachloroethane	<0.00027	<0.00027	<0.00027	<0.00027	<0.00027	0.007	0.07
1,1,2,2-Tetrachloroethane	<0.00028*	<0.00028*	<0.00028*	<0.00028*	<0.00028	0.00002	0.0002

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

Volatile Organic Compound	Sample Location (Sample Date)					PAL <sup>1</sup>	ES <sup>2</sup>
	MW-5 (01/25/19)	MW-5 (04/29/19)	MW-5 (07/07/19)	MW-5 (09/05/19)	MW-5 (10/24/19)		
Tetrachloroethene	<b>0.0065</b>	<b>0.0114</b>	<b>0.0106</b>	<b>0.0153</b>	<b>0.012</b>	0.0005	0.005
Toluene	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	0.16	0.8
1,2,3-Trichlorobenzene	<0.00063	<0.00063	<0.00063	<0.00063	<0.00063	NL	NL
1,2,4-Trichlorobenzene	<0.00095	<0.00095	<0.00095	<0.00095	0.0014 (J)	0.014	0.07
1,1,1-Trichloroethane	0.0003 (J)	0.00041 (J)	0.00038 (J)	0.00046 (J)	0.00041 (J)	0.04	0.2
1,1,2-Trichloroethane	<0.00055*	<0.00055*	<0.00055*	<0.00055*	<0.00055*	0.0005	0.005
Trichloroethene	<b>0.0027</b>	<b>0.00071 (J)</b>	0.00048 (J)	0.00038 (J)	0.00039 (J)	0.0005	0.005
Trichlorofluoromethane	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	0.7	3.5
1,2,3-Trichloropropane	<0.00059	<0.00059	<0.00059	<0.00059	<0.00059	0.012	0.06
1,2,4-Trimethylbenzene	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084	0.096	0.48
1,3,5-Trimethylbenzene	<0.00087	<0.00087	<0.00087	<0.00087	<0.00087		
Vinyl chloride	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	0.4	2
Xylenes (total)	0.0039	<0.00073	<0.00073	<0.0015	<0.0015	3.96	260

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

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

**Bold** – Concentration exceeds the PAL

Underlined – Concentration exceeds the PAL and the ES

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

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

NL – Not Listed in NR 140

VOCs via USEPA Method SW8260

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

Polynuclear Aromatic	Sample Location (Sample Date)						PAL <sup>1</sup>	ES <sup>2</sup>
	TW-5 (11/13/14)	MW-3 (01/27/15)	MW-3 (05/30/17)	MW-3 (01/05/18)	MW-3 (04/07/18)	MW-3 (07/30/18)		
Acenaphthene	0.00076	0.0000043 (J)	0.000026 (J)	0.0000077 (J)	0.000029	0.000014 (J)	NL	NL
Acenaphthylene	0.00013	0.0000036 (J)	0.000016 (J)	<0.0000045	0.000053	0.000023	NL	NL
Anthracene	0.00056	<0.0000023	0.00013	0.000031 (J)	0.00015	0.000073	0.6	3
Benzo(a)anthracene	0.00069	<0.0000031	0.00073	0.0000069 (J)	0.001	0.00043	NL	NL
Benzo(a)pyrene	<b>0.0006</b>	0.000011 (J)	<b>0.001</b>	<0.0000096	<b>0.0019</b>	<b>0.00068</b>	0.00002	0.0002
Benzo(b)fluoranthene	<b>0.00077</b>	0.00002 (J)	<b>0.002</b>	<b>0.000037</b>	<b>0.0039</b>	<b>0.0013</b>	0.00002	0.0002
Benzo(g,h,i)perylene	0.0004	0.000016 (J)	0.0011	0.00018 (J)	0.0025	0.00082	NL	NL
Benzo(k)fluoranthene	0.00029	0.00001 (J)	0.00068	0.000014 (J)	0.0014	0.00041	NL	NL
Chrysene	<b>0.00084</b>	<b>0.000028 (J)</b>	<b>0.0015</b>	<b>0.000047 (J)</b>	<b>0.003</b>	<b>0.00095</b>	0.00002	0.0002
Dibenzo(a,h)anthracene	0.000091	<0.0000032	0.00022	<0.0000091	0.00034	0.00015	NL	NL
Fluoranthene	0.0024	0.000041 (J)	0.0031	0.00021	0.0052	0.0019	0.08	0.4
Fluorene	0.0011	0.0000035 (J)	0.000052	0.000022 (J)	0.000048	0.00004	0.08	0.4
Indeno(1,2,3-cd)pyrene	0.0003	0.0000081 (J)	0.00086	<0.000016	0.0021	0.00089	NL	NL
1-Methylnaphthalene	0.002	0.0000091 (J)	0.00018	0.00016	0.000033	0.000033	NL	NL
2-Methylnaphthalene	0.00017	0.0000084 (J)	0.00013	0.00016	0.000024	0.000031	NL	NL
Naphthalene	0.00016	<0.0000056	0.00012	0.00046	0.000051	0.000053 (J)	0.017	0.1
Phenanthrene	0.0021	0.000043 (J)	0.00071	0.000085	0.0013	0.00047	NL	NL
Pyrene	0.0025	0.000059	0.002	0.00011	0.0037	0.0012	0.05	0.25

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

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

**Bold** – Concentration exceeds the PAL

Underlined – 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

PNAs via USEPA Method SW8270SIM

NOTE – MW-3 installed to duplicate TW-5

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

Polynuclear Aromatic	Sample Location (Sample Date)					PAL <sup>1</sup>	ES <sup>2</sup>
	MW-3 (10/11/18)	MW-3 (01/25/19)	MW-3 (04/29/19)	MW-3 (07/07/19)	MW-3 (10/24/19)		
Acenaphthene	0.00001 (J)	0.0000068 (J)	0.0015	0.000023 (J)	0.00016	NL	NL
Acenaphthylene	<0.0000045	<0.0000047	0.0027	0.000084	0.00043	NL	NL
Anthracene	0.00002 (J)	0.000027 (J)	0.0089	0.00013	0.00088	0.6	3
Benzo(a)anthracene	0.000017 (J)	0.000053	0.11	0.00087	0.009	NL	NL
Benzo(a)pyrene	<b>0.000024 (J)</b>	<b>0.00017</b>	<b>0.115</b>	<b>0.0019</b>	<b>0.015</b>	0.00002	0.0002
Benzo(b)fluoranthene	<b>0.000074</b>	<b>0.00034</b>	<b>0.209</b>	<b>0.0036</b>	<b>0.03</b>	0.00002	0.0002
Benzo(g,h,i)perylene	0.000037	0.00023	0.132	0.0025	0.018	NL	NL
Benzo(k)fluoranthene	0.000026 (J)	0.00012	0.0643	0.0016	0.0095	NL	NL
Chrysene	<b>0.000079</b>	<b>0.00028</b>	<b>0.13</b>	<b>0.0026</b>	<b>0.016</b>	0.00002	0.0002
Dibenzo(a,h)anthracene	<0.000009	0.000034 (J)	0.0258	0.00028	0.0034	NL	NL
Fluoranthene	0.00026	0.00043	<b>0.248</b>	0.0035	0.025	0.08	0.4
Fluorene	0.000031 (J)	0.000014 (J)	0.0028	0.000037	0.00022	0.08	0.4
Indeno(1,2,3-cd)pyrene	0.000027 (J)	0.00016	0.108	0.0019	0.014	NL	NL
1-Methylnaphthalene	0.000019 (J)	0.000013 (J)	0.0003	0.000011 (J)	--	NL	NL
2-Methylnaphthalene	0.000015 (J)	0.000012 (J)	0.00025	0.000014 (J)	--	NL	NL
Naphthalene	0.000032 (J)	0.000022 (J)	0.00035	0.000019 (J)	0.00015	0.017	0.1
Phenanthrene	0.000093	0.00011	0.066	0.00079	0.0061	NL	NL
Pyrene	0.0002	0.00031	<b>0.21</b>	0.0029	0.024	0.05	0.25

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

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

**Bold** – Concentration exceeds the PAL

Underlined – 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

PNAAs via USEPA Method SW8270SIM

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

Polynuclear Aromatic	Sample Location (Sample Date)						PAL <sup>1</sup>	ES <sup>2</sup>
	TW-6 (11/13/14)	MW-4 (01/27/15)	MW-4 (02/23/16)	MW-4 (05/30/17)	MW-4 (01/05/18)	MW-4 (04/07/18)		
Acenaphthene	0.00049	0.0000039 (J)	0.00056	0.0386	0.0246	0.0031	NL	NL
Acenaphthylene	0.00012	0.000084	0.000073	0.0166	0.0083	0.00073	NL	NL
Anthracene	0.00006	0.00006	0.00011	0.0018 (J)	0.0019	0.00051	0.6	3
Benzo(a)anthracene	0.000013 (J)	<0.0000032	0.0000082 (J)	0.00044 (J)	<0.00014	0.000012 (J)	NL	NL
Benzo(a)pyrene	0.0000053 (J)	0.000017 (J)	0.000006 (J)	<0.00049	<0.0002	<0.0000095	0.00002	0.0002
Benzo(b)fluoranthene	0.0000093 (J)	<b>0.000043 (J)</b>	0.000014 (J)	<0.00027	<b>0.00022 (J)</b>	0.0000096 (J)	0.00002	0.0002
Benzo(g,h,i)perylene	0.0000071 (J)	0.000025 (J)	0.0000081 (J)	<0.00031	<0.00013	<0.0000061	NL	NL
Benzo(k)fluoranthene	<0.000005	0.000021 (J)	<0.0000051	<0.00035	<0.00014	<0.0000068	NL	NL
Chrysene	<b>0.000021 (J)</b>	<b>0.000042 (J)</b>	0.000017 (J)	<b>0.0018 (J)</b>	<b>0.001 (J)</b>	<b>0.000031 (J)</b>	0.00002	0.0002
Dibenzo(a,h)anthracene	<0.0000035	<0.0000033	<0.0000051	<0.00046	<0.00019	<0.000009	NL	NL
Fluoranthene	0.00004 (J)	0.000049	0.00003 (J)	0.0037	0.0046	0.0001	0.08	0.4
Fluorene	0.00061	0.000031 (J)	0.00051	0.0759	0.0504	0.0053	0.08	0.4
Indeno(1,2,3-cd)pyrene	0.0000044 (J)	0.000017 (J)	0.0000056 (J)	<0.00082	<0.00033	<0.000016	NL	NL
1-Methylnaphthalene	0.0087	0.000076	0.0041	0.357	0.183	0.0109	NL	NL
2-Methylnaphthalene	0.0065	0.000066	0.000037 (J)	0.0747	0.0126	0.00026	NL	NL
Naphthalene	0.0022	0.00027	0.00017	<b>0.0243</b>	<b>0.0151</b>	0.0022	0.01	0.1
Phenanthrene	0.00062	0.000033 (J)	0.00029	0.165	0.102	0.0033	NL	NL
Pyrene	0.00006	0.0001	0.000081	0.0165	0.0102	0.00032	0.05	0.25

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

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

**Bold** – Concentration exceeds the PAL

Underlined – 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

PNAs via USEPA Method SW8270SIM

NOTE – MW-4 installed to duplicate TW-6

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

Polynuclear Aromatic	Sample Location (Sample Date)						PAL <sup>1</sup>	ES <sup>2</sup>
	MW-4 (07/30/18)	MW-4 (10/11/18)	MW-4 (01/25/19)	MW-4 (04/29/19)	MW-4 (07/07/19)	MW-4 (10/24/19)		
Acenaphthene	0.0021	0.004	0.0016	0.0033	0.0028	0.01	NL	NL
Acenaphthylene	0.00064	0.00091	0.00024	0.00059	0.0005	0.0029	NL	NL
Anthracene	0.00024	0.001	0.000093	0.00033	0.00044	0.0068	0.6	3
Benzo(a)anthracene	<0.000035	0.00004 (J)	0.0000076 (J)	0.000061	<0.000026	0.00069	NL	NL
Benzo(a)pyrene	<b>&lt;0.000048</b>	<b>&lt;0.000029</b>	<0.0000095	<b>0.000041 (J)</b>	<0.000037	<b>0.00045</b>	0.00002	0.0002
Benzo(b)fluoranthene	<b>&lt;0.000026</b>	<b>0.000022</b>	0.000012 (J)	<b>0.000093</b>	<0.00002	<b>0.00086</b>	0.00002	0.0002
Benzo(g,h,i)perylene	<0.000031	<0.000018	<0.0000061	0.000045	<0.000024	0.00049	NL	NL
Benzo(k)fluoranthene	<0.000035	<0.000021	0.000016 (J)	0.00005	<0.000026	0.00038	NL	NL
Chrysene	<b>&lt;0.00006</b>	<b>0.000084 (J)</b>	<b>0.000033 (J)</b>	<b>0.00017</b>	<0.000046	<b>0.0016</b>	0.00002	0.0002
Dibenz(a,h)anthracene	<0.000046	<0.000027	<0.000009	0.0000091 (J)	<0.000035	0.000074 (J)	NL	NL
Fluoranthene	0.000061 (J)	0.00019	0.000091	0.0004	0.00011 (J)	0.0026	0.08	0.4
Fluorene	0.0035	0.0067	0.0022	0.0046	0.0044	0.019	0.08	0.4
Indeno(1,2,3-cd)pyrene	<0.000081	<0.000048	<0.000016	0.00004 (J)	<0.000062	0.00033 (J)	NL	NL
1-Methylnaphthalene	0.0395	0.0268	0.006	0.0151	0.0174	--	NL	NL
2-Methylnaphthalene	0.00051	0.00021	0.000048	0.00026	0.00048	--	NL	NL
Naphthalene	0.0015	0.00081	0.00078	0.0014	0.0034	0.0026	0.01	0.1
Phenanthrene	0.0031	0.0059	0.00077	0.0037	0.0013	0.026	NL	NL
Pyrene	0.00017 (J)	0.0001	0.00021	0.0014	0.00037	0.0096	0.05	0.25

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

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

**Bold** – Concentration exceeds the PAL

Underlined – 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

PNAs via USEPA Method SW8270SIM

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

Sample Location	Sample Date	Tetrachloroethene
Sump	11/04/19	<u>0.008</u>
	10/02/19	<u>0.0069</u>
	09/05/19	<u>0.0076</u>
	08/02/19	<u>0.005</u>
	07/19/19	<u>0.0062</u>
	06/25/19	<u>0.0054</u>
	06/06/19	<u>0.0069</u>
	05/29/19	<u>0.0043</u>
	05/23/19	<u>0.0042</u>
	05/15/19	<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>
<b>PAL<sup>1</sup></b>		<b>0.0005</b>
<b>Enforcement Standard<sup>2</sup></b>		<b>0.005</b>

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

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

**Bold** – Concentration exceeds the PAL

Underlined – Concentration exceeds the PAL and the ES

NOTE – All other VOCs reported below the Limit of Detection

VOCs via USEPA Method SW8260

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

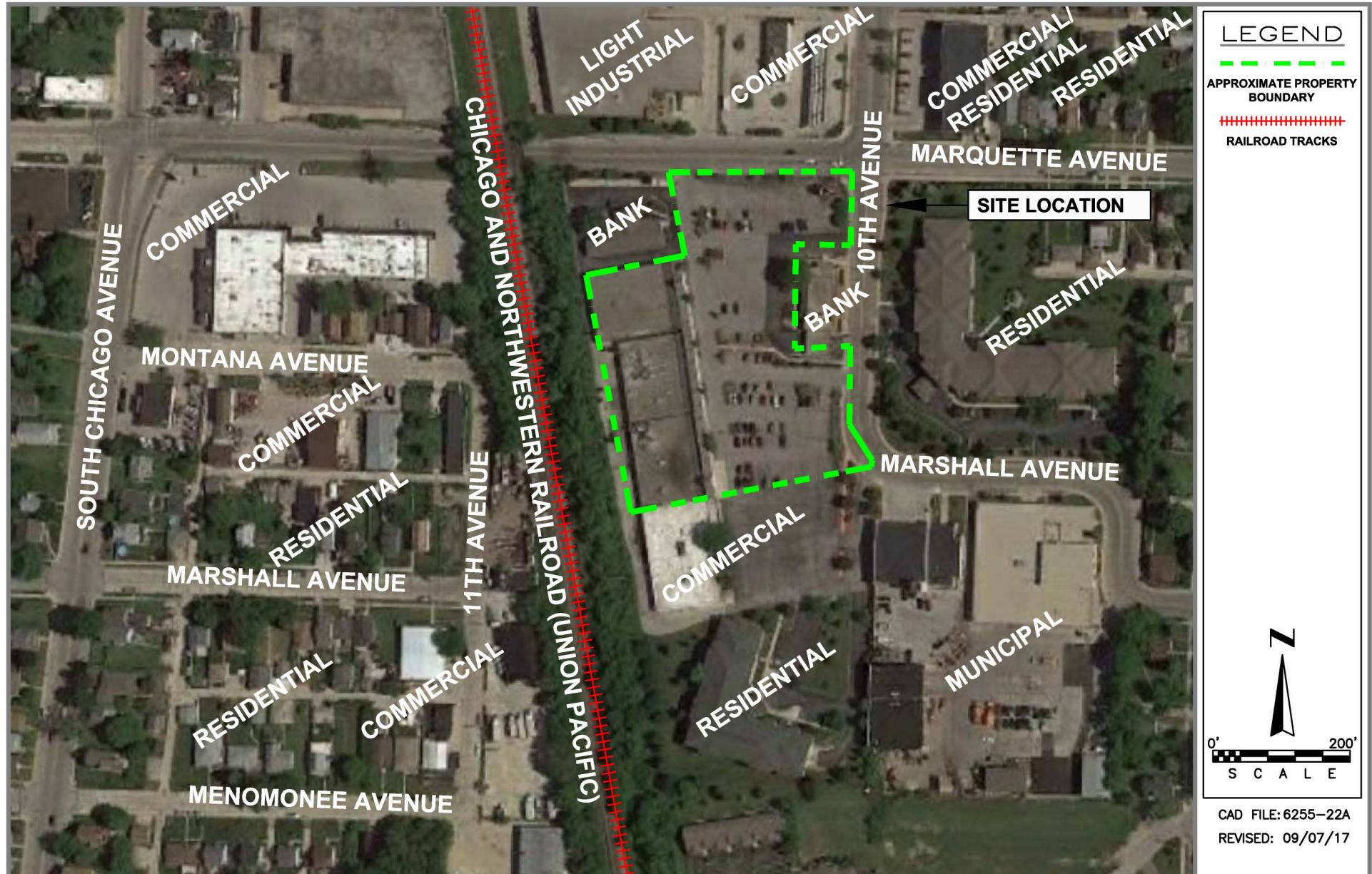
Monitoring Well	Top of Casing Elevation*	Date	Measured Depth to Groundwater (ft)	Measured Depth to Well Bottom (ft)	Relative Groundwater Elevation (ft)
MW-1	99.13	10/24/19	3.07		96.06
		07/07/19	3.46		95.67
		04/29/19	2.35		96.78
		01/25/19	4.65		94.48
		10/11/18	1.66		97.47
		07/30/18	3.32	14.49	95.81
		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
MW-2	100.75	10/14/19	Obstructed		--
		07/07/19	7.51		93.24
		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	14.41	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
MW-3	100.05	10/14/19	3.61		96.44
		07/07/19	3.73		96.32
		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	14.46	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
MW-4	100.57	10/24/19	6.14		94.43
		07/07/19	6.98		93.59
		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	14.57	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)	Measured Depth to Well Bottom (ft)	Relative Groundwater Elevation (ft)
MW-5	100.24	10/24/19	5.98	14.60	94.26
		07/07/19	6.25		93.99
		04/29/19	6.33		93.91
		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
MW-201	100.10	10/24/19	6.57	14.57	93.53
		07/07/19	6.72		93.38
		04/29/19	6.82		93.28
		01/25/19	6.88		93.22
		10/11/18	6.22		93.88
		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
		01/27/15	Not Installed		Not Installed

\* – Relative Elevation based upon generic 100-ft on-site datum and survey data collected on January 27, 2015, and March 30, 2015.

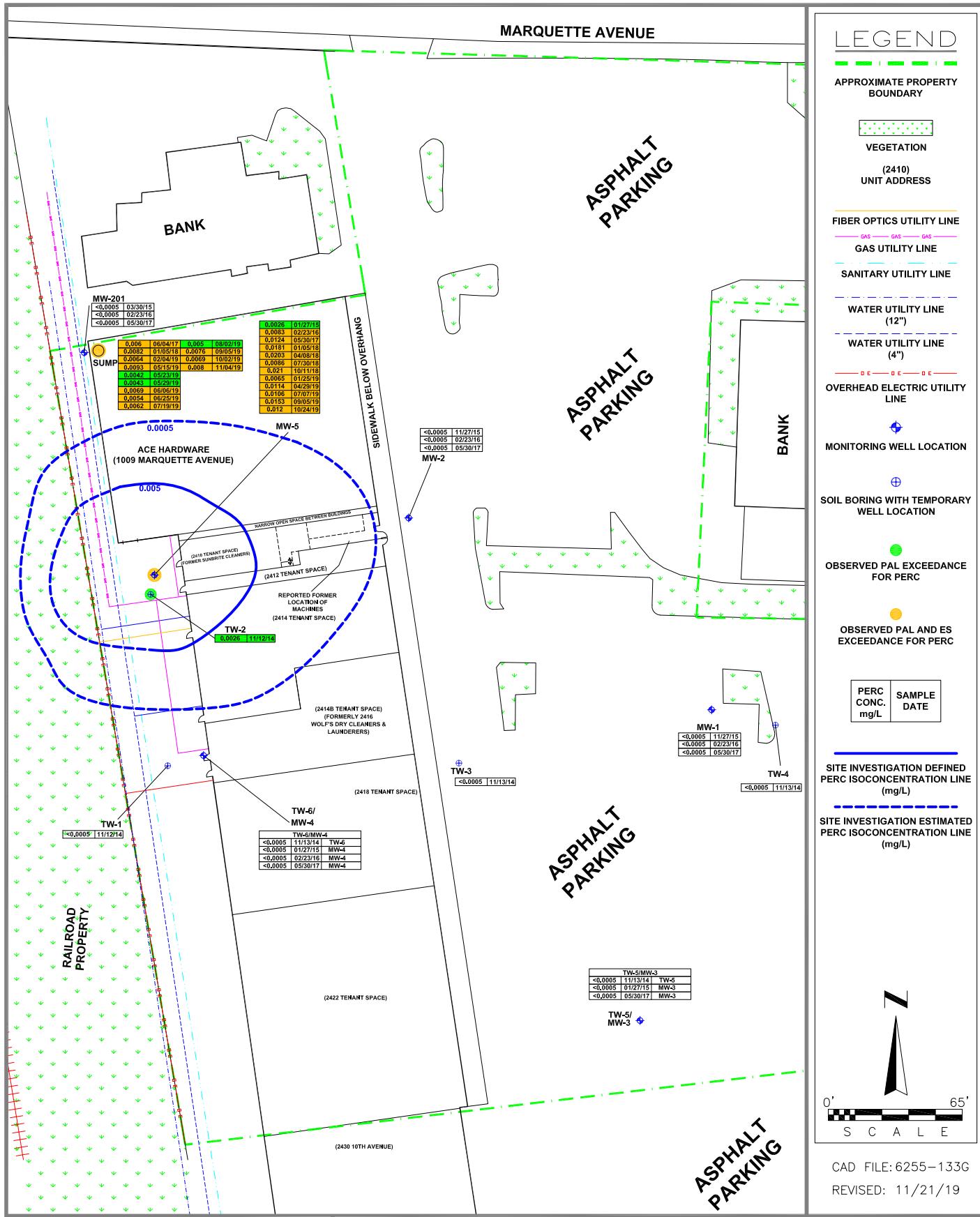
## **APPENDIX B FIGURES**



**DAI**  
ENVIRONMENTAL

SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN

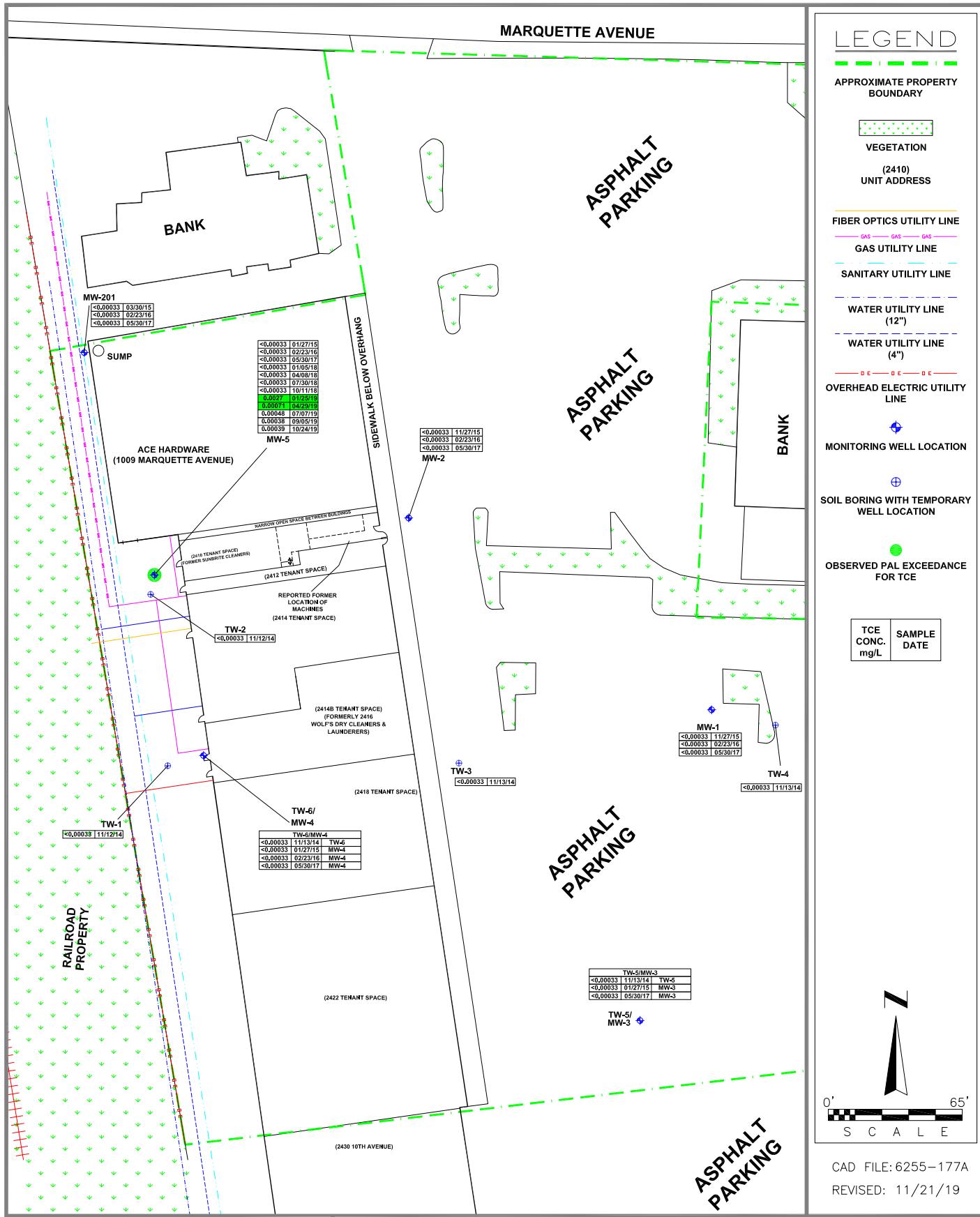
**FIGURE B.1.b.1**  
DETAILED SITE MAP WITH AERIAL VIEW  
OF SITE AND SURROUNDING PROPERTY  
(2015 AERIAL TAKEN FROM GOOGLE EARTH)



# D&I ENVIRONMENTAL

SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN

**FIGURE B.3.b.1a  
GROUNDWATER  
ISOCONCENTRATION  
(PERC)**

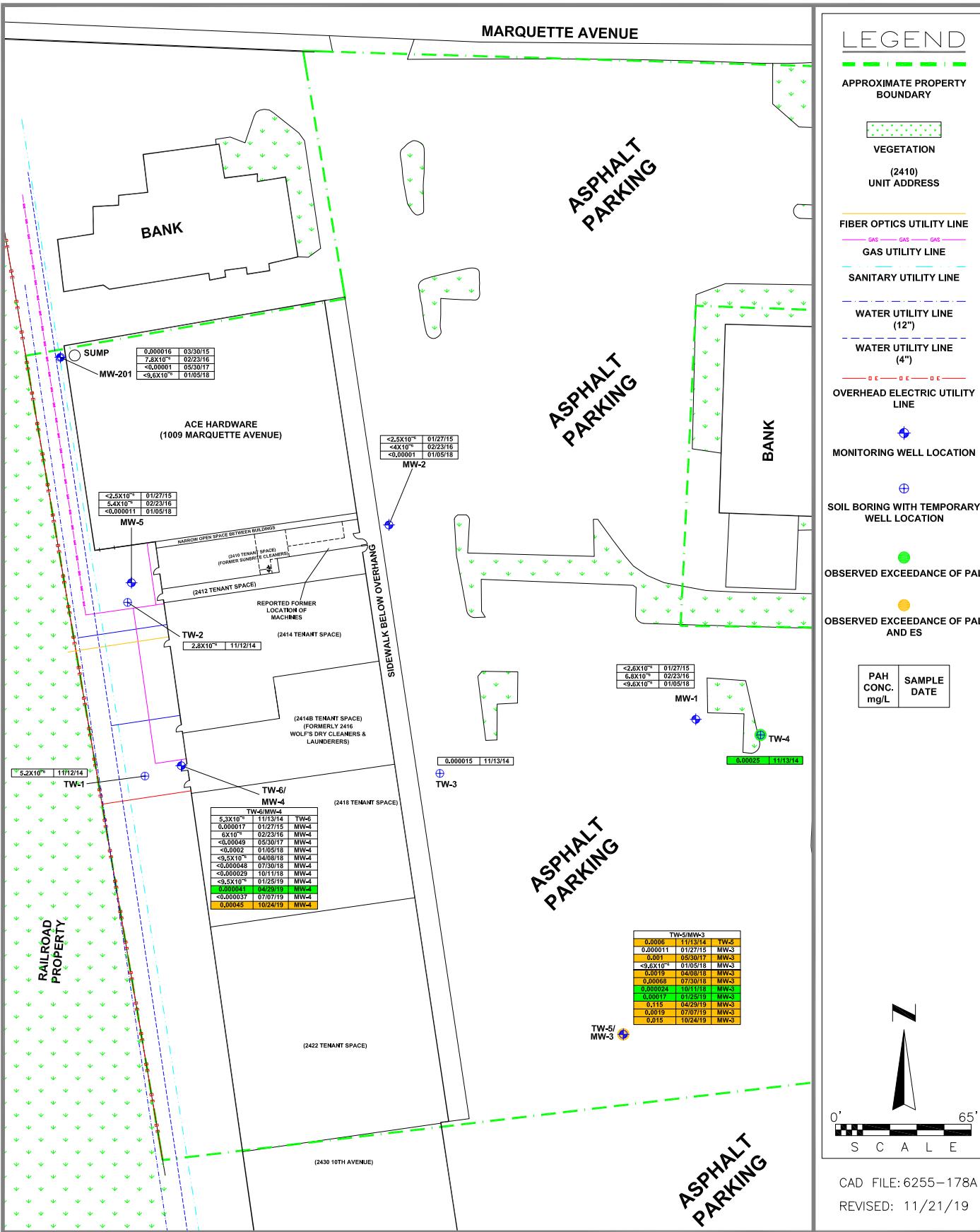


# DAI ENVIRONMENTAL

**SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN**

**FIGURE B.3.b.1b  
GROUNDWATER  
ISOCONCENTRATION  
(TCE)**

MARQUETTE AVENUE

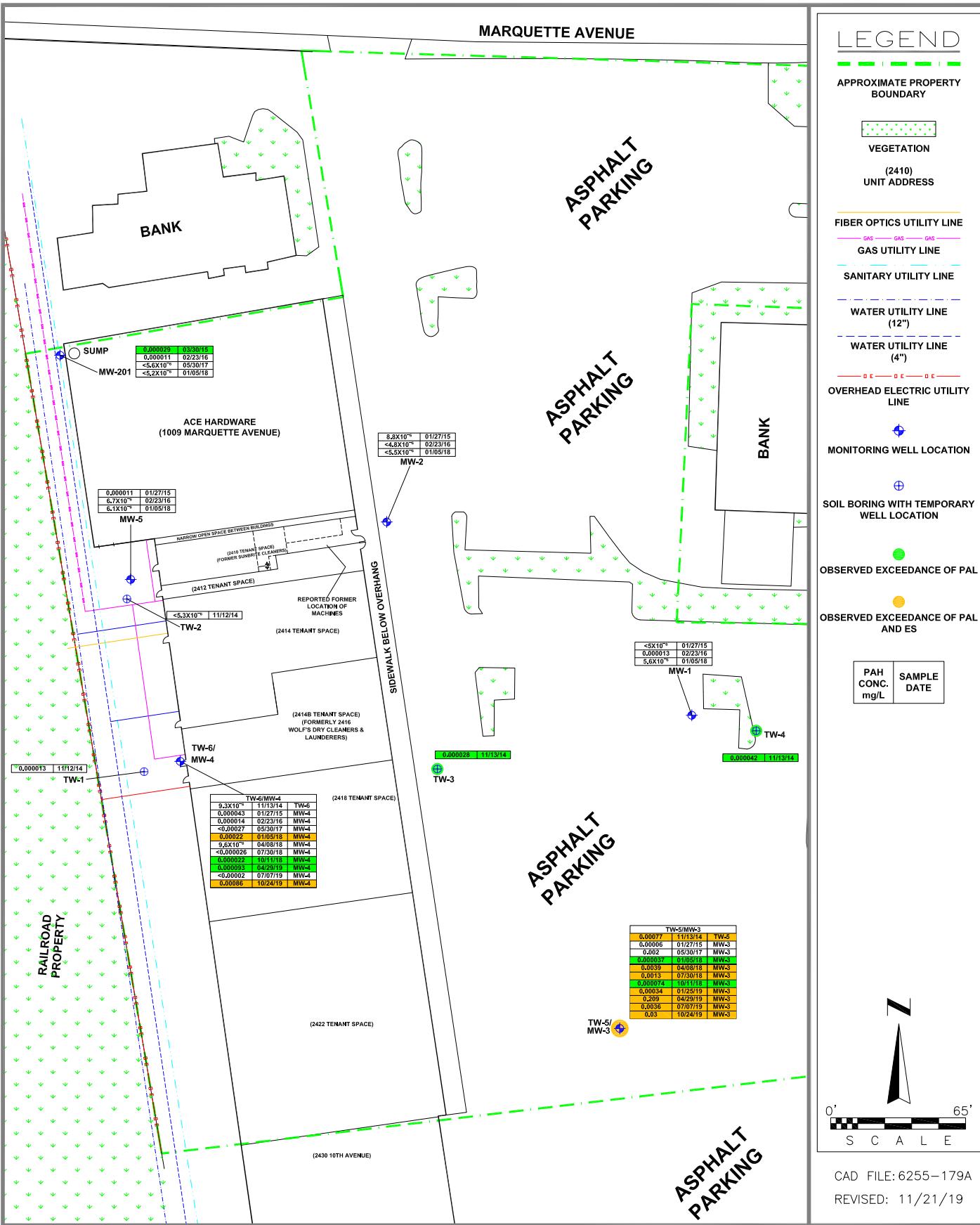


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SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN

FIGURE B.3.b.2a  
GROUNDWATER  
ISOCONCENTRATION  
(BENZO(A)PYRENE)

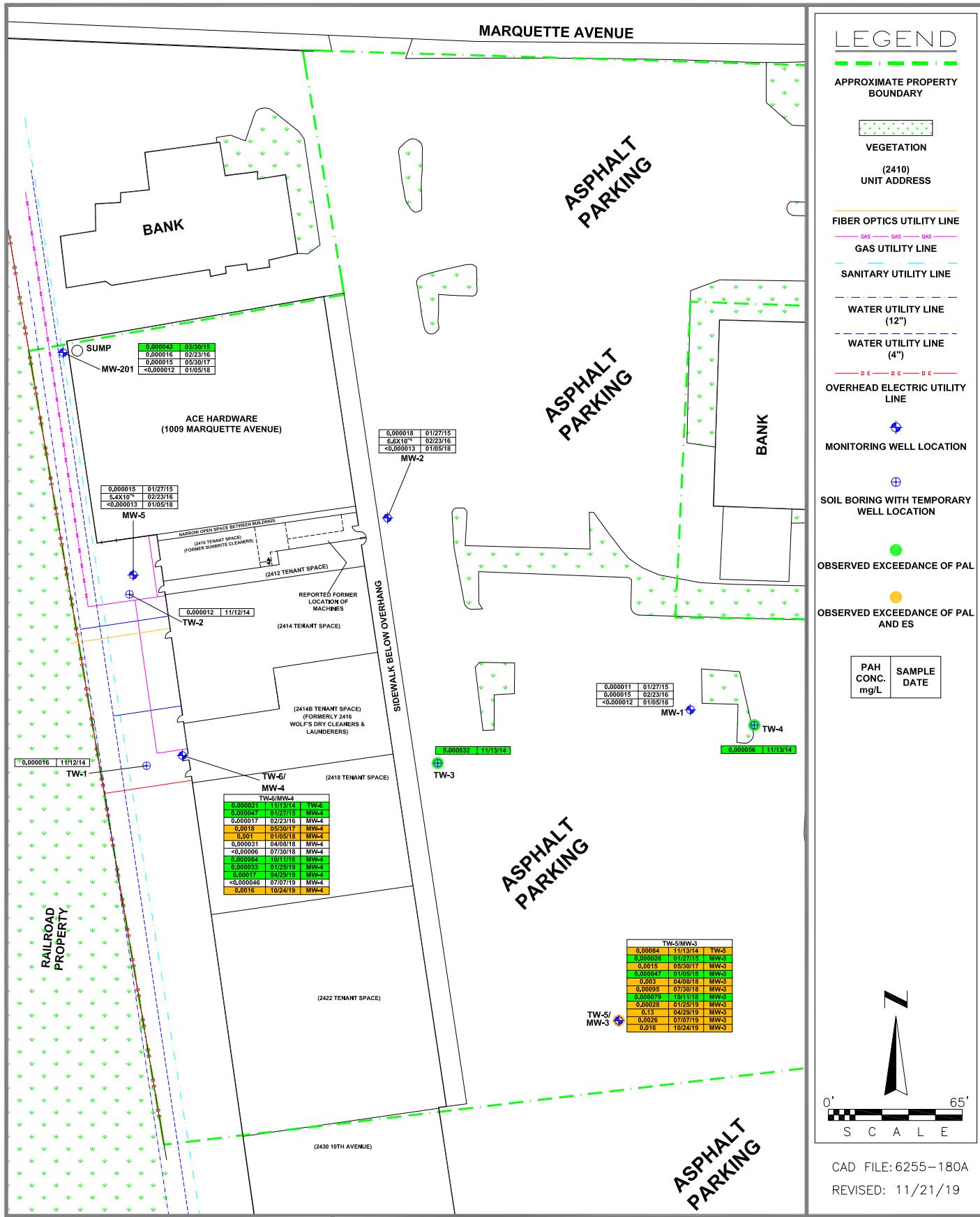
MARQUETTE AVENUE



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SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN

FIGURE B.3.b.2b  
GROUNDWATER  
ISOCONCENTRATION  
(BENZO(B)FLUORANTHENE)



# DAI ENVIRONMENTAL

**SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN**

**FIGURE B.3.b.2c  
GROUNDWATER  
ISOCONCENTRATION  
(CHRYSENE)**

MARQUETTE AVENUE

LEGEND

APPROXIMATE PROPERTY BOUNDARY



VEGETATION

(2410) UNIT ADDRESS

FIBER OPTICS UTILITY LINE

GAS UTILITY LINE

SANITARY UTILITY LINE

WATER UTILITY LINE (12")

WATER UTILITY LINE (4")

OVERHEAD ELECTRIC UTILITY LINE



MONITORING WELL LOCATION



SOIL BORING WITH TEMPORARY WELL LOCATION



OBSERVED EXCEEDANCE OF PAL



OBSERVED EXCEEDANCE OF PAL AND ES

PAH CONC. mg/L

SAMPLE DATE



MARQUETTE AVENUE

LEGEND

APPROXIMATE PROPERTY BOUNDARY



VEGETATION

(2410) UNIT ADDRESS

FIBER OPTICS UTILITY LINE

GAS UTILITY LINE

SANITARY UTILITY LINE

WATER UTILITY LINE (12")

WATER UTILITY LINE (4")

OVERHEAD ELECTRIC UTILITY LINE



MONITORING WELL LOCATION

96.78

GROUNDWATER ELEVATION

OBS

WELL OBSTRUCTED

POTENIOMETRIC SURFACE

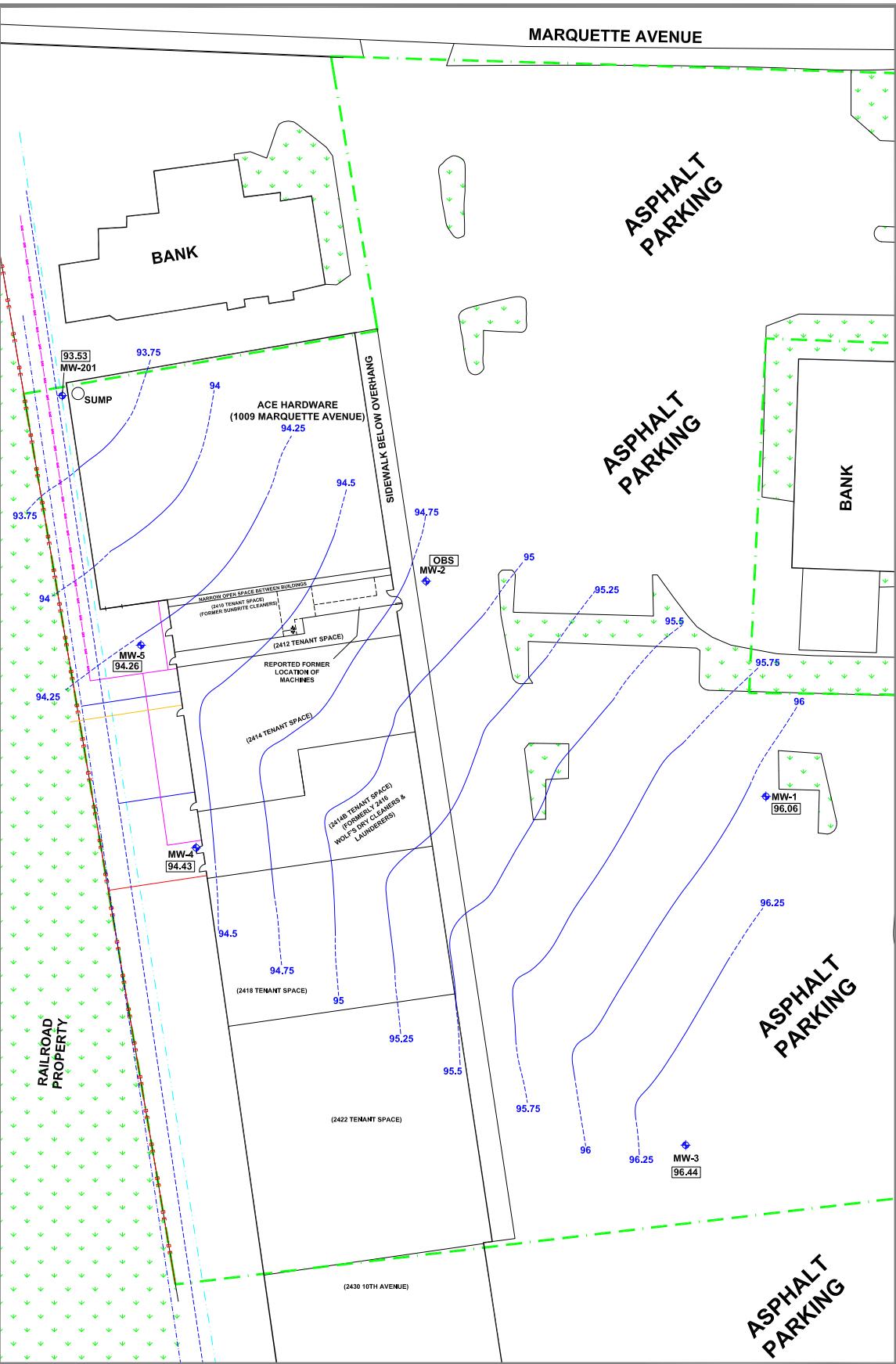
INFERRED POTENIOMETRIC SURFACE



0'  
S C A L E  
65'

CAD FILE: 6255-168D

REVISED: 11/21/19

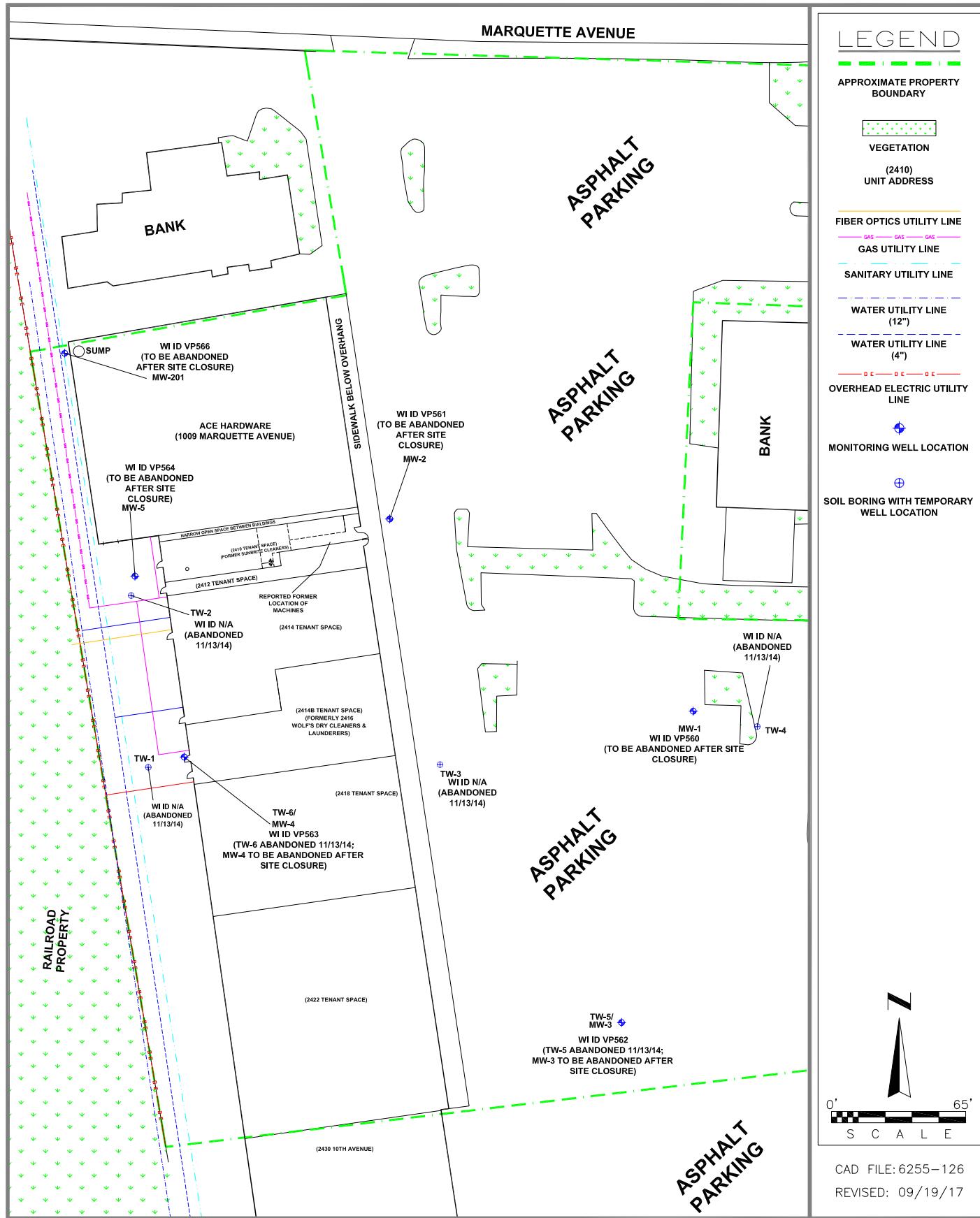


DAM  
ENVIRONMENTAL

SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN

FIGURE B.3.c.11  
GROUNDWATER FLOW DIRECTION  
(OCTOBER 24, 2019)

## MARQUETTE AVENUE



**D**  
**ENVIRONMENTAL**

SUNRISE SHOPPING CENTER  
2410-2424 10TH AVENUE  
1009 MARQUETTE AVENUE  
SOUTH MILWAUKEE, WISCONSIN

FIGURE B.3.d  
MONITORING WELLS

CAD FILE: 6255-126  
REVISED: 09/19/17

**APPENDIX C.1.E  
LABORATORY ANALYTICAL REPORTS  
(SEPTEMBER 2019 AND FOURTH QUARTER 2019)**

September 11, 2019

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

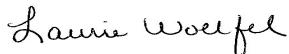
RE: Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

Dear Chris Cailles:

Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Laurie Woelfel  
laurie.woelfel@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Jenny Rovzar, DAI



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

---

### Green Bay Certification IDs

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

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40194479

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40194479001	MW-5	Water	09/05/19 12:07	09/06/19 09:25

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40194479001	MW-5	EPA 8260	HNW	64

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

Sample: MW-5	Lab ID: 40194479001	Collected: 09/05/19 12:07	Received: 09/06/19 09:25	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<0.25	ug/L	1.0	0.25	1		09/10/19 14:03	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		09/10/19 14:03	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		09/10/19 14:03	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		09/10/19 14:03	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		09/10/19 14:03	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		09/10/19 14:03	74-83-9	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		09/10/19 14:03	104-51-8	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		09/10/19 14:03	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		09/10/19 14:03	98-06-6	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		09/10/19 14:03	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		09/10/19 14:03	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		09/10/19 14:03	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		09/10/19 14:03	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		09/10/19 14:03	74-87-3	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		09/10/19 14:03	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		09/10/19 14:03	106-43-4	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		09/10/19 14:03	96-12-8	L2
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		09/10/19 14:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		09/10/19 14:03	106-93-4	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		09/10/19 14:03	74-95-3	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		09/10/19 14:03	95-50-1	
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		09/10/19 14:03	541-73-1	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		09/10/19 14:03	106-46-7	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		09/10/19 14:03	75-71-8	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		09/10/19 14:03	75-34-3	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		09/10/19 14:03	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		09/10/19 14:03	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		09/10/19 14:03	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		09/10/19 14:03	156-60-5	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		09/10/19 14:03	78-87-5	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		09/10/19 14:03	142-28-9	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		09/10/19 14:03	594-20-7	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		09/10/19 14:03	563-58-6	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		09/10/19 14:03	10061-01-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		09/10/19 14:03	10061-02-6	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		09/10/19 14:03	108-20-3	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		09/10/19 14:03	100-41-4	
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		09/10/19 14:03	87-68-3	
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		09/10/19 14:03	98-82-8	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		09/10/19 14:03	99-87-6	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		09/10/19 14:03	75-09-2	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		09/10/19 14:03	1634-04-4	
Naphthalene	<1.2	ug/L	5.0	1.2	1		09/10/19 14:03	91-20-3	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		09/10/19 14:03	103-65-1	
Styrene	<0.47	ug/L	1.6	0.47	1		09/10/19 14:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		09/10/19 14:03	630-20-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

Sample: MW-5	Lab ID: 40194479001	Collected: 09/05/19 12:07	Received: 09/06/19 09:25	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		09/10/19 14:03	79-34-5	
Tetrachloroethene	15.3	ug/L	1.1	0.33	1		09/10/19 14:03	127-18-4	
Toluene	<0.17	ug/L	5.0	0.17	1		09/10/19 14:03	108-88-3	
1,2,3-Trichlorobenzene	<0.63	ug/L	5.0	0.63	1		09/10/19 14:03	87-61-6	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		09/10/19 14:03	120-82-1	L2
1,1,1-Trichloroethane	0.46J	ug/L	1.0	0.24	1		09/10/19 14:03	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		09/10/19 14:03	79-00-5	
Trichloroethene	0.38J	ug/L	1.0	0.26	1		09/10/19 14:03	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		09/10/19 14:03	75-69-4	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		09/10/19 14:03	96-18-4	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		09/10/19 14:03	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		09/10/19 14:03	108-67-8	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		09/10/19 14:03	75-01-4	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		09/10/19 14:03	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		09/10/19 14:03	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	78	%	70-130		1		09/10/19 14:03	460-00-4	
Dibromofluoromethane (S)	124	%	70-130		1		09/10/19 14:03	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		09/10/19 14:03	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40194479

QC Batch:	333093	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples: 40194479001			

METHOD BLANK: 1934228	Matrix: Water
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Associated Lab Samples: 40194479001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	09/10/19 06:37	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	09/10/19 06:37	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	09/10/19 06:37	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	09/10/19 06:37	
1,1-Dichloroethane	ug/L	<0.27	1.0	09/10/19 06:37	
1,1-Dichloroethene	ug/L	<0.24	1.0	09/10/19 06:37	
1,1-Dichloropropene	ug/L	<0.54	1.8	09/10/19 06:37	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	09/10/19 06:37	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	09/10/19 06:37	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	09/10/19 06:37	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	09/10/19 06:37	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	09/10/19 06:37	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	09/10/19 06:37	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	09/10/19 06:37	
1,2-Dichloroethane	ug/L	<0.28	1.0	09/10/19 06:37	
1,2-Dichloropropane	ug/L	<0.28	1.0	09/10/19 06:37	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	09/10/19 06:37	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	09/10/19 06:37	
1,3-Dichloropropane	ug/L	<0.83	2.8	09/10/19 06:37	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	09/10/19 06:37	
2,2-Dichloropropane	ug/L	<2.3	7.6	09/10/19 06:37	
2-Chlorotoluene	ug/L	<0.93	5.0	09/10/19 06:37	
4-Chlorotoluene	ug/L	<0.76	2.5	09/10/19 06:37	
Benzene	ug/L	<0.25	1.0	09/10/19 06:37	
Bromobenzene	ug/L	<0.24	1.0	09/10/19 06:37	
Bromochloromethane	ug/L	<0.36	5.0	09/10/19 06:37	
Bromodichloromethane	ug/L	<0.36	1.2	09/10/19 06:37	
Bromoform	ug/L	<4.0	13.2	09/10/19 06:37	
Bromomethane	ug/L	<0.97	5.0	09/10/19 06:37	
Carbon tetrachloride	ug/L	<0.17	1.0	09/10/19 06:37	
Chlorobenzene	ug/L	<0.71	2.4	09/10/19 06:37	
Chloroethane	ug/L	<1.3	5.0	09/10/19 06:37	
Chloroform	ug/L	<1.3	5.0	09/10/19 06:37	
Chloromethane	ug/L	<2.2	7.3	09/10/19 06:37	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	09/10/19 06:37	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	09/10/19 06:37	
Dibromochloromethane	ug/L	<2.6	8.7	09/10/19 06:37	
Dibromomethane	ug/L	<0.94	3.1	09/10/19 06:37	
Dichlorodifluoromethane	ug/L	<0.50	5.0	09/10/19 06:37	
Diisopropyl ether	ug/L	<1.9	6.3	09/10/19 06:37	
Ethylbenzene	ug/L	<0.22	1.0	09/10/19 06:37	

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40194479

METHOD BLANK: 1934228

Matrix: Water

Associated Lab Samples: 40194479001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	1.2J	5.0	09/10/19 06:37	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	09/10/19 06:37	
m&p-Xylene	ug/L	<0.47	2.0	09/10/19 06:37	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	09/10/19 06:37	
Methylene Chloride	ug/L	<0.58	5.0	09/10/19 06:37	
n-Butylbenzene	ug/L	<0.71	2.4	09/10/19 06:37	
n-Propylbenzene	ug/L	<0.81	5.0	09/10/19 06:37	
Naphthalene	ug/L	<1.2	5.0	09/10/19 06:37	
o-Xylene	ug/L	<0.26	1.0	09/10/19 06:37	
p-Isopropyltoluene	ug/L	<0.80	2.7	09/10/19 06:37	
sec-Butylbenzene	ug/L	<0.85	5.0	09/10/19 06:37	
Styrene	ug/L	<0.47	1.6	09/10/19 06:37	
tert-Butylbenzene	ug/L	<0.30	1.0	09/10/19 06:37	
Tetrachloroethene	ug/L	<0.33	1.1	09/10/19 06:37	
Toluene	ug/L	<0.17	5.0	09/10/19 06:37	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	09/10/19 06:37	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	09/10/19 06:37	
Trichloroethene	ug/L	<0.26	1.0	09/10/19 06:37	
Trichlorofluoromethane	ug/L	<0.21	1.0	09/10/19 06:37	
Vinyl chloride	ug/L	<0.17	1.0	09/10/19 06:37	
4-Bromofluorobenzene (S)	%	78	70-130	09/10/19 06:37	
Dibromofluoromethane (S)	%	118	70-130	09/10/19 06:37	
Toluene-d8 (S)	%	96	70-130	09/10/19 06:37	

LABORATORY CONTROL SAMPLE: 1934229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.7	87	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	40.9	82	70-130	
1,1,2-Trichloroethane	ug/L	50	48.7	97	70-130	
1,1-Dichloroethane	ug/L	50	42.7	85	73-150	
1,1-Dichloroethene	ug/L	50	43.2	86	73-138	
1,2,4-Trichlorobenzene	ug/L	50	33.5	67	70-130 L2	
1,2-Dibromo-3-chloropropane	ug/L	50	27.7	55	64-129 L2	
1,2-Dibromoethane (EDB)	ug/L	50	44.4	89	70-130	
1,2-Dichlorobenzene	ug/L	50	42.8	86	70-130	
1,2-Dichloroethane	ug/L	50	45.7	91	75-140	
1,2-Dichloropropane	ug/L	50	55.5	111	73-135	
1,3-Dichlorobenzene	ug/L	50	40.8	82	70-130	
1,4-Dichlorobenzene	ug/L	50	47.5	95	70-130	
Benzene	ug/L	50	45.5	91	70-130	
Bromodichloromethane	ug/L	50	47.7	95	70-130	
Bromoform	ug/L	50	40.5	81	68-129	
Bromomethane	ug/L	50	37.6	75	18-159	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40194479

**LABORATORY CONTROL SAMPLE: 1934229**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	46.6	93	70-130	
Chlorobenzene	ug/L	50	51.2	102	70-130	
Chloroethane	ug/L	50	36.4	73	53-147	
Chloroform	ug/L	50	44.3	89	74-136	
Chloromethane	ug/L	50	29.4	59	29-115	
cis-1,2-Dichloroethene	ug/L	50	49.1	98	70-130	
cis-1,3-Dichloropropene	ug/L	50	37.2	74	70-130	
Dibromochloromethane	ug/L	50	46.4	93	70-130	
Dichlorodifluoromethane	ug/L	50	22.1	44	10-130	
Ethylbenzene	ug/L	50	48.3	97	80-124	
Isopropylbenzene (Cumene)	ug/L	50	47.8	96	70-130	
m&p-Xylene	ug/L	100	106	106	70-130	
Methyl-tert-butyl ether	ug/L	50	31.8	64	54-137	
Methylene Chloride	ug/L	50	42.3	85	73-138	
o-Xylene	ug/L	50	47.7	95	70-130	
Styrene	ug/L	50	51.7	103	70-130	
Tetrachloroethene	ug/L	50	51.6	103	70-130	
Toluene	ug/L	50	51.3	103	80-126	
trans-1,2-Dichloroethene	ug/L	50	42.8	86	73-145	
trans-1,3-Dichloropropene	ug/L	50	35.2	70	70-130	
Trichloroethene	ug/L	50	49.7	99	70-130	
Trichlorofluoromethane	ug/L	50	47.6	95	76-147	
Vinyl chloride	ug/L	50	35.1	70	51-120	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

**MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1935088**

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		40194442001	Spike Result	Spike Conc.	Conc.	MS Result	MSD Result	% Rec	MSD % Rec				
1,1,1-Trichloroethane	ug/L	<0.24	50	50	47.1	50.1	94	100	70-130	6	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	43.1	45.3	86	91	70-130	5	20		
1,1,2-Trichloroethane	ug/L	<0.55	50	50	51.6	53.7	103	107	70-137	4	20		
1,1-Dichloroethane	ug/L	<0.27	50	50	46.4	49.8	93	100	73-153	7	20		
1,1-Dichloroethene	ug/L	<0.24	50	50	48.9	52.2	98	104	73-138	7	20		
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	37.0	39.7	74	79	70-130	7	20		
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	30.5	32.0	61	64	58-129	5	20		
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	47.4	49.8	95	100	70-130	5	20		
1,2-Dichlorobenzene	ug/L	<0.71	50	50	45.4	47.8	91	96	70-130	5	20		
1,2-Dichloroethane	ug/L	<0.28	50	50	48.2	51.0	96	102	75-140	6	20		
1,2-Dichloropropene	ug/L	<0.28	50	50	59.6	62.2	119	124	71-138	4	20		
1,3-Dichlorobenzene	ug/L	<0.63	50	50	43.7	46.1	87	92	70-130	5	20		
1,4-Dichlorobenzene	ug/L	<0.94	50	50	49.8	51.9	100	104	70-130	4	20		

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40194479

Parameter	Units	40194442001		MS		MSD		1935089					
		Result	Spike Conc.	Spike	Conc.	MS Result	MSD	MS % Rec	MSD % Rec	% Rec	RPD	Max RPD	
				Conc.	Result	Result	% Rec	Limits					
Benzene	ug/L	<0.25	50	50	49.2	52.3	98	105	70-130	6	20		
Bromodichloromethane	ug/L	<0.36	50	50	50.1	52.2	100	104	70-130	4	20		
Bromoform	ug/L	<4.0	50	50	42.2	43.5	84	87	68-129	3	20		
Bromomethane	ug/L	<0.97	50	50	47.4	53.9	95	108	15-170	13	20		
Carbon tetrachloride	ug/L	<0.17	50	50	50.2	52.9	100	106	70-130	5	20		
Chlorobenzene	ug/L	<0.71	50	50	54.3	56.6	109	113	70-130	4	20		
Chloroethane	ug/L	<1.3	50	50	42.3	46.0	85	92	51-148	8	20		
Chloroform	ug/L	<1.3	50	50	47.3	50.3	95	101	74-136	6	20		
Chloromethane	ug/L	<2.2	50	50	40.2	43.8	77	84	23-115	8	20		
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	53.4	57.2	107	114	70-131	7	20		
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	39.7	42.0	79	84	70-130	6	20		
Dibromochloromethane	ug/L	<2.6	50	50	49.2	51.0	98	102	70-130	3	20		
Dichlorodifluoromethane	ug/L	<0.50	50	50	40.3	41.8	81	84	10-132	3	20		
Ethylbenzene	ug/L	<0.22	50	50	51.7	53.7	103	107	80-125	4	20		
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	50.8	53.1	102	106	70-130	4	20		
m&p-Xylene	ug/L	<0.47	100	100	113	118	113	118	70-130	4	20		
Methyl-tert-butyl ether	ug/L	<1.2	50	50	34.9	37.6	70	75	51-145	8	20		
Methylene Chloride	ug/L	<0.58	50	50	46.3	49.3	93	99	73-140	6	20		
o-Xylene	ug/L	<0.26	50	50	51.3	53.2	103	106	70-130	4	20		
Styrene	ug/L	<0.47	50	50	55.2	57.3	110	115	70-130	4	20		
Tetrachloroethene	ug/L	<0.33	50	50	54.8	57.0	110	114	70-130	4	20		
Toluene	ug/L	<0.17	50	50	54.4	56.7	109	113	80-131	4	20		
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	47.2	50.3	94	101	73-148	6	20		
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	38.5	40.4	77	81	70-130	5	20		
Trichloroethene	ug/L	<0.26	50	50	52.6	55.4	105	111	70-130	5	20		
Trichlorofluoromethane	ug/L	<0.21	50	50	53.9	57.1	108	114	74-147	6	20		
Vinyl chloride	ug/L	<0.17	50	50	45.0	48.2	90	96	41-129	7	20		
4-Bromofluorobenzene (S)	%							101	101	70-130			
Dibromofluoromethane (S)	%							103	103	70-130			
Toluene-d8 (S)	%							100	99	70-130			

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## QUALIFIERS

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

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### 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.

### ANALYTE QUALIFIERS

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40194479

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40194479001	MW-5	EPA 8260	333093		

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

40194479  
Page 13 of 15

**Section A**

Required Client Information:

Company: DAI

Address: LAKE FOREST, IL

Email To: CAILES.CDAIEMA.com

Phone: 8475728400

Fax:

Requested Due Date/TAT:

**Section B**

Required Project Information:

Report To: CHRIS CAILES

Copy To:

Purchase Order No.:

Project Name: GL55

Project Number: ✓ SUNRISE SHOPPING

**Section C**

Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager:

Pace Profile #:

Page: 1 of 1

2289157

**REGULATORY AGENCY**
 NPDES    GROUND WATER    DRINKING WATER

 UST    RCRA    OTHER \_\_\_\_\_

Site Location:

STATE: WI

**Requested Analysis Filtered (Y/N)**

ITEM #	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Matrix Codes		SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test ↓	Y/N ↓	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.		
		MATRIX / CODE	MATRIX CODE (see valid codes to left)		COMPOSITE START		COMPOSITE END/GRAB				H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other					
		DATE	TIME		DATE	TIME																
1	MW-5	6/6/19	16:00		9/5/19	1207			3	3	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	X	✓	✓	001
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION				DATE	TIME	ACCEPTED BY / AFFILIATION				DATE	TIME	SAMPLE CONDITIONS							
<i>✓</i> on			<i>Mary Farnan 9/5/19 1235</i>				<i>Mary Farnan 9/5/19 1225</i>															
<i>Mary Farnan 9/5/19</i>			<i>LS Logistics 9/6/19 0925</i>				<i>P. John Farnan 9/6/19 0925</i>															

ORIGINAL

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed  
(MM/DD/YY):

Temp in °C

Received on  
Ice (Y/N)

Custody  
Sealed Cooler  
(Y/N)

Samples intact  
(Y/N)

# Sample Preservation Receipt Form

Client Name: DAI

Project # 46194479

Pace Analytical Services, LLC of 15  
1241 Bellevue Street, Suite 94  
Green Bay, WI 54302  
Page 14

All containers needing preservation have been checked and noted below:  Yes  No  N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/  
Time:

Pace Lab #	Glass		Plastic		Vials		Jars		General		VOA Vials (>6mm)*	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)								
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BPIU	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC
001																									2.5 / 5 / 10
002																									2.5 / 5 / 10
003																									2.5 / 5 / 10
004																									2.5 / 5 / 10
005																									2.5 / 5 / 10
006																									2.5 / 5 / 10
007																									2.5 / 5 / 10
008																									2.5 / 5 / 10
009																									2.5 / 5 / 10
010																									2.5 / 5 / 10
011																									2.5 / 5 / 10
012																									2.5 / 5 / 10
013																									2.5 / 5 / 10
014																									2.5 / 5 / 10
015																									2.5 / 5 / 10
016																									2.5 / 5 / 10
017																									2.5 / 5 / 10
018																									2.5 / 5 / 10
019																									2.5 / 5 / 10
020																									2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other.

Headspace in VOA Vials (>6mm) :  Yes  No  N/A \*If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	



Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

1241 Bellevue Street, Green Bay, WI 54302

## Sample Condition Upon Receipt Form (SCUR)

Project #: \_\_\_\_\_

Client Name: JAICourier:  CS Logistics  Fed Ex  Speedee  UPS  Waltco  
 Client  Pace Other: \_\_\_\_\_WO# : **40194479**

40194479

Tracking #:

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  noCustody Seal on Samples Present:  yes  no Seals intact:  yes  noPacking Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_Thermometer Used SR - NA Type of Ice: Wet Blue Dry None  Samples on ice, cooling process has begunCooler Temperature Uncorr: 80 /Corr: \_\_\_\_\_Temp Blank Present:  yes  noBiological Tissue is Frozen:  yes  no

Person examining contents:

Date: 9/6/19Initials: PL

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished: <u>9/6/19 PL</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>PL</u> <u>9/6/19 PL</u>
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:	8.	
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u> <u>9/6/19 PL</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

## Client Notification/ Resolution:

If checked, see attached form for additional comments 

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: ClerDate: 9/6/19

November 08, 2019

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

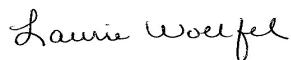
RE: Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Dear Chris Cailles:

Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Laurie Woelfel  
laurie.woelfel@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Jenny Rovzar, DAI



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

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### Green Bay Certification IDs

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

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40198087001	MW-5	Water	10/24/19 12:50	10/26/19 08:10
40198087002	MW-4	Water	10/24/19 13:30	10/26/19 08:10
40198087003	MW-3	Water	10/24/19 14:00	10/26/19 08:10

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40198087001	MW-5	EPA 8260	HNW	67
40198087002	MW-4	EPA 8270 by HVI	TPO	18
40198087003	MW-3	EPA 8270 by HVI	TPO	18

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>40198087001</b>	<b>MW-5</b>					
EPA 8260	1,1,1-Trichloroethane	0.00041J	mg/L	0.0010	10/29/19 13:52	
EPA 8260	1,2,4-Trichlorobenzene	0.0014J	mg/L	0.0050	10/29/19 13:52	1q
EPA 8260	Carbon disulfide	0.00045J	mg/L	0.0050	10/29/19 13:52	
EPA 8260	Tetrachloroethene	0.012	mg/L	0.0011	10/29/19 13:52	
EPA 8260	Trichloroethene	0.00039J	mg/L	0.0010	10/29/19 13:52	
<b>40198087002</b>	<b>MW-4</b>					
EPA 8270 by HVI	Acenaphthene	0.010	mg/L	0.00012	10/31/19 03:04	
EPA 8270 by HVI	Acenaphthylene	0.0029	mg/L	0.00010	10/31/19 03:04	
EPA 8270 by HVI	Anthracene	0.0068	mg/L	0.00021	10/31/19 03:04	
EPA 8270 by HVI	Benzo(a)anthracene	0.00069	mg/L	0.00015	10/31/19 03:04	
EPA 8270 by HVI	Benzo(a)pyrene	0.00045	mg/L	0.00021	10/31/19 03:04	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.00086	mg/L	0.00011	10/31/19 03:04	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.00049	mg/L	0.00014	10/31/19 03:04	
EPA 8270 by HVI	Benzo(k)fluoranthene	0.00038	mg/L	0.00015	10/31/19 03:04	
EPA 8270 by HVI	Chrysene	0.0016	mg/L	0.00026	10/31/19 03:04	
EPA 8270 by HVI	Dibenz(a,h)anthracene	0.000074J	mg/L	0.00020	10/31/19 03:04	
EPA 8270 by HVI	Fluoranthene	0.0026	mg/L	0.00021	10/31/19 03:04	
EPA 8270 by HVI	Fluorene	0.019	mg/L	0.00016	10/31/19 03:04	
EPA 8270 by HVI	Indeno(1,2,3-cd)pyrene	0.00033J	mg/L	0.00035	10/31/19 03:04	
EPA 8270 by HVI	Naphthalene	0.0026	mg/L	0.00037	10/31/19 03:04	
EPA 8270 by HVI	Phenanthrene	0.026	mg/L	0.00028	10/31/19 03:04	
EPA 8270 by HVI	Pyrene	0.0096	mg/L	0.00015	10/31/19 03:04	
<b>40198087003</b>	<b>MW-3</b>					
EPA 8270 by HVI	Acenaphthene	0.00016	mg/L	0.000029	10/30/19 16:40	
EPA 8270 by HVI	Acenaphthylene	0.00043	mg/L	0.000023	10/30/19 16:40	
EPA 8270 by HVI	Anthracene	0.00088	mg/L	0.000049	10/30/19 16:40	
EPA 8270 by HVI	Benzo(a)anthracene	0.0090	mg/L	0.000036	10/30/19 16:40	
EPA 8270 by HVI	Benzo(a)pyrene	0.015	mg/L	0.000050	10/30/19 16:40	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.030	mg/L	0.000081	10/31/19 11:56	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.018	mg/L	0.000032	10/30/19 16:40	
EPA 8270 by HVI	Benzo(k)fluoranthene	0.0095	mg/L	0.000036	10/30/19 16:40	
EPA 8270 by HVI	Chrysene	0.016	mg/L	0.000062	10/30/19 16:40	
EPA 8270 by HVI	Dibenz(a,h)anthracene	0.0034	mg/L	0.000047	10/30/19 16:40	
EPA 8270 by HVI	Fluoranthene	0.025	mg/L	0.00015	10/31/19 11:56	
EPA 8270 by HVI	Fluorene	0.00022	mg/L	0.000038	10/30/19 16:40	
EPA 8270 by HVI	Indeno(1,2,3-cd)pyrene	0.014	mg/L	0.000083	10/30/19 16:40	
EPA 8270 by HVI	Naphthalene	0.00015	mg/L	0.000086	10/30/19 16:40	
EPA 8270 by HVI	Phenanthrene	0.0061	mg/L	0.000065	10/30/19 16:40	
EPA 8270 by HVI	Pyrene	0.024	mg/L	0.00011	10/31/19 11:56	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Sample: MW-5	Lab ID: 40198087001	Collected: 10/24/19 12:50	Received: 10/26/19 08:10	Matrix: Water					
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	<0.00027	mg/L	0.0010	0.00027	1		10/29/19 13:52	630-20-6	
1,1,1-Trichloroethane	0.00041J	mg/L	0.0010	0.00024	1		10/29/19 13:52	71-55-6	
1,1,2,2-Tetrachloroethane	<0.00028	mg/L	0.0010	0.00028	1		10/29/19 13:52	79-34-5	
1,1,2-Trichloroethane	<0.00055	mg/L	0.0050	0.00055	1		10/29/19 13:52	79-00-5	
1,1-Dichloroethane	<0.00027	mg/L	0.0010	0.00027	1		10/29/19 13:52	75-34-3	
1,1-Dichloroethene	<0.00024	mg/L	0.0010	0.00024	1		10/29/19 13:52	75-35-4	
1,1-Dichloropropene	<0.00054	mg/L	0.0018	0.00054	1		10/29/19 13:52	563-58-6	
1,2,3-Trichlorobenzene	<0.00063	mg/L	0.0050	0.00063	1		10/29/19 13:52	87-61-6	
1,2,3-Trichloropropane	<0.00059	mg/L	0.0050	0.00059	1		10/29/19 13:52	96-18-4	
1,2,4-Trichlorobenzene	0.0014J	mg/L	0.0050	0.00095	1		10/29/19 13:52	120-82-1	1q
1,2,4-Trimethylbenzene	<0.00084	mg/L	0.0028	0.00084	1		10/29/19 13:52	95-63-6	
1,2-Dibromo-3-chloropropane	<0.0018	mg/L	0.0059	0.0018	1		10/29/19 13:52	96-12-8	
1,2-Dibromoethane (EDB)	<0.00083	mg/L	0.0028	0.00083	1		10/29/19 13:52	106-93-4	
1,2-Dichlorobenzene	<0.00071	mg/L	0.0024	0.00071	1		10/29/19 13:52	95-50-1	
1,2-Dichloroethane	<0.00028	mg/L	0.0010	0.00028	1		10/29/19 13:52	107-06-2	
1,2-Dichloropropane	<0.00028	mg/L	0.0010	0.00028	1		10/29/19 13:52	78-87-5	
1,3,5-Trimethylbenzene	<0.00087	mg/L	0.0029	0.00087	1		10/29/19 13:52	108-67-8	
1,3-Dichlorobenzene	<0.00063	mg/L	0.0021	0.00063	1		10/29/19 13:52	541-73-1	
1,3-Dichloropropane	<0.00083	mg/L	0.0028	0.00083	1		10/29/19 13:52	142-28-9	
1,4-Dichlorobenzene	<0.00094	mg/L	0.0031	0.00094	1		10/29/19 13:52	106-46-7	
2,2-Dichloropropane	<0.0023	mg/L	0.0076	0.0023	1		10/29/19 13:52	594-20-7	
2-Butanone (MEK)	<0.0029	mg/L	0.020	0.0029	1		10/29/19 13:52	78-93-3	
2-Chlorotoluene	<0.00093	mg/L	0.0050	0.00093	1		10/29/19 13:52	95-49-8	
2-Hexanone	<0.0025	mg/L	0.0082	0.0025	1		10/29/19 13:52	591-78-6	
4-Chlorotoluene	<0.00076	mg/L	0.0025	0.00076	1		10/29/19 13:52	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.0015	mg/L	0.0051	0.0015	1		10/29/19 13:52	108-10-1	
Acetone	<0.0027	mg/L	0.020	0.0027	1		10/29/19 13:52	67-64-1	
Benzene	<0.00025	mg/L	0.0010	0.00025	1		10/29/19 13:52	71-43-2	
Bromobenzene	<0.00024	mg/L	0.0010	0.00024	1		10/29/19 13:52	108-86-1	
Bromochloromethane	<0.00036	mg/L	0.0050	0.00036	1		10/29/19 13:52	74-97-5	
Bromodichloromethane	<0.00036	mg/L	0.0012	0.00036	1		10/29/19 13:52	75-27-4	
Bromoform	<0.0040	mg/L	0.013	0.0040	1		10/29/19 13:52	75-25-2	
Bromomethane	<0.00097	mg/L	0.0050	0.00097	1		10/29/19 13:52	74-83-9	
Carbon disulfide	0.00045J	mg/L	0.0050	0.00037	1		10/29/19 13:52	75-15-0	
Carbon tetrachloride	<0.00017	mg/L	0.0010	0.00017	1		10/29/19 13:52	56-23-5	
Chlorobenzene	<0.00071	mg/L	0.0024	0.00071	1		10/29/19 13:52	108-90-7	
Chloroethane	<0.0013	mg/L	0.0050	0.0013	1		10/29/19 13:52	75-00-3	
Chloroform	<0.0013	mg/L	0.0050	0.0013	1		10/29/19 13:52	67-66-3	
Chloromethane	<0.0022	mg/L	0.0073	0.0022	1		10/29/19 13:52	74-87-3	
Dibromochloromethane	<0.0026	mg/L	0.0087	0.0026	1		10/29/19 13:52	124-48-1	
Dibromomethane	<0.00094	mg/L	0.0031	0.00094	1		10/29/19 13:52	74-95-3	
Dichlorodifluoromethane	<0.00050	mg/L	0.0050	0.00050	1		10/29/19 13:52	75-71-8	
Ethylbenzene	<0.00022	mg/L	0.0010	0.00022	1		10/29/19 13:52	100-41-4	
Hexachloro-1,3-butadiene	<0.0012	mg/L	0.0050	0.0012	1		10/29/19 13:52	87-68-3	
Isopropylbenzene (Cumene)	<0.00039	mg/L	0.0050	0.00039	1		10/29/19 13:52	98-82-8	
Methyl-tert-butyl ether	<0.0012	mg/L	0.0042	0.0012	1		10/29/19 13:52	1634-04-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Sample: MW-5	Lab ID: 40198087001	Collected: 10/24/19 12:50	Received: 10/26/19 08:10	Matrix: Water					
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Methylene Chloride	<0.00058	mg/L	0.0050	0.00058	1		10/29/19 13:52	75-09-2	
Naphthalene	<0.0012	mg/L	0.0050	0.0012	1		10/29/19 13:52	91-20-3	
Styrene	<0.00047	mg/L	0.0016	0.00047	1		10/29/19 13:52	100-42-5	
Tetrachloroethene	0.012	mg/L	0.0011	0.00033	1		10/29/19 13:52	127-18-4	
Toluene	<0.00017	mg/L	0.0050	0.00017	1		10/29/19 13:52	108-88-3	
Trichloroethene	0.00039J	mg/L	0.0010	0.00026	1		10/29/19 13:52	79-01-6	
Trichlorofluoromethane	<0.00021	mg/L	0.0010	0.00021	1		10/29/19 13:52	75-69-4	
Vinyl chloride	<0.00017	mg/L	0.0010	0.00017	1		10/29/19 13:52	75-01-4	
Xylene (Total)	<0.0015	mg/L	0.0030	0.0015	1		10/29/19 13:52	1330-20-7	
cis-1,2-Dichloroethene	<0.00027	mg/L	0.0010	0.00027	1		10/29/19 13:52	156-59-2	
cis-1,3-Dichloropropene	<0.0036	mg/L	0.012	0.0036	1		10/29/19 13:52	10061-01-5	
n-Butylbenzene	<0.00071	mg/L	0.0024	0.00071	1		10/29/19 13:52	104-51-8	
n-Propylbenzene	<0.00081	mg/L	0.0050	0.00081	1		10/29/19 13:52	103-65-1	
p-Isopropyltoluene	<0.00080	mg/L	0.0027	0.00080	1		10/29/19 13:52	99-87-6	
sec-Butylbenzene	<0.00085	mg/L	0.0050	0.00085	1		10/29/19 13:52	135-98-8	
tert-Butylbenzene	<0.00030	mg/L	0.0010	0.00030	1		10/29/19 13:52	98-06-6	
trans-1,2-Dichloroethene	<0.0011	mg/L	0.0036	0.0011	1		10/29/19 13:52	156-60-5	
trans-1,3-Dichloropropene	<0.0044	mg/L	0.015	0.0044	1		10/29/19 13:52	10061-02-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	93	%	70-130		1		10/29/19 13:52	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		10/29/19 13:52	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		10/29/19 13:52	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Sample: MW-4      Lab ID: 40198087002      Collected: 10/24/19 13:30      Received: 10/26/19 08:10      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAH by HVI</b> Analytical Method: EPA 8270 by HVI      Preparation Method: EPA 3510									
Acenaphthene	<b>0.010</b>	mg/L	0.00012	0.000024	4	10/30/19 10:27	10/31/19 03:04	83-32-9	
Acenaphthylene	<b>0.0029</b>	mg/L	0.00010	0.000020	4	10/30/19 10:27	10/31/19 03:04	208-96-8	
Anthracene	<b>0.0068</b>	mg/L	0.00021	0.000042	4	10/30/19 10:27	10/31/19 03:04	120-12-7	
Benzo(a)anthracene	<b>0.00069</b>	mg/L	0.00015	0.000030	4	10/30/19 10:27	10/31/19 03:04	56-55-3	
Benzo(a)pyrene	<b>0.00045</b>	mg/L	0.00021	0.000042	4	10/30/19 10:27	10/31/19 03:04	50-32-8	
Benzo(b)fluoranthene	<b>0.00086</b>	mg/L	0.00011	0.000023	4	10/30/19 10:27	10/31/19 03:04	205-99-2	
Benzo(g,h,i)perylene	<b>0.00049</b>	mg/L	0.00014	0.000027	4	10/30/19 10:27	10/31/19 03:04	191-24-2	
Benzo(k)fluoranthene	<b>0.00038</b>	mg/L	0.00015	0.000030	4	10/30/19 10:27	10/31/19 03:04	207-08-9	
Chrysene	<b>0.0016</b>	mg/L	0.00026	0.000052	4	10/30/19 10:27	10/31/19 03:04	218-01-9	
Dibenz(a,h)anthracene	<b>0.000074J</b>	mg/L	0.00020	0.000040	4	10/30/19 10:27	10/31/19 03:04	53-70-3	
Fluoranthene	<b>0.0026</b>	mg/L	0.00021	0.000043	4	10/30/19 10:27	10/31/19 03:04	206-44-0	
Fluorene	<b>0.019</b>	mg/L	0.00016	0.000032	4	10/30/19 10:27	10/31/19 03:04	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>0.00033J</b>	mg/L	0.00035	0.000071	4	10/30/19 10:27	10/31/19 03:04	193-39-5	
Naphthalene	<b>0.0026</b>	mg/L	0.00037	0.000073	4	10/30/19 10:27	10/31/19 03:04	91-20-3	
Phenanthrene	<b>0.026</b>	mg/L	0.00028	0.000055	4	10/30/19 10:27	10/31/19 03:04	85-01-8	
Pyrene	<b>0.0096</b>	mg/L	0.00015	0.000031	4	10/30/19 10:27	10/31/19 03:04	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	57	%	30-85		4	10/30/19 10:27	10/31/19 03:04	321-60-8	
Terphenyl-d14 (S)	50	%	10-120		4	10/30/19 10:27	10/31/19 03:04	1718-51-0	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

Sample: MW-3	Lab ID: 40198087003	Collected: 10/24/19 14:00	Received: 10/26/19 08:10	Matrix: Water					
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAH by HVI</b>	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	<b>0.00016</b>	mg/L	0.000029	0.0000057	1	10/30/19 10:27	10/30/19 16:40	83-32-9	
Acenaphthylene	<b>0.00043</b>	mg/L	0.000023	0.0000047	1	10/30/19 10:27	10/30/19 16:40	208-96-8	
Anthracene	<b>0.00088</b>	mg/L	0.000049	0.0000099	1	10/30/19 10:27	10/30/19 16:40	120-12-7	
Benzo(a)anthracene	<b>0.0090</b>	mg/L	0.000036	0.0000071	1	10/30/19 10:27	10/30/19 16:40	56-55-3	
Benzo(a)pyrene	<b>0.015</b>	mg/L	0.000050	0.0000099	1	10/30/19 10:27	10/30/19 16:40	50-32-8	
Benzo(b)fluoranthene	<b>0.030</b>	mg/L	0.000081	0.000016	3	10/30/19 10:27	10/31/19 11:56	205-99-2	
Benzo(g,h,i)perylene	<b>0.018</b>	mg/L	0.000032	0.0000064	1	10/30/19 10:27	10/30/19 16:40	191-24-2	
Benzo(k)fluoranthene	<b>0.0095</b>	mg/L	0.000036	0.0000071	1	10/30/19 10:27	10/30/19 16:40	207-08-9	
Chrysene	<b>0.016</b>	mg/L	0.000062	0.000012	1	10/30/19 10:27	10/30/19 16:40	218-01-9	
Dibenz(a,h)anthracene	<b>0.0034</b>	mg/L	0.000047	0.0000095	1	10/30/19 10:27	10/30/19 16:40	53-70-3	
Fluoranthene	<b>0.025</b>	mg/L	0.00015	0.000030	3	10/30/19 10:27	10/31/19 11:56	206-44-0	
Fluorene	<b>0.00022</b>	mg/L	0.000038	0.0000075	1	10/30/19 10:27	10/30/19 16:40	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>0.014</b>	mg/L	0.000083	0.000017	1	10/30/19 10:27	10/30/19 16:40	193-39-5	
Naphthalene	<b>0.00015</b>	mg/L	0.000086	0.000017	1	10/30/19 10:27	10/30/19 16:40	91-20-3	
Phenanthrene	<b>0.0061</b>	mg/L	0.000065	0.000013	1	10/30/19 10:27	10/30/19 16:40	85-01-8	
Pyrene	<b>0.024</b>	mg/L	0.00011	0.000022	3	10/30/19 10:27	10/31/19 11:56	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	51	%	30-85		1	10/30/19 10:27	10/30/19 16:40	321-60-8	
Terphenyl-d14 (S)	25	%	10-120		1	10/30/19 10:27	10/30/19 16:40	1718-51-0	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING CENTER

Pace Project No.: 40198087

QC Batch:	338900	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	40198087001		

METHOD BLANK: 1968616 Matrix: Water

Associated Lab Samples: 40198087001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/L	<0.00024	0.0010	0.00024	10/29/19 08:15	
1,1,2,2-Tetrachloroethane	mg/L	<0.00028	0.0010	0.00028	10/29/19 08:15	
1,1,2-Trichloroethane	mg/L	<0.00055	0.0050	0.00055	10/29/19 08:15	
1,1-Dichloroethane	mg/L	<0.00027	0.0010	0.00027	10/29/19 08:15	
1,1-Dichloroethene	mg/L	<0.00024	0.0010	0.00024	10/29/19 08:15	
1,2-Dibromo-3-chloropropane	mg/L	<0.0018	0.0059	0.0018	10/29/19 08:15	
1,2-Dibromoethane (EDB)	mg/L	<0.00083	0.0028	0.00083	10/29/19 08:15	
1,2-Dichlorobenzene	mg/L	<0.00071	0.0024	0.00071	10/29/19 08:15	
1,2-Dichloroethane	mg/L	<0.00028	0.0010	0.00028	10/29/19 08:15	
1,2-Dichloropropane	mg/L	<0.00028	0.0010	0.00028	10/29/19 08:15	
1,3-Dichlorobenzene	mg/L	<0.00063	0.0021	0.00063	10/29/19 08:15	
1,4-Dichlorobenzene	mg/L	<0.00094	0.0031	0.00094	10/29/19 08:15	
2-Butanone (MEK)	mg/L	<0.0029	0.020	0.0029	10/29/19 08:15	
2-Hexanone	mg/L	<0.0025	0.0082	0.0025	10/29/19 08:15	
4-Methyl-2-pentanone (MIBK)	mg/L	<0.0015	0.0051	0.0015	10/29/19 08:15	
Acetone	mg/L	<0.0027	0.020	0.0027	10/29/19 08:15	
Benzene	mg/L	<0.00025	0.0010	0.00025	10/29/19 08:15	
Bromodichloromethane	mg/L	<0.00036	0.0012	0.00036	10/29/19 08:15	
Bromoform	mg/L	<0.0040	0.013	0.0040	10/29/19 08:15	
Bromomethane	mg/L	<0.00097	0.0050	0.00097	10/29/19 08:15	
Carbon disulfide	mg/L	<0.00037	0.0050	0.00037	10/29/19 08:15	
Carbon tetrachloride	mg/L	<0.00017	0.0010	0.00017	10/29/19 08:15	
Chlorobenzene	mg/L	<0.00071	0.0024	0.00071	10/29/19 08:15	
Chloroethane	mg/L	<0.0013	0.0050	0.0013	10/29/19 08:15	
Chloroform	mg/L	<0.0013	0.0050	0.0013	10/29/19 08:15	
Chloromethane	mg/L	<0.0022	0.0073	0.0022	10/29/19 08:15	
cis-1,2-Dichloroethene	mg/L	<0.00027	0.0010	0.00027	10/29/19 08:15	
cis-1,3-Dichloropropene	mg/L	<0.0036	0.012	0.0036	10/29/19 08:15	
Dibromochloromethane	mg/L	<0.0026	0.0087	0.0026	10/29/19 08:15	
Dibromomethane	mg/L	<0.00094	0.0031	0.00094	10/29/19 08:15	
Dichlorodifluoromethane	mg/L	<0.00050	0.0050	0.00050	10/29/19 08:15	
Ethylbenzene	mg/L	<0.00022	0.0010	0.00022	10/29/19 08:15	
Methyl-tert-butyl ether	mg/L	<0.0012	0.0042	0.0012	10/29/19 08:15	
Methylene Chloride	mg/L	<0.00058	0.0050	0.00058	10/29/19 08:15	
Naphthalene	mg/L	<0.0012	0.0050	0.0012	10/29/19 08:15	
Styrene	mg/L	<0.00047	0.0016	0.00047	10/29/19 08:15	
Tetrachloroethene	mg/L	<0.00033	0.0011	0.00033	10/29/19 08:15	
Toluene	mg/L	<0.00017	0.0050	0.00017	10/29/19 08:15	
trans-1,2-Dichloroethene	mg/L	<0.0011	0.0036	0.0011	10/29/19 08:15	
trans-1,3-Dichloropropene	mg/L	<0.0044	0.015	0.0044	10/29/19 08:15	
Trichloroethene	mg/L	<0.00026	0.0010	0.00026	10/29/19 08:15	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING CENTER

Pace Project No.: 40198087

METHOD BLANK: 1968616

Matrix: Water

Associated Lab Samples: 40198087001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichlorofluoromethane	mg/L	<0.00021	0.0010	0.00021	10/29/19 08:15	
Vinyl chloride	mg/L	<0.00017	0.0010	0.00017	10/29/19 08:15	
Xylene (Total)	mg/L	<0.0015	0.0030	0.0015	10/29/19 08:15	
4-Bromofluorobenzene (S)	%	94	70-130		10/29/19 08:15	
Dibromofluoromethane (S)	%	100	70-130		10/29/19 08:15	
Toluene-d8 (S)	%	104	70-130		10/29/19 08:15	

LABORATORY CONTROL SAMPLE: 1968617

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/L	0.05	0.050	101	70-130	
1,1,2,2-Tetrachloroethane	mg/L	0.05	0.051	101	70-130	
1,1,2-Trichloroethane	mg/L	0.05	0.054	107	70-130	
1,1-Dichloroethane	mg/L	0.05	0.050	100	73-150	
1,1-Dichloroethene	mg/L	0.05	0.053	106	73-138	
1,2-Dibromo-3-chloropropane	mg/L	0.05	0.045	89	64-129	
1,2-Dibromoethane (EDB)	mg/L	0.05	0.053	106	70-130	
1,2-Dichlorobenzene	mg/L	0.05	0.051	102	70-130	
1,2-Dichloroethane	mg/L	0.05	0.047	94	75-140	
1,2-Dichloropropane	mg/L	0.05	0.048	97	73-135	
1,3-Dichlorobenzene	mg/L	0.05	0.049	99	70-130	
1,4-Dichlorobenzene	mg/L	0.05	0.050	101	70-130	
Benzene	mg/L	0.05	0.049	97	70-130	
Bromodichloromethane	mg/L	0.05	0.049	98	70-130	
Bromoform	mg/L	0.05	0.047	95	68-129	
Bromomethane	mg/L	0.05	0.033	66	18-159	
Carbon disulfide	mg/L	0.05	0.049	98	69-132	
Carbon tetrachloride	mg/L	0.05	0.050	99	70-130	
Chlorobenzene	mg/L	0.05	0.053	106	70-130	
Chloroethane	mg/L	0.05	0.044	87	53-147	
Chloroform	mg/L	0.05	0.047	93	74-136	
Chloromethane	mg/L	0.05	0.026	51	29-115	
cis-1,2-Dichloroethene	mg/L	0.05	0.047	94	70-130	
cis-1,3-Dichloropropene	mg/L	0.05	0.046	92	70-130	
Dibromochloromethane	mg/L	0.05	0.051	101	70-130	
Dichlorodifluoromethane	mg/L	0.05	0.027	53	10-130	
Ethylbenzene	mg/L	0.05	0.055	110	80-124	
Methyl-tert-butyl ether	mg/L	0.05	0.044	87	54-137	
Methylene Chloride	mg/L	0.05	0.051	102	73-138	
Styrene	mg/L	0.05	0.051	102	70-130	
Tetrachloroethene	mg/L	0.05	0.054	108	70-130	
Toluene	mg/L	0.05	0.053	106	80-126	
trans-1,2-Dichloroethene	mg/L	0.05	0.053	106	73-145	
trans-1,3-Dichloropropene	mg/L	0.05	0.048	96	70-130	

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING CENTER  
 Pace Project No.: 40198087

LABORATORY CONTROL SAMPLE: 1968617

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	mg/L	0.05	0.050	101	70-130	
Trichlorofluoromethane	mg/L	0.05	0.046	92	76-147	
Vinyl chloride	mg/L	0.05	0.036	73	51-120	
Xylene (Total)	mg/L	0.15	0.17	115	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			105	70-130	

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING CENTER

Pace Project No.: 40198087

QC Batch:	339139	Analysis Method:	EPA 8270 by HVI
QC Batch Method:	EPA 3510	Analysis Description:	8270 Water PAH by HVI
Associated Lab Samples:	40198087002, 40198087003		

METHOD BLANK: 1969723   Matrix: Water

Associated Lab Samples: 40198087002, 40198087003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acenaphthene	mg/L	<0.0000061	0.000030	0.0000061	10/30/19 23:06	
Acenaphthylene	mg/L	<0.0000050	0.000025	0.0000050	10/30/19 23:06	
Anthracene	mg/L	<0.000010	0.000052	0.000010	10/30/19 23:06	
Benzo(a)anthracene	mg/L	<0.0000076	0.000038	0.0000076	10/30/19 23:06	
Benzo(a)pyrene	mg/L	<0.000011	0.000053	0.000011	10/30/19 23:06	
Benzo(b)fluoranthene	mg/L	<0.0000057	0.000029	0.0000057	10/30/19 23:06	
Benzo(g,h,i)perylene	mg/L	<0.0000068	0.000034	0.0000068	10/30/19 23:06	
Benzo(k)fluoranthene	mg/L	<0.0000076	0.000038	0.0000076	10/30/19 23:06	
Chrysene	mg/L	<0.000013	0.000065	0.000013	10/30/19 23:06	
Dibenz(a,h)anthracene	mg/L	<0.000010	0.000050	0.000010	10/30/19 23:06	
Fluoranthene	mg/L	<0.000011	0.000053	0.000011	10/30/19 23:06	
Fluorene	mg/L	<0.0000080	0.000040	0.0000080	10/30/19 23:06	
Indeno(1,2,3-cd)pyrene	mg/L	<0.000018	0.000088	0.000018	10/30/19 23:06	
Naphthalene	mg/L	<0.000018	0.000092	0.000018	10/30/19 23:06	
Phenanthrene	mg/L	<0.000014	0.000069	0.000014	10/30/19 23:06	
Pyrene	mg/L	<0.0000076	0.000038	0.0000076	10/30/19 23:06	
2-Fluorobiphenyl (S)	%	71	30-85		10/30/19 23:06	
Terphenyl-d14 (S)	%	119	10-120		10/30/19 23:06	

LABORATORY CONTROL SAMPLE: 1969724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	mg/L	0.002	0.0013	66	43-102	
Acenaphthylene	mg/L	0.002	0.0012	60	42-103	
Anthracene	mg/L	0.002	0.0017	83	52-105	
Benzo(a)anthracene	mg/L	0.002	0.0017	85	39-120	
Benzo(a)pyrene	mg/L	0.002	0.0019	95	57-117	
Benzo(b)fluoranthene	mg/L	0.002	0.0018	88	54-117	
Benzo(g,h,i)perylene	mg/L	0.002	0.0010	51	32-82	
Benzo(k)fluoranthene	mg/L	0.002	0.0021	106	56-123	
Chrysene	mg/L	0.002	0.0023	115	63-122	
Dibenz(a,h)anthracene	mg/L	0.002	0.00077	38	23-76	
Fluoranthene	mg/L	0.002	0.0017	86	52-112	
Fluorene	mg/L	0.002	0.0014	72	46-116	
Indeno(1,2,3-cd)pyrene	mg/L	0.002	0.0016	82	49-110	
Naphthalene	mg/L	0.002	0.0012	61	37-84	
Phenanthrene	mg/L	0.002	0.0016	78	50-104	
Pyrene	mg/L	0.002	0.0019	94	57-123	
2-Fluorobiphenyl (S)	%			69	30-85	
Terphenyl-d14 (S)	%			114	10-120	

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.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING CENTER

Pace Project No.: 40198087

Parameter	Units	40198148012		MS		MSD		1969726			
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD
Acenaphthene	mg/L	<0.0055 ug/L	0.0018	0.0018	0.00095	0.00098	53	54	30-106	4	30
Acenaphthylene	mg/L	<0.0045 ug/L	0.0018	0.0018	0.00087	0.00087	49	48	37-103	0	27
Anthracene	mg/L	<0.0095 ug/L	0.0018	0.0018	0.0011	0.0011	61	63	27-107	4	34
Benzo(a)anthracene	mg/L	0.0075J ug/L	0.0018	0.0018	0.00098	0.0010	54	56	10-120	4	50
Benzo(a)pyrene	mg/L	<0.0096 ug/L	0.0018	0.0018	0.00082	0.00087	45	48	10-117	7	50
Benzo(b)fluoranthene	mg/L	0.0056J ug/L	0.0018	0.0018	0.00076	0.00079	42	44	10-121	4	49
Benzo(g,h,i)perylene	mg/L	0.0091J ug/L	0.0018	0.0018	0.00062	0.00064	34	35	10-82	3	50
Benzo(k)fluoranthene	mg/L	0.0069J ug/L	0.0018	0.0018	0.00098	0.00097	54	53	10-123	1	50
Chrysene	mg/L	<0.012 ug/L	0.0018	0.0018	0.0013	0.0014	75	77	17-122	3	36
Dibenz(a,h)anthracene	mg/L	0.010J ug/L	0.0018	0.0018	0.00060	0.00061	33	33	10-76	3	50
Fluoranthene	mg/L	<0.0097 ug/L	0.0018	0.0018	0.0011	0.0011	59	62	27-112	5	42
Fluorene	mg/L	<0.0072 ug/L	0.0018	0.0018	0.0010	0.0010	58	58	38-116	1	29
Indeno(1,2,3-cd)pyrene	mg/L	<0.016 ug/L	0.0018	0.0018	0.00064	0.00067	35	36	10-110	4	50
Naphthalene	mg/L	<0.017 ug/L	0.0018	0.0018	0.00084	0.00089	47	49	35-85	5	28
Phenanthrene	mg/L	<0.013 ug/L	0.0018	0.0018	0.0011	0.0011	59	60	31-106	2	42
Pyrene	mg/L	<0.0070 ug/L	0.0018	0.0018	0.0012	0.0012	68	69	30-123	2	31
2-Fluorobiphenyl (S)	%						55	55	30-85		
Terphenyl-d14 (S)	%						75	79	10-120		

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.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: 6255 SUNRISE SHOPPING CENTER  
Pace Project No.: 40198087

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### 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 adjusted reporting limit.  
TNTC - Too Numerous To Count  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.  
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.  
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.

### ANALYTE QUALIFIERS

1q Analyte was detected above method detection limit due to carryover.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6255 SUNRISE SHOPPING CENTER  
 Pace Project No.: 40198087

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40198087002	MW-4	EPA 3510	339139	EPA 8270 by HVI	339209
40198087003	MW-3	EPA 3510	339139	EPA 8270 by HVI	339209
40198087001	MW-5	EPA 8260	338900		

## REPORT OF LABORATORY ANALYSIS

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# Sample Preservation Receipt Form

Client Name: DAT

Project # 40198087

Pace Analytical Services, LLC  
1241 Bellevue Street, Suite 100  
Green Bay, WI 54302  
Page 1 of 2

All containers needing preservation have been checked and noted below:  Yes  No  N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/  
Time:

Pace Lab #	Glass				Plastic				Vials				Jars		General		VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)			
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN
001																										2.5 / 5 / 10
002																										2.5 / 5 / 10
003																										2.5 / 5 / 10
004																										2.5 / 5 / 10
005																										2.5 / 5 / 10
006																										2.5 / 5 / 10
007																										2.5 / 5 / 10
008																										2.5 / 5 / 10
009																										2.5 / 5 / 10
010																										2.5 / 5 / 10
011																										2.5 / 5 / 10
012																										2.5 / 5 / 10
013																										2.5 / 5 / 10
014																										2.5 / 5 / 10
015																										2.5 / 5 / 10
016																										2.5 / 5 / 10
017																										2.5 / 5 / 10
018																										2.5 / 5 / 10
019																										2.5 / 5 / 10
020																										2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm):  Yes  No  N/A \*If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	



Document Name:	Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
Document No.:	F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

## Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40198087



40198087

Client Name: DAT

Courier:  CS Logistics  Fed Ex  Speedee  UPS  Waltco  
 Client  Pace  Other:

Tracking #: N/A

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  noCustody Seal on Samples Present:  yes  no Seals intact:  yes  noPacking Material:  Bubble Wrap  Bubble Bags  None  OtherThermometer Used SR - 12 Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 1 °C /Corr: 1.5 °C

Temp Blank Present:  yes  noBiological Tissue is Frozen:  yes  no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C.

Person examining contents:

Date: 10/26/19 QR

Initials: QR

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. No Enviro info 10/26/19 QR
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: - VOA Samples frozen upon receipt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume: For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used: -Pace Containers Used: -Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

## Client Notification/ Resolution:

If checked, see attached form for additional comments 

Person Contacted:

Date/Time:

Comments/ Resolution:

Project Manager Review:

UW

Date:

10/26/19