

**QUARTERLY GROUNDWATER SAMPLING REPORT  
(JULY 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**

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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 third quarter 2019 groundwater sampling event. The static water level elevations were collected from all monitoring wells on July 7, 2019. Table A.6 in Attachment A provides a historical summary of groundwater elevation information.

Review of Table A.6 shows that the July groundwater elevations observed in MW-1 and MW-3 decreased from the April elevations by over 1-ft, yet the overall groundwater elevations are nearly identical to those observed in July 2018. 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. Between January 2015 and April 2019, MW-1 and MW-3 show a difference in elevation of 3.19-ft and 2.19-ft, respectively. The elevation range difference for MW-2 and MW-4 is 1.39-ft and 1.32-ft, respectively. Monitoring wells MW-5 and MW-201 indicate a range difference of less than 0.75-ft (excluding the April 2015 reading at MW-201).

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 July 2019 data is included as Figure B.3.c. 10 (see Attachment B).

### **3.2 Groundwater Analytical Results**

Groundwater samples for the third quarter 2019 (i.e., July-September 2019) were collected on July 7, 2019. Following the protocol described in Section 2.2, groundwater samples were collected from MW-5 for VOC analysis and MW-3 and MW-4 for PAHs. A summary of all groundwater sampling data collected from monitoring wells MW-3 to MW-5 since the beginning

of Site Investigations is provided Tables A.1.A-A.1.B (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 is provided in this report as 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 Perc concentration in MW-5 in July 2019 was 0.0106-mg/L, which is similar to the April sampling result of 0.0114-mg/L. 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, the concentration in July 2019 was 0.00048-mg/L, which is again below the PAL. 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 May 2019 and have been ongoing since then. However, the injections conducted to date have focused on remediation of the source area soils located within the 2410-2412 tenant spaces. Initial full-scale chemical injections to reduce the groundwater contaminant concentrations in the area around MW-5 were just recently conducted 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. These recent results are lower than observed during the previous quarter, but the concentrations are still above the Enforcement Standard. The Fluoranthene and Pyrene concentrations that were observed above the PAL in April 2019 decreased to concentrations consistent with past observations, implying that the concentration spike observed in April 2019 was atypical and likely associated with the increase in groundwater elevation that may have “flushed” some petroleum contamination from the fringe zone soils into the monitoring well. 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) indicate). However, no PAH constituent was observed at a concentration above the PALs during the July 2019 sampling event. The Benzo(a)pyrene, Benzo(b)fluoranthene, and Chrysene concentrations that were above the PALs in April 2019 have all declined to concentrations below the LODs. While PAH concentrations in MW-4 also show some variability that is likely associated with fluctuations in groundwater elevation due to the presence of backfill in a former tank cavity, the overall concentrations are generally declining to levels near or 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 VOC 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 have rebounded to levels above the Enforcement Standard. Therefore, full-scale chemical injections in the area of MW-5 were initiated in August 2019.
- 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 and MW-4 in July 2019 decreased from the results obtained April 2019. The concentrations in MW-3 remain above the Enforcement Standard, but concentrations vary greatly between sampling events with no discernable trend. The change in observed concentration is likely associated with fluctuations in groundwater elevation and interaction with the contaminated fill material on the southern portion of the property. The PAH concentrations in MW-4 declined to below the PALs in July 2019.
- The next quarterly sampling event is scheduled for October 2019.

**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
Bromochloromethane	<0.00034	<0.00034	<0.00034	<0.00034	NL	NL
Bromodichloromethane	<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
Bromomethane	<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
Dibromochloromethane	<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
1,1,1,2,2-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
Toluene	<0.0005	<0.0005	<0.0005	<0.0005	0.16	0.8

**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)		
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
Trichloroethene	<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
Bromochloromethane	<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
Dibromochloromethane	<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-Dichloroethene	<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
1,1,1,2,2-Tetrachloroethane	<0.00025*	<0.00025*	<0.00028*	<0.00028*	0.00002	0.0002
Tetrachloroethene	<b>0.0181</b>	<b>0.0203</b>	<b>0.0086</b>	<b>0.021</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>
	MW-5 (01/05/18)	MW-5 (04/07/18)	MW-5 (07/30/18)	MW-5 (10/11/18)		
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)		
Benzene	<0.00025	<0.00025	<0.00025	0.0005	0.005
Bromobenzene	<0.00024	<0.00024	<0.00024	NL	NL
Bromochloromethane	<0.00036	<0.00036	<0.00036	NL	NL
Bromodichloromethane	<0.00036*	<0.00036*	<0.00036*	0.00006	0.0006
Bromoform	<0.004*	<0.004*	<0.004*	0.00044	0.0044
Bromomethane	<0.00097	<0.00097	<0.00097	0.001	0.01
n-Butylbenzene	<0.00071	<0.00071	<0.00071	NL	NL
sec-Butylbenzene	<0.00085	<0.00085	<0.00085	NL	NL
tert-Butylbenzene	<0.0003	<0.0003	<0.0003	NL	NL
Carbon tetrachloride	<0.00017	<0.00017	<0.00017	0.0005	0.005
Chlorobenzene	<0.00071	<0.00071	<0.00071	NL	NL
Chloroethane	<0.0013	0.0036 (J)	<0.0013	0.08	0.4
Chloroform	<0.0013*	<0.0013*	<0.0013*	0.0006	0.006
Chloromethane	<0.0022	<0.0022	<0.0022	0.003	0.03
2-Chlorotoluene	<0.00093	<0.00093	<0.00093	NL	NL
4-Chlorotoluene	<0.00076	<0.00076	<0.00076	NL	NL
Dibromochloromethane	<0.0026	<0.0026	<0.0026	0.006	0.006
1,2-Dibromo-3-chloropropane	<0.0018*	<0.0018*	<0.0018*	0.00002	0.0002
1,2-Dibromoethane (EDB)	<0.00083*	<0.00083*	<0.00083*	0.000005	0.00005
Dibromomethane	<0.00094	<0.00094	<0.00094	NL	NL
1,2-Dichlorobenzene	<0.00071	<0.00071	<0.00071	0.06	0.6
1,3-Dichlorobenzene	<0.00063	<0.00063	<0.00063	0.12	0.6
1,4-Dichlorobenzene	<0.00094	<0.00094	<0.00094	0.015	0.075
Dichlorodifluoromethane	<0.0005	<0.0005	<0.0005	0.2	1
1,1-Dichloroethane	0.0016	<0.00027	<0.00027	0.085	0.85
1,2-Dichloroethane	<0.00028	<0.00028	<0.00028	0.0005	0.005
1,1-Dichloroethene	<0.00024	<0.00024	<0.00024	0.0007	0.007
cis-1,2-Dichloroethene	<0.00027	<0.00027	<0.00027	0.007	0.07
trans-1,2-Dichloroethene	<0.0011	<0.0011	<0.0011	0.02	0.1
1,2-Dichloropropane	<0.00028	<0.00028	<0.00028	0.0005	0.005
1,3-Dichloropropane	<0.00083	<0.00083	<0.00083	NL	NL
2,2-Dichloropropane	<0.0023	<0.0023	<0.0023	NL	NL
1,1-Dichloropropene	<0.00054	<0.00054	<0.00054	NL	NL
1,3-Dichloropropene (c & t)	<0.008*	<0.008*	<0.008*	0.00004	0.0004
Diisopropyl ether	<0.0019	<0.0019	<0.0019	NL	NL
Ethylbenzene	0.00037 (J)	<0.00022	<0.00022	0.14	0.7
Hexachloro-1,3-butadiene	<0.0012	<0.0012	<0.0012	NL	NL
Isopropyl benzene	<0.00039	<0.00039	<0.00039	NL	NL
p-Isopropyltoluene	<0.0008	<0.0008	<0.0008	NL	NL
Methylene chloride	<0.00058*	<0.00058*	<0.00058*	0.0005	0.005
Methyl tertiary-butyl ether	<0.0012	<0.0012	<0.0012	0.012	0.06
Naphthalene	<0.0012	<0.0012	<0.0012	0.01	0.1
n-Propylbenzene	<0.00081	<0.00081	<0.00081	NL	NL
Styrene	<0.00047	<0.00047	<0.00047	0.01	0.1
1,1,1,2-Tetrachloroethane	<0.00027	<0.00027	<0.00027	0.007	0.07
1,1,1,2-Tetrachloroethane	<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)		
Tetrachloroethene	<b>0.0065</b>	<b>0.0114</b>	<b>0.0106</b>	0.0005	0.005
Toluene	<0.00017	<0.00017	<0.00017	0.16	0.8
1,2,3-Trichlorobenzene	<0.00063	<0.00063	<0.00063	NL	NL
1,2,4-Trichlorobenzene	<0.00095	<0.00095	<0.00095	0.014	0.07
1,1,1-Trichloroethane	0.0003 (J)	0.00041 (J)	0.00038 (J)	0.04	0.2
1,1,2-Trichloroethane	<0.00055*	<0.00055*	<0.00055*	0.0005	0.005
Trichloroethene	<b>0.0027</b>	<b>0.00071 (J)</b>	0.00048 (J)	0.0005	0.005
Trichlorofluoromethane	<0.00021	<0.00021	<0.00021	0.7	3.5
1,2,3-Trichloropropane	<0.00059	<0.00059	<0.00059	0.012	0.06
1,2,4-Trimethylbenzene	<0.00084	<0.00084	<0.00084	0.096	0.48
1,3,5-Trimethylbenzene	<0.00087	<0.00087	<0.00087		
Vinyl chloride	<0.00017	<0.00017	<0.00017	0.4	2
Xylenes (total)	0.0039	<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.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)		
Acenaphthene	0.00076	0.0000043 (J)	0.000026 (J)	0.0000077 (J)	0.000029	NL	NL
Acenaphthylene	0.00013	0.0000036 (J)	0.000016 (J)	<0.0000045	0.000053	NL	NL
Anthracene	0.00056	<0.0000023	0.00013	0.000031 (J)	0.00015	0.6	3
Benzo(a)anthracene	0.00069	<0.0000031	0.00073	0.0000069 (J)	0.001	NL	NL
Benzo(a)pyrene	<b>0.0006</b>	0.000011 (J)	<b>0.001</b>	<0.0000096	<b>0.0019</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>	0.00002	0.0002
Benzo(g,h,i)perylene	0.0004	0.000016 (J)	0.0011	0.00018 (J)	0.0025	NL	NL
Benzo(k)fluoranthene	0.00029	0.00001 (J)	0.00068	0.000014 (J)	0.0014	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>	0.00002	0.0002
Dibenzo(a,h)anthracene	0.000091	<0.0000032	0.00022	<0.0000091	0.00034	NL	NL
Fluoranthene	0.0024	0.000041 (J)	0.0031	0.00021	0.0052	0.08	0.4
Fluorene	0.0011	0.0000035 (J)	0.000052	0.000022 (J)	0.000048	0.08	0.4
Indeno(1,2,3-cd)pyrene	0.0003	0.0000081 (J)	0.00086	<0.000016	0.0021	NL	NL
1-Methylnaphthalene	0.002	0.0000091 (J)	0.00018	0.00016	0.000033	NL	NL
2-Methylnaphthalene	0.00017	0.0000084 (J)	0.00013	0.00016	0.000024	NL	NL
Naphthalene	0.00016	<0.0000056	0.00012	0.00046	0.000051	0.017	0.1
Phenanthrene	0.0021	0.000043 (J)	0.00071	0.000085	0.0013	NL	NL
Pyrene	0.0025	0.000059	0.002	0.00011	0.0037	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

PNA's 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 (07/30/18)	MW-3 (10/11/18)	MW-3 (01/25/19)	MW-3 (04/29/19)	MW-3 (07/07/19)		
Acenaphthene	0.000014 (J)	0.00001 (J)	0.0000068 (J)	0.0015	0.000023 (J)	NL	NL
Acenaphthylene	0.000023	<0.0000045	<0.0000047	0.0027	0.000084	NL	NL
Anthracene	0.000073	0.00002 (J)	0.000027 (J)	0.0089	0.00013	0.6	3
Benzo(a)anthracene	0.00043	0.000017 (J)	0.000053	0.11	0.00087	NL	NL
Benzo(a)pyrene	<b>0.00068</b>	<b>0.000024 (J)</b>	<b>0.00017</b>	<b>0.115</b>	<b>0.0019</b>	0.00002	0.0002
Benzo(b)fluoranthene	<b>0.0013</b>	<b>0.000074</b>	<b>0.00034</b>	<b>0.209</b>	<b>0.0036</b>	0.00002	0.0002
Benzo(g,h,i)perylene	0.00082	0.000037	0.00023	0.132	0.0025	NL	NL
Benzo(k)fluoranthene	0.00041	0.000026 (J)	0.00012	0.0643	0.0016	NL	NL
Chrysene	<b>0.00095</b>	<b>0.000079</b>	<b>0.00028</b>	<b>0.13</b>	<b>0.0026</b>	0.00002	0.0002
Dibenzo(a,h)anthracene	0.00015	<0.000009	0.000034 (J)	0.0258	0.00028	NL	NL
Fluoranthene	0.0019	0.00026	0.00043	<b>0.248</b>	0.0035	0.08	0.4
Fluorene	0.00004	0.000031 (J)	0.000014 (J)	0.0028	0.000037	0.08	0.4
Indeno(1,2,3-cd)pyrene	0.00089	0.000027 (J)	0.00016	0.108	0.0019	NL	NL
1-Methylnaphthalene	0.000033	0.000019 (J)	0.000013 (J)	0.0003	0.000011 (J)	NL	NL
2-Methylnaphthalene	0.000031	0.000015 (J)	0.000012 (J)	0.00025	0.000014 (J)	NL	NL
Naphthalene	0.000053 (J)	0.000032 (J)	0.000022 (J)	0.00035	0.000019 (J)	0.017	0.1
Phenanthrene	0.00047	0.000093	0.00011	0.066	0.00079	NL	NL
Pyrene	0.0012	0.0002	0.00031	<b>0.21</b>	0.0029	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.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	0.000039 (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)	<0.000032	0.000082 (J)	0.00044 (J)	<0.00014	0.000012 (J)	NL	NL
Benzo(a)pyrene	0.000053 (J)	0.000017 (J)	0.000006 (J)	<b>&lt;0.00049</b>	<b>&lt;0.0002</b>	<0.000095	0.00002	0.0002
Benzo(b)fluoranthene	0.000093 (J)	<b>0.000043 (J)</b>	0.000014 (J)	<b>&lt;0.00027</b>	<b>0.00022 (J)</b>	0.000096 (J)	0.00002	0.0002
Benzo(g,h,i)perylene	0.000071 (J)	0.000025 (J)	0.000081 (J)	<0.00031	<0.00013	<0.000061	NL	NL
Benzo(k)fluoranthene	<0.00005	0.000021 (J)	<0.000051	<0.00035	<0.00014	<0.000068	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	<0.000035	<0.000033	<0.000051	<0.00046	<0.00019	<0.00009	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	0.000044 (J)	0.000017 (J)	0.000056 (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)		
Acenaphthene	0.0021	0.004	0.0016	0.0033	0.0028	NL	NL
Acenaphthylene	0.00064	0.00091	0.00024	0.00059	0.0005	NL	NL
Anthracene	0.00024	0.001	0.000093	0.00033	0.00044	0.6	3
Benzo(a)anthracene	<0.000035	0.00004 (J)	0.0000076 (J)	0.000061	<0.000026	NL	NL
Benzo(a)pyrene	<b>&lt;0.000048</b>	<b>&lt;0.000029</b>	<0.0000095	<b>0.000041 (J)</b>	<0.000037	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	0.00002	0.0002
Benzo(g,h,i)perylene	<0.000031	<0.000018	<0.0000061	0.000045	<0.000024	NL	NL
Benzo(k)fluoranthene	<0.000035	<0.000021	0.000016 (J)	0.00005	<0.000026	NL	NL
Chrysene	<b>&lt;0.00006</b>	<b>0.000084 (J)</b>	<b>0.000033 (J)</b>	<b>0.00017</b>	<0.000046	0.00002	0.0002
Dibenzo(a,h)anthracene	<0.000046	<0.000027	<0.000009	0.0000091 (J)	<0.000035	NL	NL
Fluoranthene	0.000061 (J)	0.00019	0.000091	0.0004	0.00011 (J)	0.08	0.4
Fluorene	0.0035	0.0067	0.0022	0.0046	0.0044	0.08	0.4
Indeno(1,2,3-cd)pyrene	<0.000081	<0.000048	<0.000016	0.00004 (J)	<0.000062	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	0.01	0.1
Phenanthrene	0.0031	0.0059	0.00077	0.0037	0.0013	NL	NL
Pyrene	0.00017 (J)	0.0001	0.00021	0.0014	0.00037	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	07/19/19	<b><u>0.0062</u></b>
	06/25/19	<b><u>0.0054</u></b>
	06/06/19	<b><u>0.0069</u></b>
	05/29/19	<b>0.0043</b>
	05/23/19	<b>0.0042</b>
	05/15/19	<b><u>0.0093</u></b>
	02/04/19	<b><u>0.0064</u></b>
	01/05/18	<b><u>0.0082</u></b>
	06/04/17	<b><u>0.006</u></b>
<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**

<b>Monitoring Well</b>	<b>Top of Casing Elevation*</b>	<b>Date</b>	<b>Measured Depth to Groundwater (ft)</b>	<b>Measured Depth to Well Bottom (ft)</b>	<b>Relative Groundwater Elevation (ft)</b>
MW-1	99.13	7/07/19	3.46	14.49	95.67
		4/29/19	2.35		96.78
		1/25/19	4.65		94.48
		10/11/18	1.66		97.47
		7/30/18	3.32		95.81
		4/08/18	2.24		96.89
		2/27/18	1.58		97.55
		5/30/17	2.17		96.96
		4/24/15	1.46		97.67
		3/30/15	1.98		97.15
		1/27/15	3.93		95.20
MW-2	100.75	7/07/19	7.51	14.41	93.24
		4/29/19	8.47		92.28
		1/25/19	8.42		92.33
		10/11/18	6.45		94.30
		7/30/18	7.45		93.30
		4/08/18	8.36		92.39
		2/27/18	8.54		92.21
		5/30/17	7.95		92.80
		4/24/15	7.21		93.54
		3/30/15	8.01		92.74
		1/27/15	8.60		92.15
MW-3	100.05	7/07/19	3.73	14.46	96.32
		4/29/19	2.61		97.44
		1/25/19	4.44		95.61
		10/11/18	2.35		97.70
		7/30/18	3.62		96.43
		4/08/18	2.53		97.52
		2/27/18	2.43		97.62
		5/30/17	2.45		97.60
		4/24/15	2.27		97.78
		3/30/15	2.73		97.32
		1/27/15	4.46		95.59
MW-4	100.57	7/07/19	6.98	14.57	93.59
		4/29/19	7.30		93.27
		1/25/19	6.88		93.69
		10/11/18	5.43		95.14
		7/30/18	6.91		93.66
		4/08/18	7.26		93.31
		2/27/18	7.23		93.34
		5/30/17	6.38		94.19
		4/24/15	5.94		94.63
		3/30/15	7.04		93.53
		1/27/15	6.53		94.04

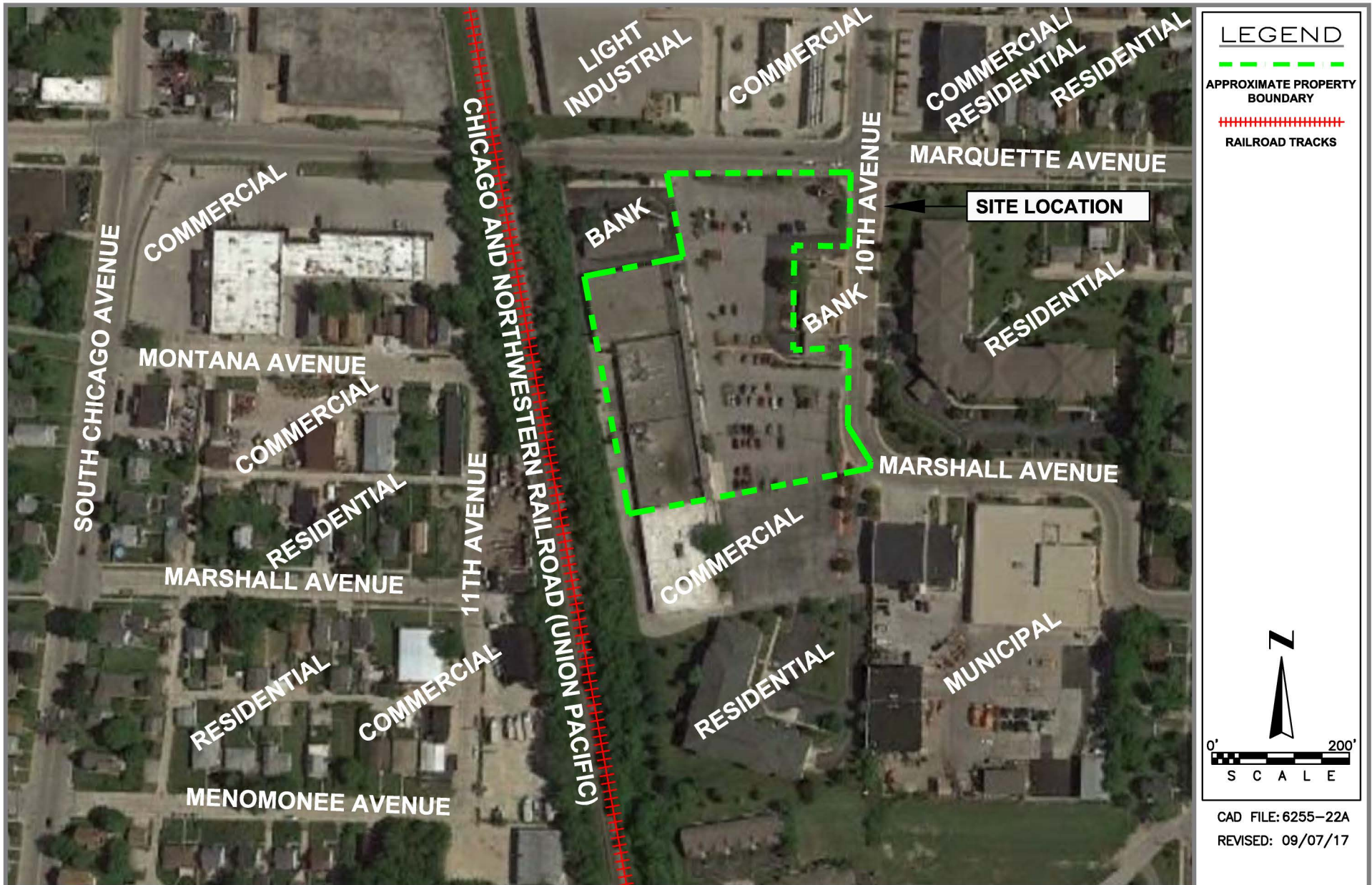


**Table A.6. Water Level Elevations**

<b>Monitoring Well</b>	<b>Top of Casing Elevation*</b>	<b>Date</b>	<b>Measured Depth to Groundwater (ft)</b>	<b>Measured Depth to Well Bottom (ft)</b>	<b>Relative Groundwater Elevation (ft)</b>
MW-5	100.24	7/07/19	6.25	14.60	93.99
		4/29/19	6.33		93.91
		1/25/19	6.35		93.89
		10/11/18	5.85		94.39
		7/30/18	6.19		94.05
		4/08/18	6.27		93.97
		2/27/18	6.15		94.09
		5/30/17	5.96		94.28
		4/24/15	5.92		94.32
		3/30/15	6.26		93.98
		1/27/15	6.50		93.74
MW-201	100.10	7/07/19	6.72	14.57	93.38
		4/29/19	6.82		93.28
		1/25/19	6.88		93.22
		10/11/18	6.22		93.88
		7/30/18	6.69		93.41
		4/08/18	6.79		93.34
		2/27/18	6.46		93.64
		5/30/17	6.26		93.84
		4/24/15	5.91		94.19
		3/30/15	6.28		93.82
		1/27/15	Not Installed		Not Installed

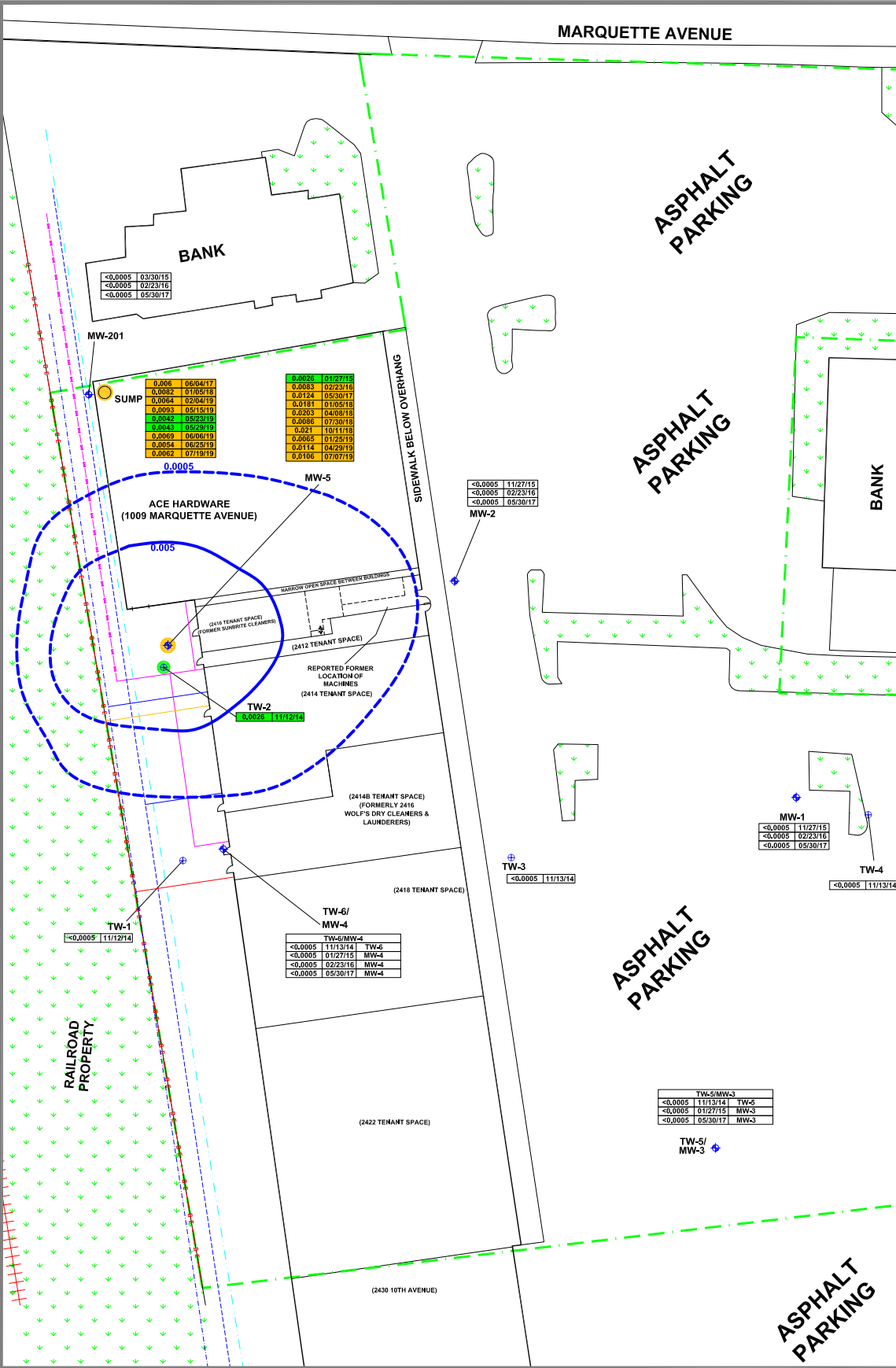
\* – Relative Elevation based upon generic 100-ft on-site datum and survey data collected on January 27, 2015, and March 30, 2015.

**APPENDIX B**  
**FIGURES**



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)



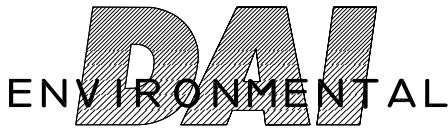
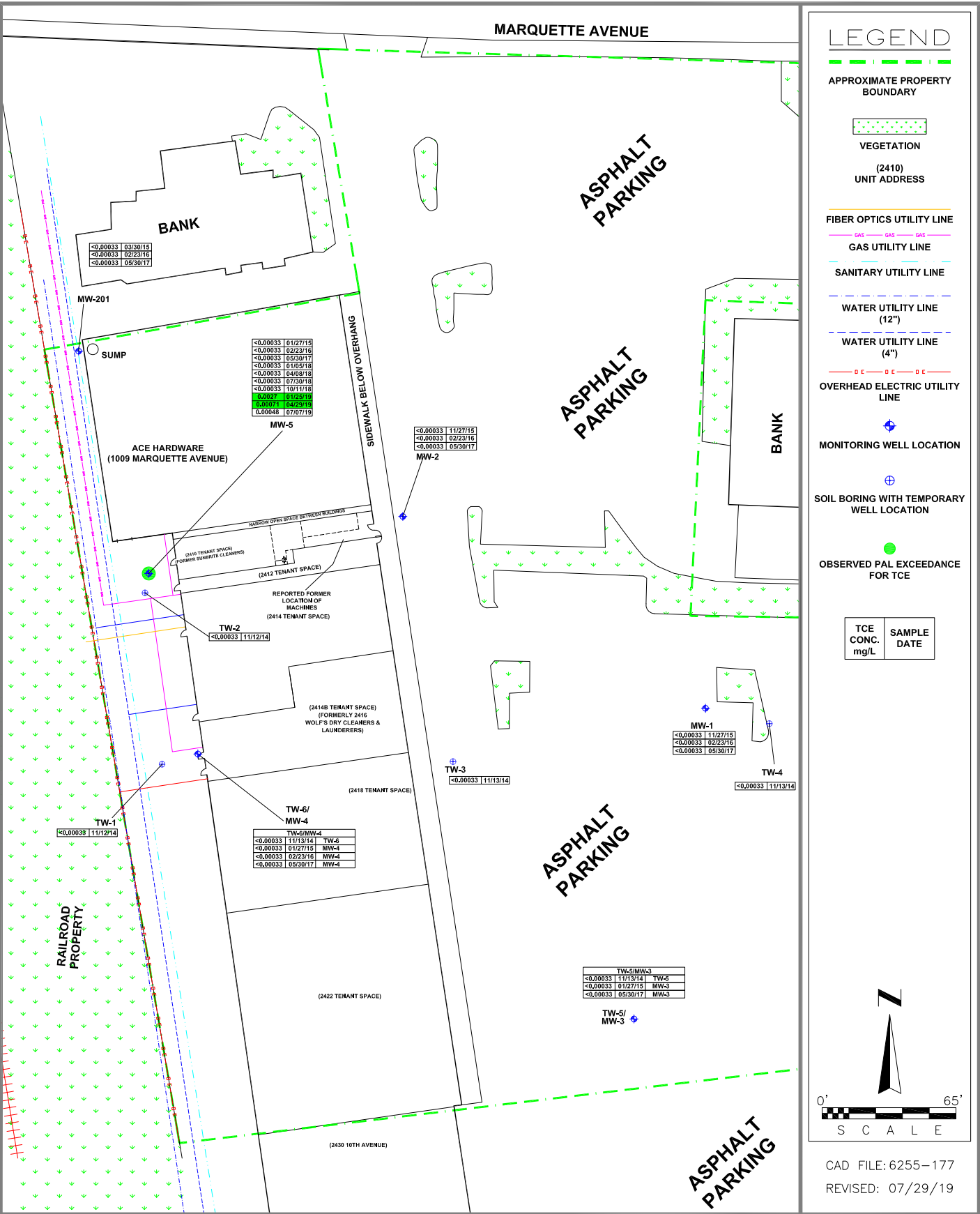
### LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- VEGETATION
- (2410) UNIT ADDRESS
- FIBER OPTICS UTILITY LINE
- GAS 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 PAL EXCEEDANCE FOR PERC
- OBSERVED PAL AND ES EXCEEDANCE FOR PERC

PERC CONC. mg/L	SAMPLE DATE
<hr style="border-top: 1px solid blue;"/>	
SITE INVESTIGATION DEFINED PERC ISOCONCENTRATION LINE (mg/L)	
<hr style="border-top: 1px dashed blue;"/>	
SITE INVESTIGATION ESTIMATED PERC ISOCONCENTRATION LINE (mg/L)	

S C A L E

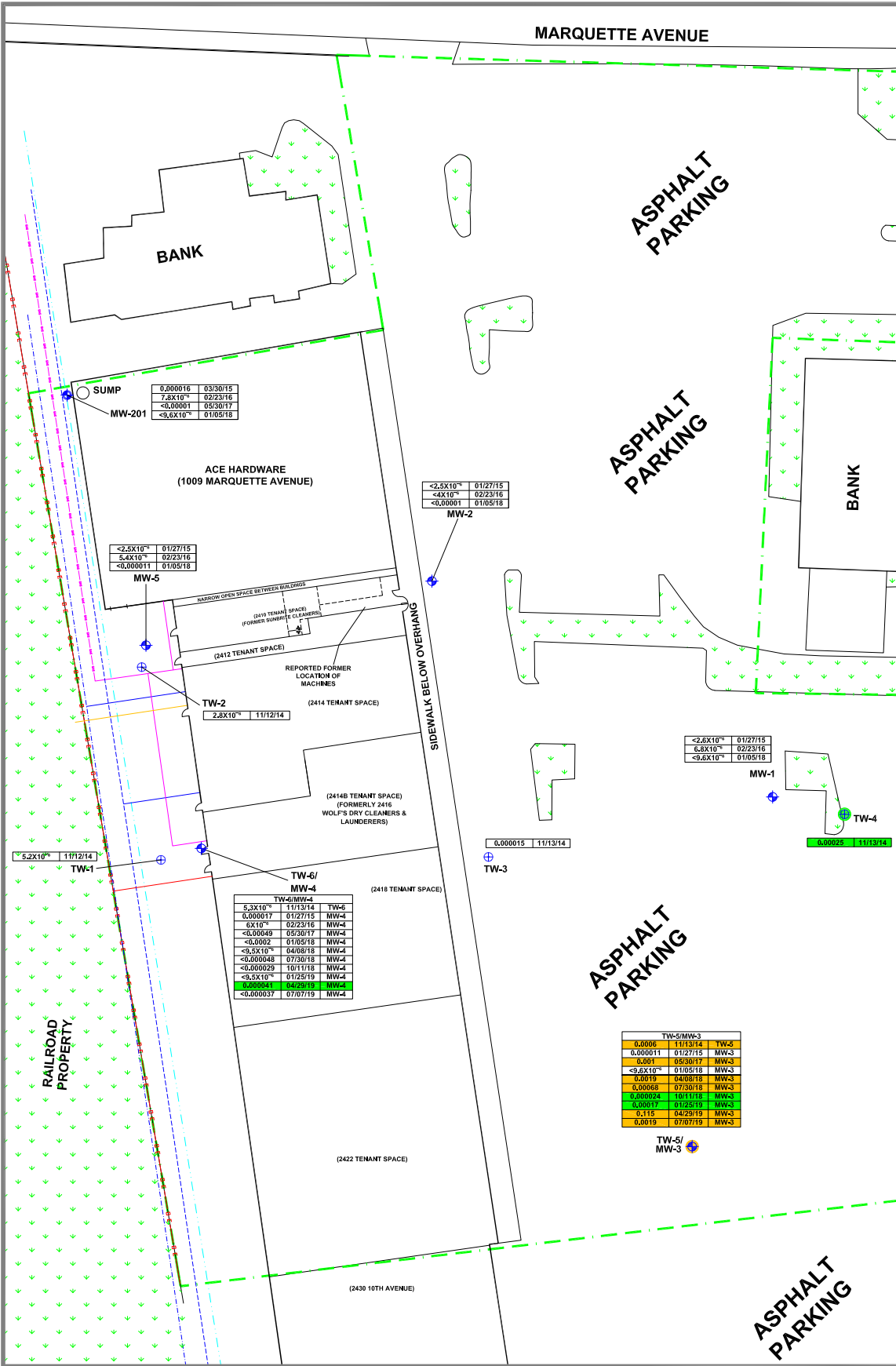
CAD FILE: 6255-133F  
REVISED: 07/29/19



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

FIGURE B.3.b.2  
GROUNDWATER  
ISOCONCENTRATION  
(TCE)





### 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
0.000016	03/30/15
7.2X10 <sup>-6</sup>	02/23/16
<0.00001	05/30/17
<9.6X10 <sup>-6</sup>	01/05/18

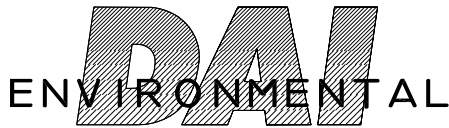
PAH CONC. mg/L	SAMPLE DATE
0.000015	11/13/14

PAH CONC. mg/L	SAMPLE DATE
0.000016	03/30/15
7.2X10 <sup>-6</sup>	02/23/16
<0.00001	05/30/17
<9.6X10 <sup>-6</sup>	01/05/18
0.000015	11/13/14
0.000017	01/27/15
0.000011	01/27/15
0.001	05/30/17
<9.6X10 <sup>-6</sup>	01/05/18
0.0019	04/08/18
0.00068	07/30/18
0.00028	10/11/18
0.00617	01/25/19
0.115	04/29/19
0.0019	07/07/19

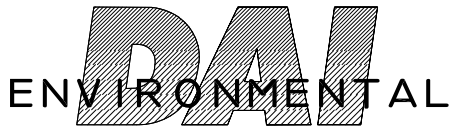
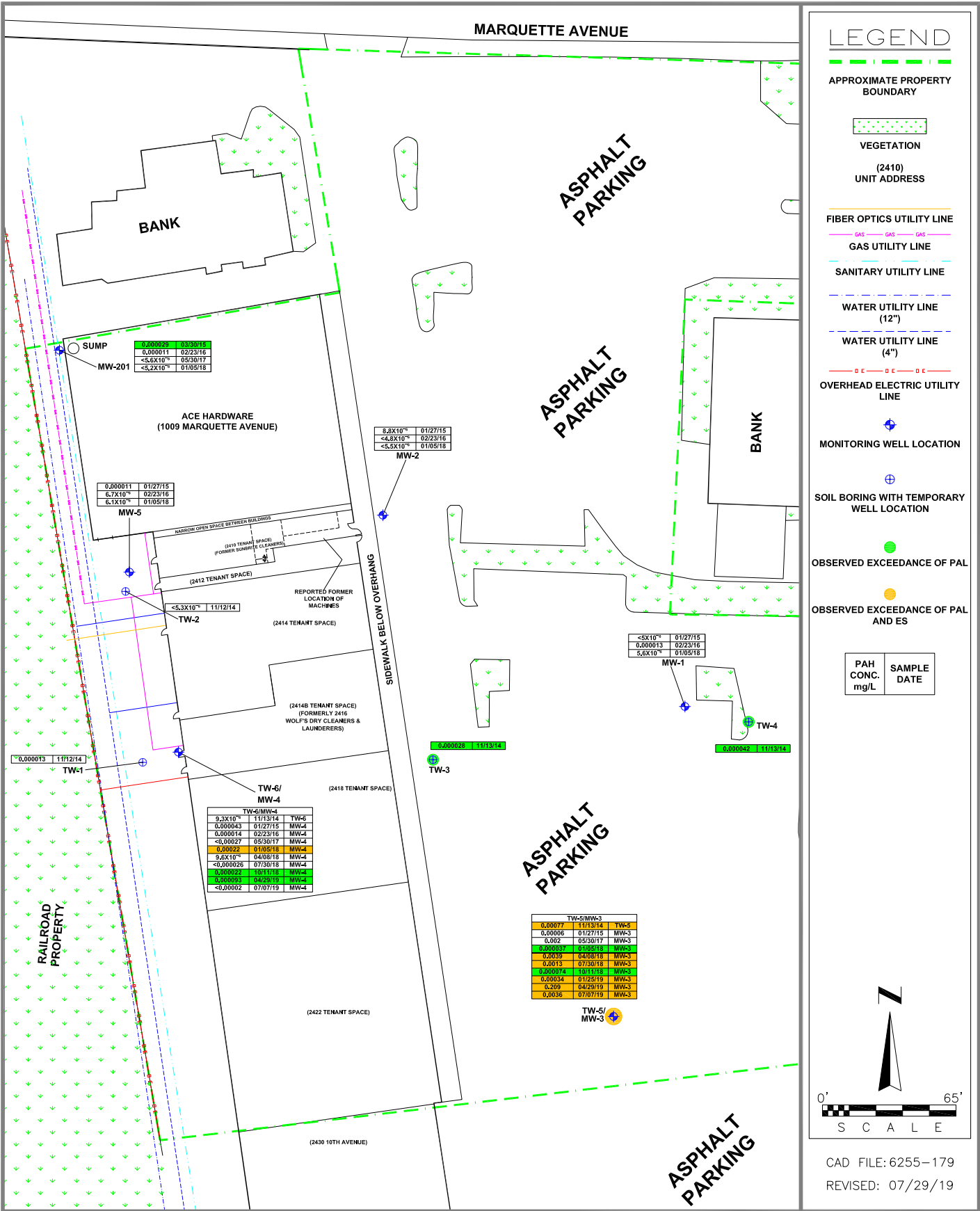
  

CAD FILE: 6255-178  
REVISED: 07/29/19



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

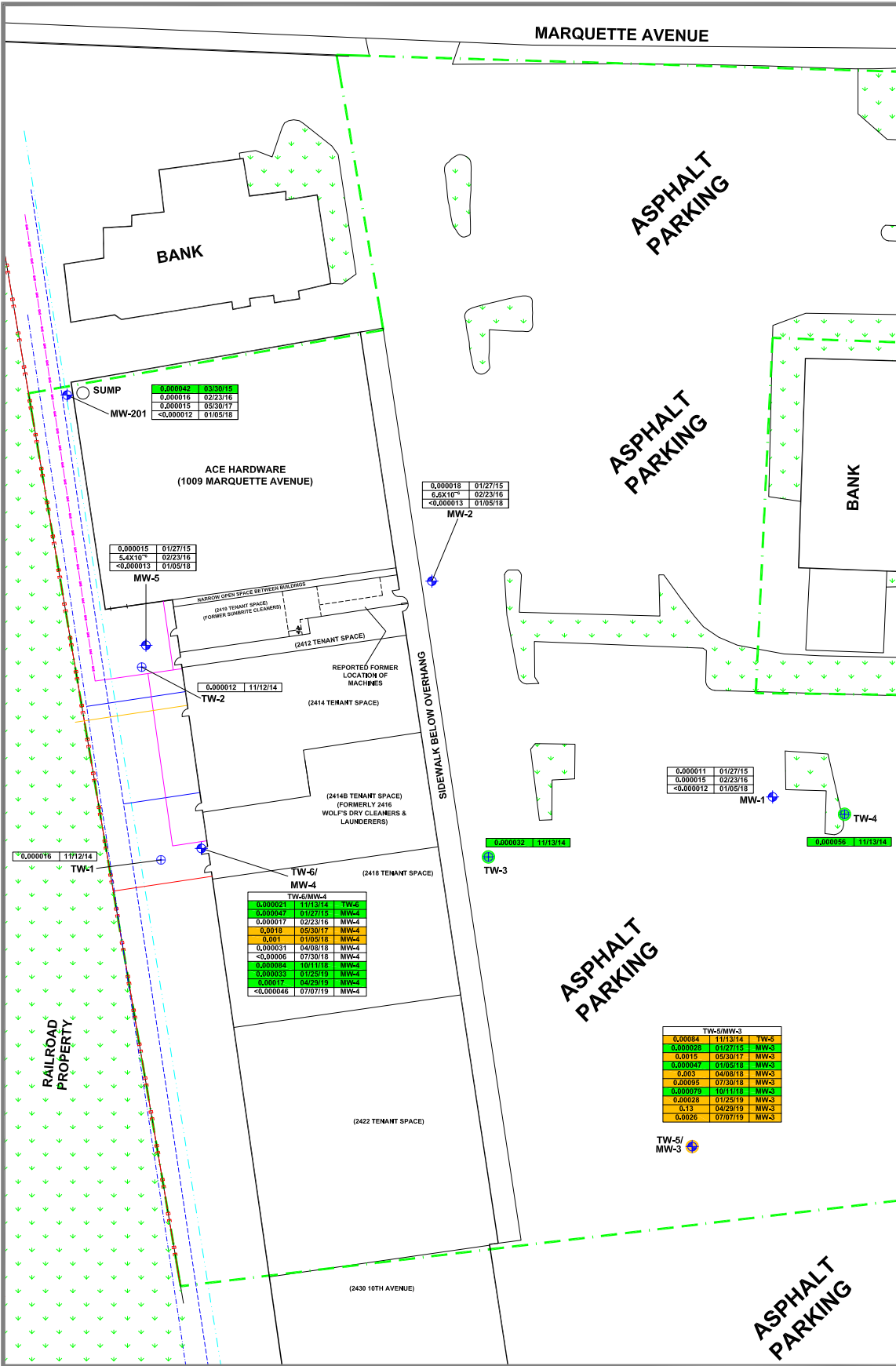
FIGURE B.3.b.2a  
GROUNDWATER  
ISOCONCENTRATION  
(BENZO(A)PYRENE)



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

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

CAD FILE: 6255-179  
 REVISED: 07/29/19



### 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
0.000042	03/20/15
0.000016	02/23/16
0.000015	05/30/17
<0.000012	01/05/18

0.000018	01/27/15
0.000018	02/23/16
<0.000013	01/05/18

0.000015	01/27/15
0.000015	02/23/16
<0.000013	01/05/18

0.000012	11/12/14
----------	----------

0.000016	11/12/14
----------	----------

0.000024	11/13/14	MW-4
0.000047	01/27/15	MW-4
0.000017	02/23/16	MW-4
0.0019	05/30/17	MW-4
0.001	01/05/18	MW-4
0.000031	04/08/18	MW-4
<0.00006	07/30/18	MW-4
0.000024	10/11/18	MW-4
0.000033	01/25/19	MW-4
0.00017	04/29/19	MW-4
<0.000046	07/07/19	MW-4

0.000011	01/27/15
0.000015	02/23/16
<0.000012	01/05/18

0.000032	11/13/14
----------	----------

0.000056	11/13/14
----------	----------

0.000084	11/13/14	TW-3
0.000026	01/27/15	MW-3
0.0015	05/30/17	MW-3
0.000047	01/05/18	MW-3
0.003	04/08/18	MW-3
0.00095	07/30/18	MW-3
0.000079	10/11/18	MW-3
0.00028	01/25/19	MW-3
0.13	04/29/19	MW-3
0.0026	07/07/19	MW-3

TW-5/  
MW-3

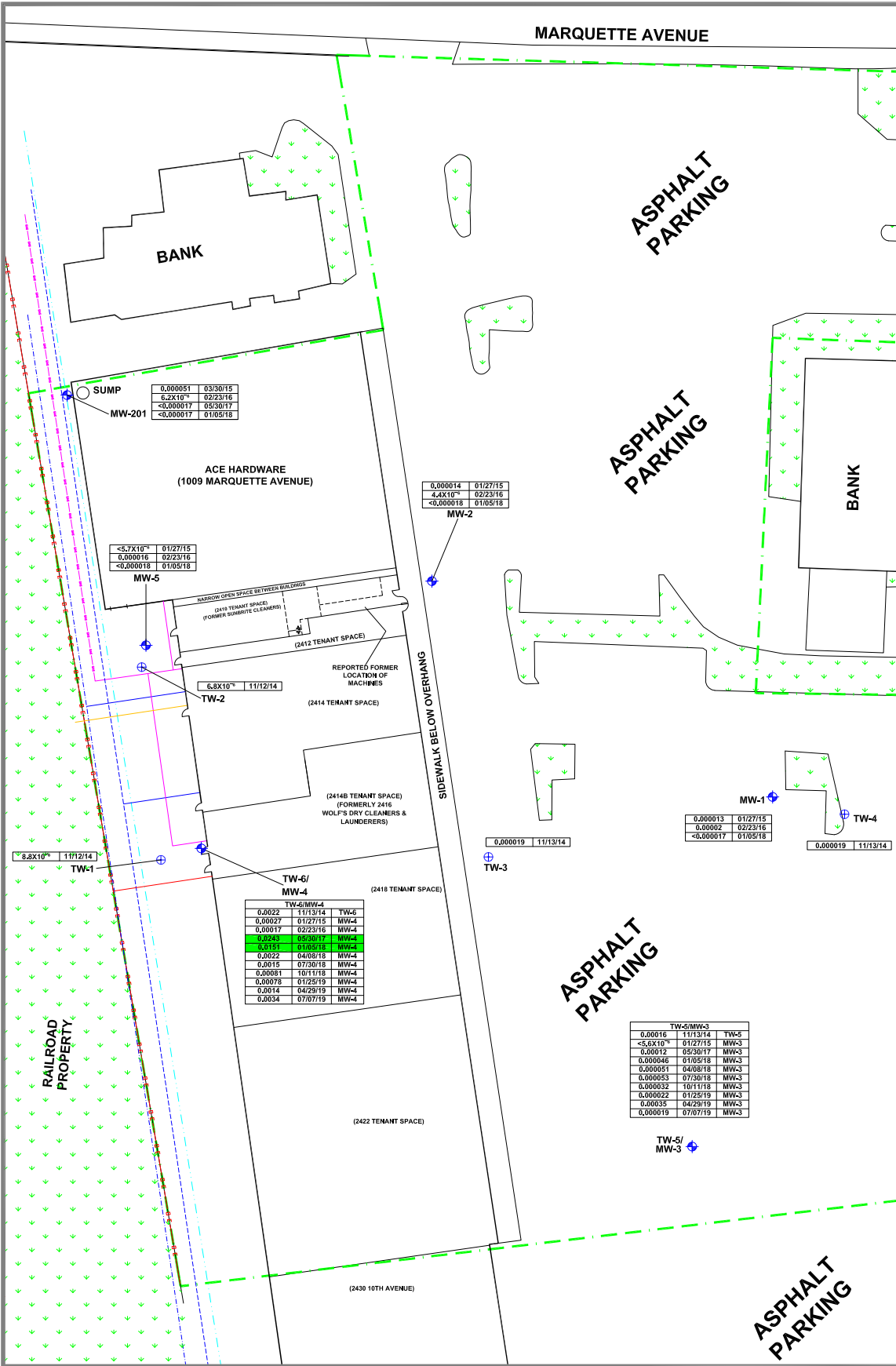
0'

65'

S C A L E

CAD FILE: 6255-180  
REVISED: 07/29/19





### 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

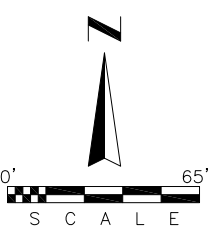
MONITORING WELL LOCATION

SOIL BORING WITH TEMPORARY WELL LOCATION

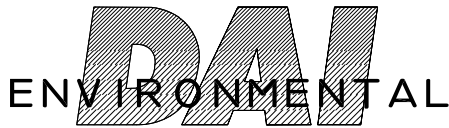
OBSERVED EXCEEDANCE OF PAL

OBSERVED EXCEEDANCE OF PAL AND ES

PAH CONC. mg/L	SAMPLE DATE
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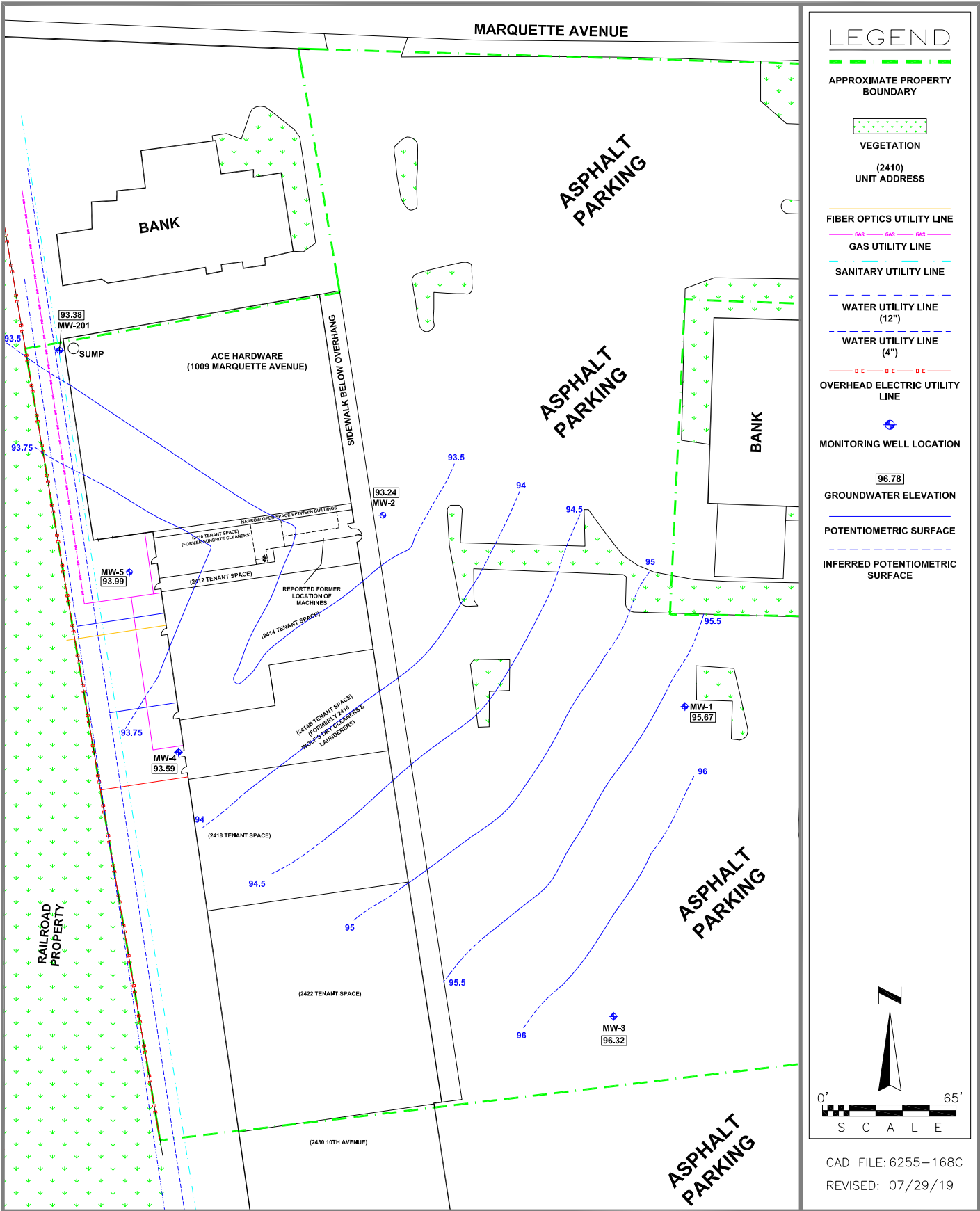


CAD FILE: 6255-181  
REVISED: 07/29/19



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

**FIGURE B.3.b.2d**  
**GROUNDWATER**  
**ISOCONCENTRATION**  
**(NAPHTHALENE)**





**APPENDIX C.1.E  
LABORATORY ANALYTICAL REPORT  
(THIRD QUARTER 2019)**

July 16, 2019

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

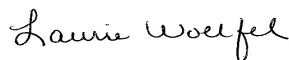
RE: Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40190836

Dear Chris Cailles:

Enclosed are the analytical results for sample(s) received by the laboratory on July 09, 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.: 40190836

---

### 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.: 40190836

---

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40190836001	MW-3	Water	07/05/19 10:00	07/09/19 09:42
40190836002	MW-4	Water	07/05/19 11:00	07/09/19 09:42
40190836003	MW-5	Water	07/05/19 12:00	07/09/19 09:42

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40190836

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40190836001	MW-3	EPA 8270 by HVI	RJN	20
40190836002	MW-4	EPA 8270 by HVI	RJN	20
40190836003	MW-5	EPA 8260	LAP	64

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

**Sample: MW-3**      **Lab ID: 40190836001**      Collected: 07/05/19 10:00      Received: 07/09/19 09:42      Matrix: Water

Parameters	Results	Units	LOQ	LOD	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>0.023J</b>	ug/L	0.027	0.0053	1	07/12/19 07:34	07/15/19 10:24	83-32-9	
Acenaphthylene	<b>0.084</b>	ug/L	0.022	0.0044	1	07/12/19 07:34	07/15/19 10:24	208-96-8	
Anthracene	<b>0.13</b>	ug/L	0.046	0.0092	1	07/12/19 07:34	07/15/19 10:24	120-12-7	
Benzo(a)anthracene	<b>0.87</b>	ug/L	0.033	0.0066	1	07/12/19 07:34	07/15/19 10:24	56-55-3	
Benzo(a)pyrene	<b>1.9</b>	ug/L	0.046	0.0092	1	07/12/19 07:34	07/15/19 10:24	50-32-8	
Benzo(b)fluoranthene	<b>3.6</b>	ug/L	0.025	0.0050	1	07/12/19 07:34	07/15/19 10:24	205-99-2	
Benzo(g,h,i)perylene	<b>2.5</b>	ug/L	0.030	0.0059	1	07/12/19 07:34	07/15/19 10:24	191-24-2	
Benzo(k)fluoranthene	<b>1.6</b>	ug/L	0.033	0.0066	1	07/12/19 07:34	07/15/19 10:24	207-08-9	
Chrysene	<b>2.6</b>	ug/L	0.057	0.011	1	07/12/19 07:34	07/15/19 10:24	218-01-9	
Dibenz(a,h)anthracene	<b>0.28</b>	ug/L	0.044	0.0088	1	07/12/19 07:34	07/15/19 10:24	53-70-3	
Fluoranthene	<b>3.5</b>	ug/L	0.047	0.0094	1	07/12/19 07:34	07/15/19 10:24	206-44-0	
Fluorene	<b>0.037</b>	ug/L	0.035	0.0070	1	07/12/19 07:34	07/15/19 10:24	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>1.9</b>	ug/L	0.077	0.015	1	07/12/19 07:34	07/15/19 10:24	193-39-5	
1-Methylnaphthalene	<b>0.011J</b>	ug/L	0.026	0.0052	1	07/12/19 07:34	07/15/19 10:24	90-12-0	
2-Methylnaphthalene	<b>0.014J</b>	ug/L	0.021	0.0043	1	07/12/19 07:34	07/15/19 10:24	91-57-6	
Naphthalene	<b>0.019J</b>	ug/L	0.080	0.016	1	07/12/19 07:34	07/15/19 10:24	91-20-3	
Phenanthrene	<b>0.79</b>	ug/L	0.060	0.012	1	07/12/19 07:34	07/15/19 10:24	85-01-8	
Pyrene	<b>2.9</b>	ug/L	0.034	0.0067	1	07/12/19 07:34	07/15/19 10:24	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	45	%	30-85		1	07/12/19 07:34	07/15/19 10:24	321-60-8	
Terphenyl-d14 (S)	34	%	10-120		1	07/12/19 07:34	07/15/19 10:24	1718-51-0	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

**Sample: MW-4**      **Lab ID: 40190836002**      Collected: 07/05/19 11:00      Received: 07/09/19 09:42      Matrix: Water

Parameters	Results	Units	LOQ	LOD	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>2.8</b>	ug/L	0.11	0.021	4	07/12/19 07:34	07/15/19 10:42	83-32-9	
Acenaphthylene	<b>0.50</b>	ug/L	0.087	0.017	4	07/12/19 07:34	07/15/19 10:42	208-96-8	
Anthracene	<b>0.44</b>	ug/L	0.18	0.037	4	07/12/19 07:34	07/15/19 10:42	120-12-7	
Benzo(a)anthracene	<b>&lt;0.026</b>	ug/L	0.13	0.026	4	07/12/19 07:34	07/15/19 10:42	56-55-3	
Benzo(a)pyrene	<b>&lt;0.037</b>	ug/L	0.18	0.037	4	07/12/19 07:34	07/15/19 10:42	50-32-8	
Benzo(b)fluoranthene	<b>&lt;0.020</b>	ug/L	0.10	0.020	4	07/12/19 07:34	07/15/19 10:42	205-99-2	
Benzo(g,h,i)perylene	<b>&lt;0.024</b>	ug/L	0.12	0.024	4	07/12/19 07:34	07/15/19 10:42	191-24-2	
Benzo(k)fluoranthene	<b>&lt;0.026</b>	ug/L	0.13	0.026	4	07/12/19 07:34	07/15/19 10:42	207-08-9	
Chrysene	<b>&lt;0.046</b>	ug/L	0.23	0.046	4	07/12/19 07:34	07/15/19 10:42	218-01-9	
Dibenz(a,h)anthracene	<b>&lt;0.035</b>	ug/L	0.18	0.035	4	07/12/19 07:34	07/15/19 10:42	53-70-3	
Fluoranthene	<b>0.11J</b>	ug/L	0.19	0.037	4	07/12/19 07:34	07/15/19 10:42	206-44-0	
Fluorene	<b>4.4</b>	ug/L	0.14	0.028	4	07/12/19 07:34	07/15/19 10:42	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>&lt;0.062</b>	ug/L	0.31	0.062	4	07/12/19 07:34	07/15/19 10:42	193-39-5	
1-Methylnaphthalene	<b>17.4</b>	ug/L	0.10	0.021	4	07/12/19 07:34	07/15/19 10:42	90-12-0	
2-Methylnaphthalene	<b>0.48</b>	ug/L	0.086	0.017	4	07/12/19 07:34	07/15/19 10:42	91-57-6	
Naphthalene	<b>3.4</b>	ug/L	0.32	0.064	4	07/12/19 07:34	07/15/19 10:42	91-20-3	
Phenanthrene	<b>1.3</b>	ug/L	0.24	0.048	4	07/12/19 07:34	07/15/19 10:42	85-01-8	
Pyrene	<b>0.37</b>	ug/L	0.13	0.027	4	07/12/19 07:34	07/15/19 10:42	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	36	%	30-85		4	07/12/19 07:34	07/15/19 10:42	321-60-8	
Terphenyl-d14 (S)	36	%	10-120		4	07/12/19 07:34	07/15/19 10:42	1718-51-0	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

Sample: MW-5 Lab ID: 40190836003 Collected: 07/05/19 12:00 Received: 07/09/19 09:42 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		07/11/19 07:21	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		07/11/19 07:21	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/11/19 07:21	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		07/11/19 07:21	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		07/11/19 07:21	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		07/11/19 07:21	74-83-9	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		07/11/19 07:21	104-51-8	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		07/11/19 07:21	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		07/11/19 07:21	98-06-6	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		07/11/19 07:21	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		07/11/19 07:21	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		07/11/19 07:21	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		07/11/19 07:21	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		07/11/19 07:21	74-87-3	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		07/11/19 07:21	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		07/11/19 07:21	106-43-4	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		07/11/19 07:21	96-12-8	
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		07/11/19 07:21	124-48-1	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		07/11/19 07:21	106-93-4	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		07/11/19 07:21	74-95-3	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		07/11/19 07:21	95-50-1	
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		07/11/19 07:21	541-73-1	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/11/19 07:21	106-46-7	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		07/11/19 07:21	75-71-8	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		07/11/19 07:21	75-34-3	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		07/11/19 07:21	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		07/11/19 07:21	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		07/11/19 07:21	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		07/11/19 07:21	156-60-5	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		07/11/19 07:21	78-87-5	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		07/11/19 07:21	142-28-9	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		07/11/19 07:21	594-20-7	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		07/11/19 07:21	563-58-6	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		07/11/19 07:21	10061-01-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		07/11/19 07:21	10061-02-6	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		07/11/19 07:21	108-20-3	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		07/11/19 07:21	100-41-4	
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		07/11/19 07:21	87-68-3	
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		07/11/19 07:21	98-82-8	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		07/11/19 07:21	99-87-6	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		07/11/19 07:21	75-09-2	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		07/11/19 07:21	1634-04-4	
Naphthalene	<1.2	ug/L	5.0	1.2	1		07/11/19 07:21	91-20-3	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		07/11/19 07:21	103-65-1	
Styrene	<0.47	ug/L	1.6	0.47	1		07/11/19 07:21	100-42-5	
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		07/11/19 07:21	630-20-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

**Sample: MW-5**      **Lab ID: 40190836003**      Collected: 07/05/19 12:00      Received: 07/09/19 09:42      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		07/11/19 07:21	79-34-5	
Tetrachloroethene	10.6	ug/L	1.1	0.33	1		07/11/19 07:21	127-18-4	
Toluene	<0.17	ug/L	5.0	0.17	1		07/11/19 07:21	108-88-3	
1,2,3-Trichlorobenzene	<0.63	ug/L	5.0	0.63	1		07/11/19 07:21	87-61-6	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		07/11/19 07:21	120-82-1	
1,1,1-Trichloroethane	0.38J	ug/L	1.0	0.24	1		07/11/19 07:21	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		07/11/19 07:21	79-00-5	
Trichloroethene	0.48J	ug/L	1.0	0.26	1		07/11/19 07:21	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		07/11/19 07:21	75-69-4	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		07/11/19 07:21	96-18-4	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		07/11/19 07:21	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		07/11/19 07:21	108-67-8	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		07/11/19 07:21	75-01-4	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		07/11/19 07:21	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		07/11/19 07:21	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	88	%	70-130		1		07/11/19 07:21	460-00-4	
Dibromofluoromethane (S)	93	%	70-130		1		07/11/19 07:21	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		07/11/19 07:21	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

QC Batch: 326991

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV

Associated Lab Samples: 40190836003

METHOD BLANK: 1898638

Matrix: Water

Associated Lab Samples: 40190836003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	07/10/19 09:04	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	07/10/19 09:04	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	07/10/19 09:04	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	07/10/19 09:04	
1,1-Dichloroethane	ug/L	<0.27	1.0	07/10/19 09:04	
1,1-Dichloroethene	ug/L	<0.24	1.0	07/10/19 09:04	
1,1-Dichloropropene	ug/L	<0.54	1.8	07/10/19 09:04	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	07/10/19 09:04	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	07/10/19 09:04	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	07/10/19 09:04	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	07/10/19 09:04	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	07/10/19 09:04	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	07/10/19 09:04	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	07/10/19 09:04	
1,2-Dichloroethane	ug/L	<0.28	1.0	07/10/19 09:04	
1,2-Dichloropropane	ug/L	<0.28	1.0	07/10/19 09:04	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	07/10/19 09:04	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	07/10/19 09:04	
1,3-Dichloropropane	ug/L	<0.83	2.8	07/10/19 09:04	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	07/10/19 09:04	
2,2-Dichloropropane	ug/L	<2.3	7.6	07/10/19 09:04	
2-Chlorotoluene	ug/L	<0.93	5.0	07/10/19 09:04	
4-Chlorotoluene	ug/L	<0.76	2.5	07/10/19 09:04	
Benzene	ug/L	<0.25	1.0	07/10/19 09:04	
Bromobenzene	ug/L	<0.24	1.0	07/10/19 09:04	
Bromochloromethane	ug/L	<0.36	5.0	07/10/19 09:04	
Bromodichloromethane	ug/L	<0.36	1.2	07/10/19 09:04	
Bromoform	ug/L	<4.0	13.2	07/10/19 09:04	
Bromomethane	ug/L	<0.97	5.0	07/10/19 09:04	
Carbon tetrachloride	ug/L	<0.17	1.0	07/10/19 09:04	
Chlorobenzene	ug/L	<0.71	2.4	07/10/19 09:04	
Chloroethane	ug/L	<1.3	5.0	07/10/19 09:04	
Chloroform	ug/L	<1.3	5.0	07/10/19 09:04	
Chloromethane	ug/L	<2.2	7.3	07/10/19 09:04	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	07/10/19 09:04	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	07/10/19 09:04	
Dibromochloromethane	ug/L	<2.6	8.7	07/10/19 09:04	
Dibromomethane	ug/L	<0.94	3.1	07/10/19 09:04	
Dichlorodifluoromethane	ug/L	<0.50	5.0	07/10/19 09:04	
Diisopropyl ether	ug/L	<1.9	6.3	07/10/19 09:04	
Ethylbenzene	ug/L	<0.22	1.0	07/10/19 09:04	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

METHOD BLANK: 1898638

Matrix: Water

Associated Lab Samples: 40190836003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	07/10/19 09:04	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	07/10/19 09:04	
m&p-Xylene	ug/L	<0.47	2.0	07/10/19 09:04	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	07/10/19 09:04	
Methylene Chloride	ug/L	<0.58	5.0	07/10/19 09:04	
n-Butylbenzene	ug/L	<0.71	2.4	07/10/19 09:04	
n-Propylbenzene	ug/L	<0.81	5.0	07/10/19 09:04	
Naphthalene	ug/L	<1.2	5.0	07/10/19 09:04	
o-Xylene	ug/L	<0.26	1.0	07/10/19 09:04	
p-Isopropyltoluene	ug/L	<0.80	2.7	07/10/19 09:04	
sec-Butylbenzene	ug/L	<0.85	5.0	07/10/19 09:04	
Styrene	ug/L	<0.47	1.6	07/10/19 09:04	
tert-Butylbenzene	ug/L	<0.30	1.0	07/10/19 09:04	
Tetrachloroethene	ug/L	<0.33	1.1	07/10/19 09:04	
Toluene	ug/L	<0.17	5.0	07/10/19 09:04	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	07/10/19 09:04	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	07/10/19 09:04	
Trichloroethene	ug/L	<0.26	1.0	07/10/19 09:04	
Trichlorofluoromethane	ug/L	<0.21	1.0	07/10/19 09:04	
Vinyl chloride	ug/L	<0.17	1.0	07/10/19 09:04	
4-Bromofluorobenzene (S)	%	98	70-130	07/10/19 09:04	
Dibromofluoromethane (S)	%	99	70-130	07/10/19 09:04	
Toluene-d8 (S)	%	97	70-130	07/10/19 09:04	

LABORATORY CONTROL SAMPLE: 1898639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	58.2	116	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.1	104	70-130	
1,1,2-Trichloroethane	ug/L	50	50.2	100	70-130	
1,1-Dichloroethane	ug/L	50	49.7	99	73-150	
1,1-Dichloroethene	ug/L	50	54.0	108	73-138	
1,2,4-Trichlorobenzene	ug/L	50	50.9	102	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	51.4	103	64-129	
1,2-Dibromoethane (EDB)	ug/L	50	49.5	99	70-130	
1,2-Dichlorobenzene	ug/L	50	51.2	102	70-130	
1,2-Dichloroethane	ug/L	50	52.9	106	75-140	
1,2-Dichloropropane	ug/L	50	46.8	94	73-135	
1,3-Dichlorobenzene	ug/L	50	50.3	101	70-130	
1,4-Dichlorobenzene	ug/L	50	50.4	101	70-130	
Benzene	ug/L	50	54.1	108	70-130	
Bromodichloromethane	ug/L	50	55.5	111	70-130	
Bromoform	ug/L	50	48.9	98	68-129	
Bromomethane	ug/L	50	56.0	112	18-159	

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### QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

LABORATORY CONTROL SAMPLE: 1898639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	59.6	119	70-130	
Chlorobenzene	ug/L	50	53.0	106	70-130	
Chloroethane	ug/L	50	55.3	111	53-147	
Chloroform	ug/L	50	54.8	110	74-136	
Chloromethane	ug/L	50	43.5	87	29-115	
cis-1,2-Dichloroethene	ug/L	50	50.0	100	70-130	
cis-1,3-Dichloropropene	ug/L	50	56.7	113	70-130	
Dibromochloromethane	ug/L	50	47.4	95	70-130	
Dichlorodifluoromethane	ug/L	50	50.4	101	10-130	
Ethylbenzene	ug/L	50	57.0	114	80-124	
Isopropylbenzene (Cumene)	ug/L	50	59.2	118	70-130	
m&p-Xylene	ug/L	100	115	115	70-130	
Methyl-tert-butyl ether	ug/L	50	52.1	104	54-137	
Methylene Chloride	ug/L	50	54.0	108	73-138	
o-Xylene	ug/L	50	55.6	111	70-130	
Styrene	ug/L	50	57.9	116	70-130	
Tetrachloroethene	ug/L	50	54.7	109	70-130	
Toluene	ug/L	50	56.9	114	80-126	
trans-1,2-Dichloroethene	ug/L	50	55.4	111	73-145	
trans-1,3-Dichloropropene	ug/L	50	48.4	97	70-130	
Trichloroethene	ug/L	50	57.0	114	70-130	
Trichlorofluoromethane	ug/L	50	58.8	118	76-147	
Vinyl chloride	ug/L	50	54.6	109	51-120	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1899007 1899008

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40190805005	Result	Spike Conc.	Spike Conc.								
1,1,1-Trichloroethane	ug/L	0.67J	50	50	53.1	57.1	105	113	70-130	7	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	48.2	49.2	96	98	70-130	2	20		
1,1,2-Trichloroethane	ug/L	<0.55	50	50	45.8	48.5	92	97	70-137	6	20		
1,1-Dichloroethane	ug/L	<0.27	50	50	45.4	48.5	91	97	73-153	7	20		
1,1-Dichloroethene	ug/L	0.50J	50	50	51.6	52.7	102	104	73-138	2	20		
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	48.3	49.9	96	99	70-130	3	20		
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	50.5	52.1	101	104	58-129	3	20		
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	46.4	48.9	93	98	70-130	5	20		
1,2-Dichlorobenzene	ug/L	<0.71	50	50	47.4	48.0	95	96	70-130	1	20		
1,2-Dichloroethane	ug/L	<0.28	50	50	49.5	52.0	99	104	75-140	5	20		
1,2-Dichloropropane	ug/L	<0.28	50	50	43.4	43.2	87	86	71-138	0	20		
1,3-Dichlorobenzene	ug/L	<0.63	50	50	45.6	47.0	91	94	70-130	3	20		
1,4-Dichlorobenzene	ug/L	<0.94	50	50	46.2	47.4	92	95	70-130	3	20		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING  
Pace Project No.: 40190836

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1899007 1899008												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40190805005 Result	Spike Conc.	Spike Conc.	MS Result							
Benzene	ug/L	<0.25	50	50	49.1	52.8	98	106	70-130	7	20	
Bromodichloromethane	ug/L	<0.36	50	50	50.6	51.0	101	102	70-130	1	20	
Bromoform	ug/L	<4.0	50	50	44.8	45.7	90	91	68-129	2	20	
Bromomethane	ug/L	<0.97	50	50	59.4	63.3	119	127	15-170	6	20	
Carbon tetrachloride	ug/L	<0.17	50	50	53.3	58.1	107	116	70-130	9	20	
Chlorobenzene	ug/L	<0.71	50	50	47.3	49.9	95	100	70-130	5	20	
Chloroethane	ug/L	<1.3	50	50	48.8	52.1	98	104	51-148	7	20	
Chloroform	ug/L	<1.3	50	50	49.4	53.3	99	107	74-136	8	20	
Chloromethane	ug/L	<2.2	50	50	39.9	41.9	79	83	23-115	5	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	48.5	51.9	97	104	70-131	7	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	50.2	53.2	100	106	70-130	6	20	
Dibromochloromethane	ug/L	<2.6	50	50	43.6	46.7	87	93	70-130	7	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	46.0	49.7	92	99	10-132	8	20	
Ethylbenzene	ug/L	<0.22	50	50	50.4	54.0	101	108	80-125	7	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	51.8	56.4	104	113	70-130	8	20	
m&p-Xylene	ug/L	<0.47	100	100	102	110	102	110	70-130	7	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	46.9	52.9	94	106	51-145	12	20	
Methylene Chloride	ug/L	<0.58	50	50	48.3	51.1	97	102	73-140	6	20	
o-Xylene	ug/L	<0.26	50	50	48.4	52.4	97	105	70-130	8	20	
Styrene	ug/L	<0.47	50	50	51.5	54.8	103	110	70-130	6	20	
Tetrachloroethene	ug/L	<0.33	50	50	50.2	50.4	100	100	70-130	0	20	
Toluene	ug/L	<0.17	50	50	50.5	52.8	101	106	80-131	4	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	50.5	51.9	101	104	73-148	3	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	44.7	48.0	89	96	70-130	7	20	
Trichloroethene	ug/L	1.1	50	50	50.6	51.3	99	100	70-130	1	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	55.4	57.4	111	115	74-147	4	20	
Vinyl chloride	ug/L	<0.17	50	50	47.2	49.7	94	99	41-129	5	20	
4-Bromofluorobenzene (S)	%						102	106	70-130			
Dibromofluoromethane (S)	%						100	102	70-130			
Toluene-d8 (S)	%						101	101	70-130			

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

QC Batch: 327307

Analysis Method: EPA 8270 by HVI

QC Batch Method: EPA 3510

Analysis Description: 8270 Water PAH by HVI

Associated Lab Samples: 40190836001, 40190836002

METHOD BLANK: 1900500

Matrix: Water

Associated Lab Samples: 40190836001, 40190836002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	07/15/19 08:52	
2-Methylnaphthalene	ug/L	<0.0049	0.024	07/15/19 08:52	
Acenaphthene	ug/L	<0.0061	0.030	07/15/19 08:52	
Acenaphthylene	ug/L	<0.0050	0.025	07/15/19 08:52	
Anthracene	ug/L	<0.010	0.052	07/15/19 08:52	
Benzo(a)anthracene	ug/L	<0.0076	0.038	07/15/19 08:52	
Benzo(a)pyrene	ug/L	<0.011	0.053	07/15/19 08:52	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	07/15/19 08:52	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	07/15/19 08:52	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	07/15/19 08:52	
Chrysene	ug/L	<0.013	0.065	07/15/19 08:52	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	07/15/19 08:52	
Fluoranthene	ug/L	<0.011	0.053	07/15/19 08:52	
Fluorene	ug/L	<0.0080	0.040	07/15/19 08:52	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	07/15/19 08:52	
Naphthalene	ug/L	<0.018	0.092	07/15/19 08:52	
Phenanthrene	ug/L	<0.014	0.069	07/15/19 08:52	
Pyrene	ug/L	<0.0076	0.038	07/15/19 08:52	
2-Fluorobiphenyl (S)	%	69	30-85	07/15/19 08:52	
Terphenyl-d14 (S)	%	114	10-120	07/15/19 08:52	

LABORATORY CONTROL SAMPLE & LCSD: 1900501

1900502

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	2	1.3	1.1	63	55	39-88	13	29	
2-Methylnaphthalene	ug/L	2	1.3	1.2	66	58	40-93	14	29	
Acenaphthene	ug/L	2	1.5	1.3	73	67	43-102	8	30	
Acenaphthylene	ug/L	2	1.4	1.4	72	68	42-103	7	31	
Anthracene	ug/L	2	1.7	1.8	84	91	52-105	8	36	
Benzo(a)anthracene	ug/L	2	1.8	1.9	90	97	39-120	8	39	
Benzo(a)pyrene	ug/L	2	1.8	1.9	90	95	57-117	6	39	
Benzo(b)fluoranthene	ug/L	2	1.5	1.6	76	82	54-117	7	41	
Benzo(g,h,i)perylene	ug/L	2	1.1	1.5	56	76	32-82	29	44	
Benzo(k)fluoranthene	ug/L	2	2.0	2.1	99	107	56-123	8	39	
Chrysene	ug/L	2	2.1	2.4	105	118	63-122	11	38	
Dibenz(a,h)anthracene	ug/L	2	0.99	1.5	50	75	23-76	41	46	
Fluoranthene	ug/L	2	1.7	1.9	87	96	52-112	10	35	
Fluorene	ug/L	2	1.6	1.5	79	77	46-116	3	33	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.6	1.8	80	89	49-110	10	32	
Naphthalene	ug/L	2	1.3	1.1	64	56	37-84	13	29	

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### QUALITY CONTROL DATA

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

Parameter	Units	1900501		1900502		LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec						
Phenanthrene	ug/L	2	1.7	1.8	84	88	50-104	5	36		
Pyrene	ug/L	2	1.8	2.0	90	98	57-123	9	36		
2-Fluorobiphenyl (S)	%				71	71	30-85				
Terphenyl-d14 (S)	%				114	123	10-120			S0	

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## QUALIFIERS

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

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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.

### BATCH QUALIFIERS

Batch: 327361

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

[1] A surrogate failed high in the LCS, All target compounds in both the LCS and LCSD meet accuracy and precision requirements

### ANALYTE QUALIFIERS

S0 Surrogate recovery outside laboratory control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6255 SUNRISE SHOPPING

Pace Project No.: 40190836

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40190836001	MW-3	EPA 3510	327307	EPA 8270 by HVI	327361
40190836002	MW-4	EPA 3510	327307	EPA 8270 by HVI	327361
40190836003	MW-5	EPA 8260	326991		

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **DAI**  
 Branch/Location: **LACE FOREST**  
 Project Contact: **CHRIS CAHILL**  
 Phone: **817 573 8900**  
 Project Number: **6255**  
 Project Name: **SUNRISE SHOPPING**  
 Project State: **WI**  
 Sampled By (Print): **DAN TRAEV**  
 Sampled By (Sign): *[Signature]*



UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

40190836

# CHAIN OF CUSTODY

**Preservation Codes**  
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH  
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?  
(YES/NO)  
 PRESERVATION  
(CODE)\*

Y/N	N	J																
Pick Letter	B	A																
Analyses Requested	VOLs	PAHS																

Quote #: \_\_\_\_\_  
 Mail To Contact: \_\_\_\_\_  
 Mail To Company: \_\_\_\_\_  
 Mail To Address: \_\_\_\_\_  
 Invoice To Contact: \_\_\_\_\_  
 Invoice To Company: \_\_\_\_\_  
 Invoice To Address: \_\_\_\_\_  
 Invoice To Phone: \_\_\_\_\_

PO #: \_\_\_\_\_ Regulatory Program: \_\_\_\_\_

**Data Package Options** (billable)  
 EPA Level III  
 EPA Level IV

**MS/MSD**  
 On your sample (billable)  
 NOT needed on your sample

**Matrix Codes**  
 A = Air W = Water  
 B = Biota DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 O = Oil SW = Surface Water  
 S = Soil WW = Waste Water  
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Analyses Requested
		DATE	TIME		
601	MW-3	7/5	1000	GW	
002	MW-4		1100	↓	
003	MW-5		1200	↓	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)  
 Date Needed: \_\_\_\_\_

Transmit Prelim Rush Results by (complete what you want): \_\_\_\_\_

Relinquished By: <i>Mans...</i>	Date/Time: 7/8/19 14:45	Received By: <i>Katrin Wenzel</i>	Date/Time: 7/8/19 14:45
Relinquished By: <i>Katrin Wenzel</i>	Date/Time: 7/8/19 1800	Received By: <i>CS Logistics</i>	Date/Time: 7/8/19
Relinquished By: <i>CS Logistics</i>	Date/Time: 7/11/19 09:42	Received By: <i>[Signature]</i>	Date/Time: 7/11/19 09:42
Relinquished By: _____	Date/Time: _____	Received By: _____	Date/Time: _____


PACE Project No. **40190836**

Receipt Temp = **1.0 °C**

Sample Receipt pH **OK / Adjusted**

Cooler Custody Seal **Present / Not Present**  
**Intact / Not Intact**



 1241 Bellevue Street, Green Bay, WI 54302	Document Name: <b>Sample Condition Upon Receipt (SCUR)</b>	Document Revised: 25Apr2018
	Document No.: <b>F-GB-C-031-Rev.07</b>	Issuing Authority: <b>Pace Green Bay Quality Office</b>

### Sample Condition Upon Receipt Form (SCUR)

Project #:

Client Name: DAI

Courier:  CS Logistics  Fed Ex  Speedee  UPS  Walto  
 Client  Pace Other: \_\_\_\_\_

**WO#: 40190836**



Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no  
 Custody Seal on Samples Present:  yes  no Seals intact:  yes  no  
 Packing Material:  Bubble Wrap  Bubble Bags  None  Other  
 Thermometer Used SR - N/A Type of Ice:  Wet  Blue Dry None  Samples on ice, cooling process has begun  
 Cooler Temperature Uncorr: R01 / Corr: \_\_\_\_\_

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

Person examining contents:  
 Date: 7/9/19  
 Initials: PG

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>No mail, invoice</u> <u>7/9/19 PG</u>
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:	<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 checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" 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>		
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 checked="" 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: ckw

Date: 7/9/19