

**From:** Dombrowski, Frank J <frank.dombrowski@wecenergygroup.com>  
**Sent:** Friday, June 24, 2022 11:35 AM  
**To:** Krueger, Sarah E - DNR  
**Cc:** Andrew G Cawrse (Andrew.Cawrse@ramboll.com); Brian Hennings (Brian.Hennings@ramboll.com); Prasad, Narendra M  
**Subject:** Former We Energies Appleton MGP - Results of Forensic Analysis of Groundwater at Lawrence University Property  
**Attachments:** L2221332.pdf; Figure 1\_Well Locations.pdf

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Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Hi Sarah,

As outlined in the November 15, 2021 forensic analysis sampling plan which was approved by WDNR on November 30, 2021, we have completed a forensic evaluation of groundwater samples collected from the former Appleton MGP site and the Lawrence University property. On April 21 and 22, 2022, groundwater samples were collected from the former MGP site monitoring wells MW-22, MW-24, and MW-12R. The samples from wells MW-12R and MW-22 are considered representative of dissolved phase impacts at the former MGP site. MW-22 and MW-24 are the nearest MGP monitoring wells upgradient and downgradient (respectively) of the Lawrence University property; MW-24 is considered the downgradient sentinel well for the former MGP site. In addition, a groundwater sample was collected from the well in question (MW-3) located on the Lawrence University property. The attached Figure 1 depicts these well locations.

The forensic samples were collected in conjunction with the annual sampling event at the Appleton MGP site and submitted to Alpha Analytical for analysis of saturated hydrocarbons (Method 8015D Modified), parent and alkylated PAHs and phenols (Methods 8270D and 8270D-SIM), and PIANO analytes (Method 8260D). The samples were analyzed using analytical methods for hydrocarbon forensics to allow for the evaluation of the compositional and concentration differences among and between the samples. Results of the forensic analysis indicated that the samples collected from the former MGP site (wells MW-12R and MW-22) had the highest concentrations while only trace levels of PAH or PIANO analytes found in downgradient sentinel well MW-24. Lawrence University well MW-3 had lower detections of PAH and PIANO analytes compared to MW-12R and MW-22. Overall, the evaluation found compositional differences among all samples, particularly for the PIANO analytes. However, the results suggest that PAHs in MW-3 appear to be from a pyrogenic source with similarities to PAHs found in both MW-12R and MW-22. Therefore, based on the forensic analyses, we were unable to conclusively rule out MGP-related impacts in MW-3. I will contact you next week to discuss a proposed path forward.

Attached are the laboratory analytical results for the samples collected as part of the forensic analysis.

As always, please feel free to contact me with any questions or if additional information may be needed.

Thanks,

*Frank Dombrowski  
Principal Environmental Consultant*

WEC Energy Group - Business Services  
Environmental Dept. - Land Quality Group  
333 W. Everett St., A231  
Milwaukee, WI 53203  
Office: (414) 221-2156  
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Fax: (414) 221-2022

*Serving WEC Energy Group, We Energies, Wisconsin Public Service, Michigan Gas Utilities,  
Minnesota Energy Resources, Peoples Gas and North Shore Gas*

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**From:** Krueger, Sarah E - DNR <[sarah.krueger@wisconsin.gov](mailto:sarah.krueger@wisconsin.gov)>  
**Sent:** Tuesday, November 30, 2021 11:07 AM  
**To:** Dombrowski, Frank J <[frank.dombrowski@wecenergygroup.com](mailto:frank.dombrowski@wecenergygroup.com)>  
**Cc:** Andrew G Cawrse <[Andrew.Cawrse@ramboll.com](mailto:Andrew.Cawrse@ramboll.com)>; Brian G Hennings <[Brian.Hennings@ramboll.com](mailto:Brian.Hennings@ramboll.com)>; Beggs, Tauren R - DNR <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)>  
**Subject:** RE: Former We Energies Appleton MGP - Proposed Next Steps Regarding Lawrence University Property

Frank,

DNR has reviewed your proposed next steps, and while a forensic evaluation may be used as one line of evidence to help determine origin of the Naphthalene and Benzene in groundwater it should not be used by itself to exclude contamination that would otherwise be attributed to the MGP release.

An issue not necessarily resolved by forensic analysis is that PAH mixture ratios can vary from differential weathering, degradation, and transport processes of individual PAHs; in addition to subjective assumptions on origin or starting mixtures. Additionally, graphical comparisons of ratios and other interpretations of four groundwater samples will not be statistically significant.

The proposed forensic evaluation may be used as a line of evidence as to origin; however, it should not be used by itself. This email serves as your notice to proceed and DNR concurrence with the limited work plan provided on November 15, 2021 via email.

Thank you,  
Sarah

**We are committed to service excellence.**  
Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Sarah Krueger, P.G.**  
Phone: (920) 510-8277  
[Sarah.Krueger@wisconsin.gov](mailto:Sarah.Krueger@wisconsin.gov)

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**From:** Dombrowski, Frank J <[frank.dombrowski@wecenergygroup.com](mailto:frank.dombrowski@wecenergygroup.com)>  
**Sent:** Monday, November 15, 2021 10:29 AM  
**To:** Krueger, Sarah E - DNR <[sarah.krueger@wisconsin.gov](mailto:sarah.krueger@wisconsin.gov)>

**Cc:** Andrew G Cawrse ([Andrew.Cawrse@ramboll.com](mailto:Andrew.Cawrse@ramboll.com)) <[Andrew.Cawrse@ramboll.com](mailto:Andrew.Cawrse@ramboll.com)>; Brian Hennings ([Brian.Hennings@ramboll.com](mailto:Brian.Hennings@ramboll.com)) <[Brian.Hennings@ramboll.com](mailto:Brian.Hennings@ramboll.com)>

**Subject:** Former We Energies Appleton MGP - Proposed Next Steps Regarding Lawrence University Property

**CAUTION: This email originated from outside the organization.**  
**Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Hi Sarah,

As discussed during our October 6<sup>th</sup> meeting, we have evaluated potential paths forward with regard to the contaminants observed at the Lawrence University property. Forensic analysis of the groundwater from wells at both the Appleton MGP site and Lawrence University property is proposed to determine if the impacts observed at the property may be related to the release at the former MGP site. The goals of the analyses would be to 1) evaluate whether the samples from the affected well MW-3 are similar or different from the on site and nearby water samples, and 2) to determine the nature of the potential source materials that may have affected the Lawrence University well.

Prior to the start of the field activities, an access agreement will need to be negotiated with Lawrence University. After an agreement is executed, groundwater samples will be collected from Appleton MGP monitoring wells MW-22, MW-24, and MW-12R. The sample from well MW-12R is considered representative of dissolved phase impacts within the former MGP and wells MW-22 and MW-24 are the nearest MGP site wells upgradient and downgradient of the Lawrence University property. In addition, a groundwater sample will be collected from the impacted well (MW-3) located on the Lawrence University property. The attached Figure 1 depicts these well locations. The groundwater samples will be analyzed by Alpha Analytical for the following parameters:

- Saturated hydrocarbons (e.g., alkanes) with USEPA Method 8015 Modified
- Parent and alkylated PAHs with USEPA Method 8270 Modified
- PIANO analytes (paraffins, isoparaffins, mono-aromatics, naphthenes, olefins) based on USEPA Method 8260
- Phenols with USEPA Method 8270

Following receipt of the analytical results, the data will be qualitatively evaluated by constructing and comparing PAH, Alkane, and/or PIANO ratios and bar graphs to identify similarities among the samples and similarities to known PAH source profiles. A summary of the tasks performed during sampling event, the data analysis and interpretation, figures, tables, and laboratory reports will be provided in a tech memo. Prior to starting with this work, we are requesting WDNRs concurrence the proposed plan.

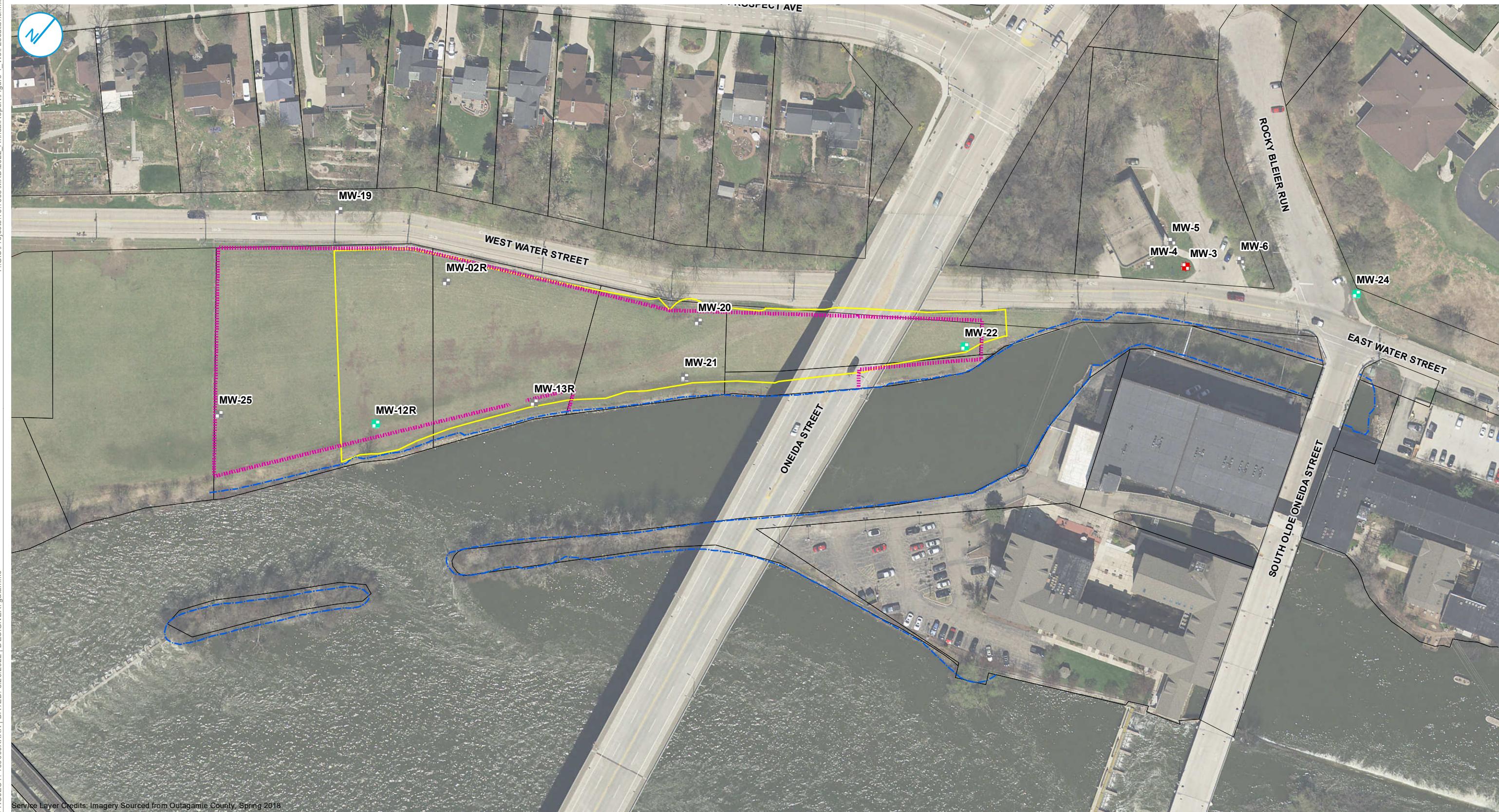
We appreciate your assistance and cooperation with this matter. Please feel free to contact me with any questions or if additional information may be needed.

Thanks,

*Frank Dombrowski  
Principal Environmental Consultant*

WEC Energy Group - Business Services  
Environmental Dept. - Land Quality Group  
333 W. Everett St., A231  
Milwaukee, WI 53203  
Office: (414) 221-2156  
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*Serving WEC Energy Group, We Energies, Wisconsin Public Service, Michigan Gas Utilities,  
Minnesota Energy Resources, Peoples Gas and North Shore Gas*



PROJECT: 1690000XXX | DATED: 5/26/2022 | DESIGNER: galammc  
MONITORING WELL LOCATION NOT PART OF FORENSIC ANALYSIS

MONITORING WELL LOCATION PART OF FORENSIC ANALYSIS - LAWRENCE UNIVERSITY PROPERTY

MONITORING WELL LOCATION PART OF FORENSIC ANALYSIS - APPLETON MGP

SHORELINE

FORMER MGP SITE PERIMETER  
PERIMETER OF ISS TREATMENT AREA  
2019 TAX PARCEL

## WELL LOCATIONS

WE ENERGIES  
FORMER APPLETON  
MANUFACTURED GAS PLANT (MGP)  
APPLETON, WISCONSIN

**FIGURE 1**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.

RAMBOLL

0 50 100  
Feet



## ANALYTICAL REPORT

Lab Number:	L2221332
Client:	Ramboll 234 W. Florida St, 5th Floor Milwaukee, WI 53204
ATTN:	Andrew Cawrse
Phone:	(414) 837-3645
Project Name:	APPLETON MGP
Project Number:	1940101019
Report Date:	05/13/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221332-01	MW-24	WATER	APPLETON, WI	04/21/22 15:05	04/23/22
L2221332-02	MW-12R	WATER	APPLETON, WI	04/21/22 17:18	04/23/22
L2221332-03	MW-22	WATER	APPLETON, WI	04/22/22 07:46	04/23/22
L2221332-04	MW-3	WATER	APPLETON, WI	04/22/22 12:46	04/23/22

**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

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**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

### Case Narrative (continued)

#### Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

#### PIANO Volatile Organics

L2221332-02D: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

L2221332-02D, -03D, and -04D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG1630877-5 Method Blank, associated with L2221332-01, -02D, -03D, and -04D, has concentrations below the reporting limits and "J" qualified. Associated field sample results are "B" qualified if the concentrations are less than 10x the concentrations in the blank.

#### Semivolatile Organics

L2221332-03D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

#### Alkylated PAHs

L2221332-02D and -03D: The sample has elevated detection limits due to the dilution required by the sample matrix.

#### Saturated Hydrocarbons

L2221332-01RE, -02RE, 03RE and -04RE: The sample was extracted with the method required holding time exceeded.: The sample was extracted with the method required holding time exceeded.

L2221332-03D: An interference with n-Dodecane (C12) was over the instrument calibration limit, therefore the

**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

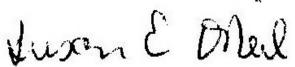
**Lab Number:** L2221332  
**Report Date:** 05/13/22

### Case Narrative (continued)

sample was diluted until separation was achieved; both initial and diluted analyses were reported. The WG1632063-2/-3 LCS/LCSD recoveries, associated with L2221332-01, -02, -03D, -03, and -04, were outside the acceptance criteria for individual target compounds; however, the criteria were achieved upon re-extraction outside of holding time. The results of both extractions are reported; however, all results are considered to have a potentially low bias for nonane (c9) (42%/25%), decane (c10) (49%/28%), and dodecane (c12) (36% LCSD only).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Susan O' Neil

Title: Technical Director/Representative

Date: 05/13/22

# ORGANICS

# VOLATILES



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
Client ID: MW-24  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8260B  
Analytical Date: 04/26/22 19:25  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND	ug/l	2.00	0.297	1	
Isopentane	ND	ug/l	2.00	0.366	1	
1-Pentene	ND	ug/l	2.00	0.365	1	
2-Methyl-1-Butene	ND	ug/l	2.00	0.311	1	
Pentane	ND	ug/l	2.00	0.624	1	
trans-2-Pentene	ND	ug/l	2.00	0.270	1	
Isoprene	ND	ug/l	2.00	0.357	1	
cis-2-Pentene	ND	ug/l	2.00	0.322	1	
Tertiary Butanol	ND	ug/l	25.0	3.24	1	
2,2-Dimethylbutane	ND	ug/l	2.00	0.617	1	
4-Methyl-1-pentene	ND	ug/l	2.00	0.311	1	
Cyclopentane	ND	ug/l	2.00	0.519	1	
2,3-Dimethylbutane	ND	ug/l	2.00	0.826	1	
2-Methylpentane	ND	ug/l	2.00	0.542	1	
Methyl tert butyl ether	ND	ug/l	2.00	0.412	1	
3-Methylpentane	ND	ug/l	2.00	0.317	1	
1-Hexene	ND	ug/l	2.00	0.281	1	
n-Hexane	ND	ug/l	2.00	0.329	1	
Isopropyl Ether	ND	ug/l	2.00	0.242	1	
trans-2-Hexene	ND	ug/l	2.00	0.261	1	
2-Methyl-2-pentene	ND	ug/l	2.00	0.306	1	
cis-2-Hexene	ND	ug/l	2.00	0.271	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	2.00	0.303	1	
2,2-Dimethylpentane	ND	ug/l	2.00	0.269	1	
Methylcyclopentane	ND	ug/l	2.00	0.268	1	
2,4-Dimethylpentane	ND	ug/l	2.00	0.247	1	
2,2,3-Trimethylbutane	ND	ug/l	2.00	0.270	1	
1,2-Dichloroethane	ND	ug/l	2.00	0.295	1	



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-01	Date Collected:	04/21/22 15:05
Client ID:	MW-24	Date Received:	04/23/22
Sample Location:	APPLETON, WI	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3,3-Dimethylpentane	ND		ug/l	2.00	0.372	1
Cyclohexane	ND		ug/l	2.00	0.247	1
2-Methylhexane	ND		ug/l	2.00	0.315	1
Benzene	0.332	J	ug/l	2.00	0.305	1
2,3-Dimethylpentane	ND		ug/l	2.00	0.265	1
Thiophene	ND		ug/l	2.00	0.284	1
1,1-Dimethylcyclopentane	ND		ug/l	2.00	0.240	1
3-Methylhexane	ND		ug/l	2.00	0.320	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.246	1
3-Ethylpentane	ND		ug/l	2.00	0.289	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	0.585	1
Isooctane	ND		ug/l	2.00	0.218	1
trans-3-Heptene	ND		ug/l	2.00	0.311	1
Heptane	ND		ug/l	2.00	0.348	1
trans-2-Heptene	ND		ug/l	2.00	0.256	1
cis-2-Heptene	ND		ug/l	2.00	0.387	1
2,2-Dimethylhexane	ND		ug/l	2.00	0.290	1
Methylcyclohexane	ND		ug/l	2.00	0.270	1
2,5-Dimethylhexane	ND		ug/l	2.00	0.348	1
2,4-Dimethylhexane	ND		ug/l	2.00	0.243	1
Ethylcyclopentane	ND		ug/l	2.00	0.265	1
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.347	1
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.261	1
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.397	1
Xylene (Total) <sup>1</sup>	ND		ug/l	2.00	0.209	1
2,3-Dimethylhexane	ND		ug/l	2.00	0.485	1
2-Methylheptane	ND		ug/l	2.00	0.338	1
4-Methylheptane	ND		ug/l	2.00	0.344	1
3-Methylheptane	ND		ug/l	2.00	0.385	1
3-Ethylhexane	ND		ug/l	2.00	0.358	1
Toluene	ND		ug/l	2.00	0.271	1
2-Methylthiophene	ND		ug/l	2.00	0.170	1
1,4-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.260	1
3-Methylthiophene	ND		ug/l	2.00	0.234	1
1-Octene	ND		ug/l	5.00	0.307	1
Octane	ND		ug/l	2.00	0.235	1
1,2-Dimethylcyclohexane (trans)	ND		ug/l	2.00	0.294	1

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-01	Date Collected:	04/21/22 15:05
Client ID:	MW-24	Date Received:	04/23/22
Sample Location:	APPLETON, WI	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
cis-2-Octene	ND		ug/l	2.00	0.229	1
Isopropylcyclopentane	ND		ug/l	2.00	0.293	1
1,2-Dimethylcyclohexane (cis)	ND		ug/l	2.00	0.581	1
2,5-Dimethylheptane	ND		ug/l	2.00	0.335	1
3,5-Dimethylheptane	ND		ug/l	2.00	0.282	1
3,3-Dimethylheptane	ND		ug/l	2.00	0.242	1
1,1,4-Trimethylcyclohexane	ND		ug/l	2.00	0.199	1
2,3-Dimethylheptane	ND		ug/l	2.00	0.228	1
3,4-Dimethylheptane	ND		ug/l	2.00	0.340	1
4-Methyloctane	ND		ug/l	2.00	0.334	1
2-Methyloctane	ND		ug/l	2.00	0.512	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.176	1
3-Methyloctane	ND		ug/l	2.00	0.224	1
3,3-Diethylpentane	ND		ug/l	2.00	0.233	1
p/m-Xylene	ND		ug/l	4.00	0.381	1
1-Nonene	ND		ug/l	5.00	0.270	1
trans-3-Nonene	ND		ug/l	2.00	0.237	1
cis-3-Nonene	ND		ug/l	2.00	0.374	1
Nonane (C9)	ND		ug/l	2.00	0.311	1
Styrene	ND		ug/l	2.00	0.202	1
o-Xylene	ND		ug/l	2.00	0.209	1
2-Nonene	ND		ug/l	5.00	0.254	1
Isopropylcyclohexane	ND		ug/l	2.00	0.212	1
Isopropylbenzene	ND		ug/l	2.00	0.187	1
3,3-Dimethyloctane	ND		ug/l	2.00	0.202	1
n-Propylbenzene	ND		ug/l	2.00	0.177	1
2-Methylnonane	ND		ug/l	2.00	0.283	1
3-Methylnonane	ND		ug/l	2.00	0.279	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.316	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.282	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.230	1
1-Decene	ND		ug/l	2.00	0.260	1
Isobutylcyclohexane	ND		ug/l	2.00	0.163	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.170	1
Decane (C10)	0.314	J	ug/l	2.00	0.271	1



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-01	Date Collected:	04/21/22 15:05
Client ID:	MW-24	Date Received:	04/23/22
Sample Location:	APPLETON, WI	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
tert-Butylbenzene	ND		ug/l	2.00	0.211	1
1,2,4-Trimethylbenzene	0.521	J	ug/l	2.00	0.207	1
Isobutylbenzene	ND		ug/l	2.00	0.270	1
sec-Butylbenzene	ND		ug/l	2.00	0.259	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.258	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.212	1
1,2,3-Trimethylbenzene	ND		ug/l	2.00	0.223	1
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.217	1
Indane	ND		ug/l	2.00	0.123	1
1,3-Diethylbenzene	ND		ug/l	2.00	0.249	1
1-Methyl-3-N-Propylbenzene	0.228	J	ug/l	2.00	0.202	1
Indene	ND		ug/l	2.00	0.116	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.250	1
n-Butylbenzene	ND		ug/l	2.00	0.197	1
1,2-Dimethyl-4-Ethylbenzene	0.312	J	ug/l	2.00	0.245	1
1,2-Diethylbenzene	ND		ug/l	2.00	0.296	1
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.249	1
1,4-Dimethyl-2-Ethylbenzene	0.205	J	ug/l	2.00	0.187	1
Undecane	0.393	J	ug/l	2.00	0.222	1
1,3-Dimethyl-4-Ethylbenzene	0.203	J	ug/l	2.00	0.194	1
1,3-Dimethyl-5-Ethylbenzene	0.352	J	ug/l	2.00	0.236	1
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.149	1
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.127	1
1,2,4,5-Tetramethylbenzene	0.256	J	ug/l	2.00	0.155	1
1,2,3,5-Tetramethylbenzene	0.337	J	ug/l	2.00	0.152	1
N-Pentylbenzene	ND		ug/l	2.00	0.249	1
1,2,3,4-Tetramethylbenzene	ND		ug/l	2.00	0.214	1
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	2.00	0.285	1
Dodecane (C12)	0.780	J	ug/l	5.00	0.657	1
1,3,5-Triethylbenzene	ND		ug/l	2.00	0.380	1
Naphthalene	ND		ug/l	2.00	0.835	1
Benzothiophene	ND		ug/l	2.00	1.06	1
1,2,4-Triethylbenzene	ND		ug/l	2.00	0.340	1
Hexylbenzene	ND		ug/l	2.00	0.385	1
MMT	ND		ug/l	5.00	1.29	1
Tridecane	ND		ug/l	5.00	1.39	1
2-Methylnaphthalene	ND		ug/l	5.00	1.32	1

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
 Client ID: MW-24  
 Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1
Tetradecane (C14)	0.942	J	ug/l	5.00	0.612	1
Pentadecane	ND		ug/l	5.00	1.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	125		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8260B  
Analytical Date: 04/26/22 20:37  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	10.0	1.48	5
Isopentane	ND		ug/l	10.0	1.83	5
1-Pentene	ND		ug/l	10.0	1.82	5
2-Methyl-1-Butene	ND		ug/l	10.0	1.56	5
Pentane	ND		ug/l	10.0	3.12	5
trans-2-Pentene	ND		ug/l	10.0	1.35	5
Isoprene	ND		ug/l	10.0	1.78	5
cis-2-Pentene	ND		ug/l	10.0	1.61	5
Tertiary Butanol	77.3	J	ug/l	125	16.2	5
2,2-Dimethylbutane	ND		ug/l	10.0	3.08	5
4-Methyl-1-pentene	ND		ug/l	10.0	1.56	5
Cyclopentane	ND		ug/l	10.0	2.60	5
2,3-Dimethylbutane	ND		ug/l	10.0	4.13	5
2-Methylpentane	ND		ug/l	10.0	2.71	5
Methyl tert butyl ether	ND		ug/l	10.0	2.06	5
3-Methylpentane	ND		ug/l	10.0	1.58	5
1-Hexene	ND		ug/l	10.0	1.40	5
n-Hexane	ND		ug/l	10.0	1.64	5
Isopropyl Ether	ND		ug/l	10.0	1.21	5
trans-2-Hexene	ND		ug/l	10.0	1.30	5
2-Methyl-2-pentene	ND		ug/l	10.0	1.53	5
cis-2-Hexene	ND		ug/l	10.0	1.36	5
Ethyl-Tert-Butyl-Ether	ND		ug/l	10.0	1.52	5
2,2-Dimethylpentane	ND		ug/l	10.0	1.34	5
Methylcyclopentane	ND		ug/l	10.0	1.34	5
2,4-Dimethylpentane	ND		ug/l	10.0	1.24	5
2,2,3-Trimethylbutane	ND		ug/l	10.0	1.35	5
1,2-Dichloroethane	ND		ug/l	10.0	1.48	5



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3,3-Dimethylpentane	ND	ug/l	10.0	1.86	5	
Cyclohexane	ND	ug/l	10.0	1.24	5	
2-Methylhexane	ND	ug/l	10.0	1.58	5	
Benzene	34.0	ug/l	10.0	1.52	5	
2,3-Dimethylpentane	ND	ug/l	10.0	1.32	5	
Thiophene	ND	ug/l	10.0	1.42	5	
1,1-Dimethylcyclopentane	ND	ug/l	10.0	1.20	5	
3-Methylhexane	ND	ug/l	10.0	1.60	5	
Tertiary-Amyl Methyl Ether	ND	ug/l	10.0	1.23	5	
3-Ethylpentane	ND	ug/l	10.0	1.44	5	
1-Heptene/1,2-DMCP (trans)	ND	ug/l	20.0	2.92	5	
Isooctane	ND	ug/l	10.0	1.09	5	
trans-3-Heptene	ND	ug/l	10.0	1.56	5	
Heptane	ND	ug/l	10.0	1.74	5	
trans-2-Heptene	ND	ug/l	10.0	1.28	5	
cis-2-Heptene	ND	ug/l	10.0	1.94	5	
2,2-Dimethylhexane	ND	ug/l	10.0	1.45	5	
Methylcyclohexane	ND	ug/l	10.0	1.35	5	
2,5-Dimethylhexane	ND	ug/l	10.0	1.74	5	
2,4-Dimethylhexane	ND	ug/l	10.0	1.22	5	
Ethylcyclopentane	ND	ug/l	10.0	1.32	5	
2,2,3-Trimethylpentane	ND	ug/l	10.0	1.74	5	
2,3,4-Trimethylpentane	ND	ug/l	10.0	1.30	5	
2,3,3-Trimethylpentane	ND	ug/l	10.0	1.98	5	
Xylene (Total) <sup>1</sup>	76.2	ug/l	10.0	1.04	5	
2,3-Dimethylhexane	ND	ug/l	10.0	2.42	5	
2-Methylheptane	ND	ug/l	10.0	1.69	5	
4-Methylheptane	ND	ug/l	10.0	1.72	5	
3-Methylheptane	ND	ug/l	10.0	1.92	5	
3-Ethylhexane	ND	ug/l	10.0	1.79	5	
Toluene	13.3	ug/l	10.0	1.36	5	
2-Methylthiophene	ND	ug/l	10.0	0.850	5	
1,4-Dimethylcyclohexane (trans)	ND	ug/l	10.0	1.30	5	
3-Methylthiophene	ND	ug/l	10.0	1.17	5	
1-Octene	ND	ug/l	25.0	1.54	5	
Octane	ND	ug/l	10.0	1.18	5	
1,2-Dimethylcyclohexane (trans)	ND	ug/l	10.0	1.47	5	

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1,2-Dibromoethane	ND		ug/l	10.0	1.60	5
cis-2-Octene	ND		ug/l	10.0	1.14	5
Isopropylcyclopentane	ND		ug/l	10.0	1.46	5
1,2-Dimethylcyclohexane (cis)	ND		ug/l	10.0	2.90	5
2,5-Dimethylheptane	ND		ug/l	10.0	1.68	5
3,5-Dimethylheptane	ND		ug/l	10.0	1.41	5
3,3-Dimethylheptane	ND		ug/l	10.0	1.21	5
1,1,4-Trimethylcyclohexane	ND		ug/l	10.0	0.995	5
2,3-Dimethylheptane	ND		ug/l	10.0	1.14	5
3,4-Dimethylheptane	ND		ug/l	10.0	1.70	5
4-Methyloctane	ND		ug/l	10.0	1.67	5
2-Methyloctane	ND		ug/l	10.0	2.56	5
Ethylbenzene	80.1		ug/l	10.0	1.08	5
2-Ethylthiophene	ND		ug/l	10.0	0.880	5
3-Methyloctane	ND		ug/l	10.0	1.12	5
3,3-Diethylpentane	ND		ug/l	10.0	1.16	5
p/m-Xylene	33.6		ug/l	20.0	1.90	5
1-Nonene	ND		ug/l	25.0	1.35	5
trans-3-Nonene	ND		ug/l	10.0	1.18	5
cis-3-Nonene	ND		ug/l	10.0	1.87	5
Nonane (C9)	ND		ug/l	10.0	1.56	5
Styrene	2.95	J	ug/l	10.0	1.01	5
o-Xylene	42.6		ug/l	10.0	1.04	5
2-Nonene	ND		ug/l	25.0	1.27	5
Isopropylcyclohexane	ND		ug/l	10.0	1.06	5
Isopropylbenzene	20.4		ug/l	10.0	0.935	5
3,3-Dimethyloctane	ND		ug/l	10.0	1.01	5
n-Propylbenzene	5.50	J	ug/l	10.0	0.885	5
2-Methylnonane	ND		ug/l	10.0	1.42	5
3-Methylnonane	ND		ug/l	10.0	1.40	5
1-Methyl-3-Ethylbenzene	23.3		ug/l	10.0	1.58	5
1-Methyl-4-Ethylbenzene	48.2		ug/l	10.0	1.41	5
1,3,5-Trimethylbenzene	22.8		ug/l	10.0	1.15	5
1-Decene	ND		ug/l	10.0	1.30	5
Isobutylcyclohexane	ND		ug/l	10.0	0.815	5
1-Methyl-2-Ethylbenzene	13.9		ug/l	10.0	0.850	5
Decane (C10)	1.54	J	ug/l	10.0	1.36	5



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
tert-Butylbenzene	ND		ug/l	10.0	1.06	5
1,2,4-Trimethylbenzene	91.6		ug/l	10.0	1.04	5
Isobutylbenzene	ND		ug/l	10.0	1.35	5
sec-Butylbenzene	ND		ug/l	10.0	1.30	5
1-Methyl-3-Isopropylbenzene	14.5		ug/l	10.0	1.29	5
1-Methyl-4-Isopropylbenzene	4.68	J	ug/l	10.0	1.06	5
1,2,3-Trimethylbenzene	42.9		ug/l	10.0	1.12	5
1-Methyl-2-Isopropylbenzene	ND		ug/l	10.0	1.08	5
Indane	47.6		ug/l	10.0	0.615	5
1,3-Diethylbenzene	12.2		ug/l	10.0	1.24	5
1-Methyl-3-N-Propylbenzene	5.52	J	ug/l	10.0	1.01	5
Indene	219		ug/l	10.0	0.580	5
1-Methyl-4-N-Propylbenzene	3.95	J	ug/l	10.0	1.25	5
n-Butylbenzene	2.65	J	ug/l	10.0	0.985	5
1,2-Dimethyl-4-Ethylbenzene	13.1		ug/l	10.0	1.22	5
1,2-Diethylbenzene	ND		ug/l	10.0	1.48	5
1-Methyl-2-N-Propylbenzene	2.54	J	ug/l	10.0	1.24	5
1,4-Dimethyl-2-Ethylbenzene	8.33	J	ug/l	10.0	0.935	5
Undecane	2.36	J	ug/l	10.0	1.11	5
1,3-Dimethyl-4-Ethylbenzene	7.85	J	ug/l	10.0	0.970	5
1,3-Dimethyl-5-Ethylbenzene	35.5		ug/l	10.0	1.18	5
1,3-Dimethyl-2-Ethylbenzene	2.74	J	ug/l	10.0	0.745	5
1,2-Dimethyl-3-Ethylbenzene	5.52	J	ug/l	10.0	0.635	5
1,2,4,5-Tetramethylbenzene	11.4		ug/l	10.0	0.775	5
1,2,3,5-Tetramethylbenzene	26.8		ug/l	10.0	0.760	5
N-Pentylbenzene	ND		ug/l	10.0	1.24	5
1,2,3,4-Tetramethylbenzene	28.6		ug/l	10.0	1.07	5
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	10.0	1.42	5
Dodecane (C12)	4.58	J	ug/l	25.0	3.28	5
1,3,5-Triethylbenzene	ND		ug/l	10.0	1.90	5
Naphthalene	1010	E	ug/l	10.0	4.18	5
Benzothiophene	24.5		ug/l	10.0	5.28	5
1,2,4-Triethylbenzene	ND		ug/l	10.0	1.70	5
Hexylbenzene	ND		ug/l	10.0	1.92	5
MMT	ND		ug/l	25.0	6.43	5
Tridecane	ND		ug/l	25.0	6.96	5
2-Methylnaphthalene	69.6		ug/l	25.0	6.61	5



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1-Methylnaphthalene	559		ug/l	25.0	7.34	5
Tetradecane (C14)	6.10	J	ug/l	25.0	3.06	5
Pentadecane	ND		ug/l	25.0	5.58	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260B

Analytical Date: 04/27/22 23:18

Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
Naphthalene	992		ug/l	20.0	8.35	10
<b>Surrogate</b>						
Dibromofluoromethane		123			70-130	
Toluene-d8		98			70-130	
4-Bromofluorobenzene		99			70-130	

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8260B  
Analytical Date: 04/26/22 21:48  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	50.0	7.42	25
Isopentane	ND		ug/l	50.0	9.15	25
1-Pentene	ND		ug/l	50.0	9.12	25
2-Methyl-1-Butene	ND		ug/l	50.0	7.78	25
Pentane	ND		ug/l	50.0	15.6	25
trans-2-Pentene	ND		ug/l	50.0	6.75	25
Isoprene	ND		ug/l	50.0	8.92	25
cis-2-Pentene	ND		ug/l	50.0	8.05	25
Tertiary Butanol	465	J	ug/l	625	81.0	25
2,2-Dimethylbutane	ND		ug/l	50.0	15.4	25
4-Methyl-1-pentene	ND		ug/l	50.0	7.78	25
Cyclopentane	ND		ug/l	50.0	13.0	25
2,3-Dimethylbutane	ND		ug/l	50.0	20.6	25
2-Methylpentane	ND		ug/l	50.0	13.6	25
Methyl tert butyl ether	ND		ug/l	50.0	10.3	25
3-Methylpentane	ND		ug/l	50.0	7.92	25
1-Hexene	ND		ug/l	50.0	7.02	25
n-Hexane	ND		ug/l	50.0	8.22	25
Isopropyl Ether	ND		ug/l	50.0	6.05	25
trans-2-Hexene	ND		ug/l	50.0	6.52	25
2-Methyl-2-pentene	ND		ug/l	50.0	7.65	25
cis-2-Hexene	ND		ug/l	50.0	6.78	25
Ethyl-Tert-Butyl-Ether	ND		ug/l	50.0	7.58	25
2,2-Dimethylpentane	ND		ug/l	50.0	6.72	25
Methylcyclopentane	ND		ug/l	50.0	6.70	25
2,4-Dimethylpentane	ND		ug/l	50.0	6.18	25
2,2,3-Trimethylbutane	ND		ug/l	50.0	6.75	25
1,2-Dichloroethane	ND		ug/l	50.0	7.38	25



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3,3-Dimethylpentane	ND		ug/l	50.0	9.30	25
Cyclohexane	ND		ug/l	50.0	6.18	25
2-Methylhexane	ND		ug/l	50.0	7.88	25
Benzene	784		ug/l	50.0	7.62	25
2,3-Dimethylpentane	ND		ug/l	50.0	6.62	25
Thiophene	ND		ug/l	50.0	7.10	25
1,1-Dimethylcyclopentane	ND		ug/l	50.0	6.00	25
3-Methylhexane	ND		ug/l	50.0	8.00	25
Tertiary-Amyl Methyl Ether	ND		ug/l	50.0	6.15	25
3-Ethylpentane	ND		ug/l	50.0	7.22	25
1-Heptene/1,2-DMCP (trans)	ND		ug/l	100	14.6	25
Isooctane	ND		ug/l	50.0	5.45	25
trans-3-Heptene	ND		ug/l	50.0	7.78	25
Heptane	ND		ug/l	50.0	8.70	25
trans-2-Heptene	ND		ug/l	50.0	6.40	25
cis-2-Heptene	ND		ug/l	50.0	9.68	25
2,2-Dimethylhexane	ND		ug/l	50.0	7.25	25
Methylcyclohexane	ND		ug/l	50.0	6.75	25
2,5-Dimethylhexane	ND		ug/l	50.0	8.70	25
2,4-Dimethylhexane	ND		ug/l	50.0	6.08	25
Ethylcyclopentane	ND		ug/l	50.0	6.62	25
2,2,3-Trimethylpentane	ND		ug/l	50.0	8.68	25
2,3,4-Trimethylpentane	ND		ug/l	50.0	6.52	25
2,3,3-Trimethylpentane	ND		ug/l	50.0	9.92	25
Xylene (Total) <sup>1</sup>	76.8	J	ug/l	50.0	5.22	25
2,3-Dimethylhexane	ND		ug/l	50.0	12.1	25
2-Methylheptane	ND		ug/l	50.0	8.45	25
4-Methylheptane	ND		ug/l	50.0	8.60	25
3-Methylheptane	ND		ug/l	50.0	9.62	25
3-Ethylhexane	ND		ug/l	50.0	8.95	25
Toluene	7.22	J	ug/l	50.0	6.78	25
2-Methylthiophene	ND		ug/l	50.0	4.25	25
1,4-Dimethylcyclohexane (trans)	ND		ug/l	50.0	6.50	25
3-Methylthiophene	ND		ug/l	50.0	5.85	25
1-Octene	ND		ug/l	125	7.68	25
Octane	ND		ug/l	50.0	5.88	25
1,2-Dimethylcyclohexane (trans)	ND		ug/l	50.0	7.35	25

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1,2-Dibromoethane	ND		ug/l	50.0	8.00	25
cis-2-Octene	ND		ug/l	50.0	5.72	25
Isopropylcyclopentane	ND		ug/l	50.0	7.32	25
1,2-Dimethylcyclohexane (cis)	ND		ug/l	50.0	14.5	25
2,5-Dimethylheptane	ND		ug/l	50.0	8.38	25
3,5-Dimethylheptane	ND		ug/l	50.0	7.05	25
3,3-Dimethylheptane	ND		ug/l	50.0	6.05	25
1,1,4-Trimethylcyclohexane	ND		ug/l	50.0	4.98	25
2,3-Dimethylheptane	ND		ug/l	50.0	5.70	25
3,4-Dimethylheptane	ND		ug/l	50.0	8.50	25
4-Methyloctane	ND		ug/l	50.0	8.35	25
2-Methyloctane	ND		ug/l	50.0	12.8	25
Ethylbenzene	273		ug/l	50.0	5.40	25
2-Ethylthiophene	ND		ug/l	50.0	4.40	25
3-Methyloctane	ND		ug/l	50.0	5.60	25
3,3-Diethylpentane	ND		ug/l	50.0	5.82	25
p/m-Xylene	40.3	J	ug/l	100	9.52	25
1-Nonene	ND		ug/l	125	6.75	25
trans-3-Nonene	ND		ug/l	50.0	5.92	25
cis-3-Nonene	ND		ug/l	50.0	9.35	25
Nonane (C9)	ND		ug/l	50.0	7.78	25
Styrene	ND		ug/l	50.0	5.05	25
o-Xylene	36.5	J	ug/l	50.0	5.22	25
2-Nonene	ND		ug/l	125	6.35	25
Isopropylcyclohexane	ND		ug/l	50.0	5.30	25
Isopropylbenzene	20.2	J	ug/l	50.0	4.68	25
3,3-Dimethyloctane	ND		ug/l	50.0	5.05	25
n-Propylbenzene	6.52	J	ug/l	50.0	4.42	25
2-Methylnonane	ND		ug/l	50.0	7.08	25
3-Methylnonane	ND		ug/l	50.0	6.98	25
1-Methyl-3-Ethylbenzene	ND		ug/l	50.0	7.90	25
1-Methyl-4-Ethylbenzene	13.1	J	ug/l	50.0	7.05	25
1,3,5-Trimethylbenzene	11.5	J	ug/l	50.0	5.75	25
1-Decene	ND		ug/l	50.0	6.50	25
Isobutylcyclohexane	ND		ug/l	50.0	4.08	25
1-Methyl-2-Ethylbenzene	16.2	J	ug/l	50.0	4.25	25
Decane (C10)	ND		ug/l	50.0	6.78	25

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
tert-Butylbenzene	ND		ug/l	50.0	5.28	25
1,2,4-Trimethylbenzene	77.0		ug/l	50.0	5.18	25
Isobutylbenzene	ND		ug/l	50.0	6.75	25
sec-Butylbenzene	ND		ug/l	50.0	6.48	25
1-Methyl-3-Isopropylbenzene	ND		ug/l	50.0	6.45	25
1-Methyl-4-Isopropylbenzene	ND		ug/l	50.0	5.30	25
1,2,3-Trimethylbenzene	40.2	J	ug/l	50.0	5.58	25
1-Methyl-2-Isopropylbenzene	ND		ug/l	50.0	5.42	25
Indane	730		ug/l	50.0	3.08	25
1,3-Diethylbenzene	ND		ug/l	50.0	6.22	25
1-Methyl-3-N-Propylbenzene	ND		ug/l	50.0	5.05	25
Indene	82.0		ug/l	50.0	2.90	25
1-Methyl-4-N-Propylbenzene	ND		ug/l	50.0	6.25	25
n-Butylbenzene	ND		ug/l	50.0	4.92	25
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	50.0	6.12	25
1,2-Diethylbenzene	ND		ug/l	50.0	7.40	25
1-Methyl-2-N-Propylbenzene	ND		ug/l	50.0	6.22	25
1,4-Dimethyl-2-Ethylbenzene	5.32	J	ug/l	50.0	4.68	25
Undecane	ND		ug/l	50.0	5.55	25
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	50.0	4.85	25
1,3-Dimethyl-5-Ethylbenzene	12.7	J	ug/l	50.0	5.90	25
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	50.0	3.72	25
1,2-Dimethyl-3-Ethylbenzene	3.35	J	ug/l	50.0	3.18	25
1,2,4,5-Tetramethylbenzene	9.75	J	ug/l	50.0	3.88	25
1,2,3,5-Tetramethylbenzene	12.0	J	ug/l	50.0	3.80	25
N-Pentylbenzene	ND		ug/l	50.0	6.22	25
1,2,3,4-Tetramethylbenzene	13.7	J	ug/l	50.0	5.35	25
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	50.0	7.12	25
Dodecane (C12)	ND		ug/l	125	16.4	25
1,3,5-Triethylbenzene	ND		ug/l	50.0	9.50	25
Naphthalene	2710		ug/l	50.0	20.9	25
Benzothiophene	299		ug/l	50.0	26.4	25
1,2,4-Triethylbenzene	ND		ug/l	50.0	8.50	25
Hexylbenzene	ND		ug/l	50.0	9.62	25
MMT	ND		ug/l	125	32.2	25
Tridecane	ND		ug/l	125	34.8	25
2-Methylnaphthalene	143		ug/l	125	33.0	25



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1-Methylnaphthalene	258		ug/l	125	36.7	25
Tetradecane (C14)	ND		ug/l	125	15.3	25
Pentadecane	ND		ug/l	125	27.9	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	D	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8260B  
Analytical Date: 04/26/22 22:59  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3-Methyl-1-butene	ND		ug/l	4.00	0.594	2
Isopentane	ND		ug/l	4.00	0.732	2
1-Pentene	ND		ug/l	4.00	0.730	2
2-Methyl-1-Butene	ND		ug/l	4.00	0.622	2
Pentane	ND		ug/l	4.00	1.25	2
trans-2-Pentene	ND		ug/l	4.00	0.540	2
Isoprene	ND		ug/l	4.00	0.714	2
cis-2-Pentene	ND		ug/l	4.00	0.644	2
Tertiary Butanol	16.1	J	ug/l	50.0	6.48	2
2,2-Dimethylbutane	ND		ug/l	4.00	1.23	2
4-Methyl-1-pentene	ND		ug/l	4.00	0.622	2
Cyclopentane	ND		ug/l	4.00	1.04	2
2,3-Dimethylbutane	ND		ug/l	4.00	1.65	2
2-Methylpentane	ND		ug/l	4.00	1.08	2
Methyl tert butyl ether	ND		ug/l	4.00	0.824	2
3-Methylpentane	ND		ug/l	4.00	0.634	2
1-Hexene	ND		ug/l	4.00	0.562	2
n-Hexane	ND		ug/l	4.00	0.658	2
Isopropyl Ether	ND		ug/l	4.00	0.484	2
trans-2-Hexene	ND		ug/l	4.00	0.522	2
2-Methyl-2-pentene	ND		ug/l	4.00	0.612	2
cis-2-Hexene	ND		ug/l	4.00	0.542	2
Ethyl-Tert-Butyl-Ether	ND		ug/l	4.00	0.606	2
2,2-Dimethylpentane	ND		ug/l	4.00	0.538	2
Methylcyclopentane	1.32	J	ug/l	4.00	0.536	2
2,4-Dimethylpentane	ND		ug/l	4.00	0.494	2
2,2,3-Trimethylbutane	ND		ug/l	4.00	0.540	2
1,2-Dichloroethane	ND		ug/l	4.00	0.590	2



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	D	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
3,3-Dimethylpentane	ND		ug/l	4.00	0.744	2
Cyclohexane	4.19		ug/l	4.00	0.494	2
2-Methylhexane	ND		ug/l	4.00	0.630	2
Benzene	59.8		ug/l	4.00	0.610	2
2,3-Dimethylpentane	ND		ug/l	4.00	0.530	2
Thiophene	1.16	J	ug/l	4.00	0.568	2
1,1-Dimethylcyclopentane	ND		ug/l	4.00	0.480	2
3-Methylhexane	0.786	J	ug/l	4.00	0.640	2
Tertiary-Amyl Methyl Ether	ND		ug/l	4.00	0.492	2
3-Ethylpentane	ND		ug/l	4.00	0.578	2
1-Heptene/1,2-DMCP (trans)	2.05	J	ug/l	8.00	1.17	2
Isooctane	ND		ug/l	4.00	0.436	2
trans-3-Heptene	ND		ug/l	4.00	0.622	2
Heptane	ND		ug/l	4.00	0.696	2
trans-2-Heptene	ND		ug/l	4.00	0.512	2
cis-2-Heptene	ND		ug/l	4.00	0.774	2
2,2-Dimethylhexane	ND		ug/l	4.00	0.580	2
Methylcyclohexane	10.8		ug/l	4.00	0.540	2
2,5-Dimethylhexane	ND		ug/l	4.00	0.696	2
2,4-Dimethylhexane	0.662	J	ug/l	4.00	0.486	2
Ethylcyclopentane	0.854	J	ug/l	4.00	0.530	2
2,2,3-Trimethylpentane	ND		ug/l	4.00	0.694	2
2,3,4-Trimethylpentane	ND		ug/l	4.00	0.522	2
2,3,3-Trimethylpentane	ND		ug/l	4.00	0.794	2
Xylene (Total) <sup>1</sup>	66.9		ug/l	4.00	0.418	2
2,3-Dimethylhexane	ND		ug/l	4.00	0.970	2
2-Methylheptane	ND		ug/l	4.00	0.676	2
4-Methylheptane	ND		ug/l	4.00	0.688	2
3-Methylheptane	ND		ug/l	4.00	0.770	2
3-Ethylhexane	ND		ug/l	4.00	0.716	2
Toluene	4.57		ug/l	4.00	0.542	2
2-Methylthiophene	ND		ug/l	4.00	0.340	2
1,4-Dimethylcyclohexane (trans)	1.08	J	ug/l	4.00	0.520	2
3-Methylthiophene	ND		ug/l	4.00	0.468	2
1-Octene	ND		ug/l	10.0	0.614	2
Octane	ND		ug/l	4.00	0.470	2
1,2-Dimethylcyclohexane (trans)	4.74		ug/l	4.00	0.588	2



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	D	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1,2-Dibromoethane	ND		ug/l	4.00	0.640	2
cis-2-Octene	ND		ug/l	4.00	0.458	2
Isopropylcyclopentane	ND		ug/l	4.00	0.586	2
1,2-Dimethylcyclohexane (cis)	1.51	J	ug/l	4.00	1.16	2
2,5-Dimethylheptane	ND		ug/l	4.00	0.670	2
3,5-Dimethylheptane	ND		ug/l	4.00	0.564	2
3,3-Dimethylheptane	ND		ug/l	4.00	0.484	2
1,1,4-Trimethylcyclohexane	ND		ug/l	4.00	0.398	2
2,3-Dimethylheptane	ND		ug/l	4.00	0.456	2
3,4-Dimethylheptane	ND		ug/l	4.00	0.680	2
4-Methyloctane	ND		ug/l	4.00	0.668	2
2-Methyloctane	ND		ug/l	4.00	1.02	2
Ethylbenzene	119		ug/l	4.00	0.432	2
2-Ethylthiophene	ND		ug/l	4.00	0.352	2
3-Methyloctane	ND		ug/l	4.00	0.448	2
3,3-Diethylpentane	ND		ug/l	4.00	0.466	2
p/m-Xylene	20.4		ug/l	8.00	0.762	2
1-Nonene	ND		ug/l	10.0	0.540	2
trans-3-Nonene	ND		ug/l	4.00	0.474	2
cis-3-Nonene	ND		ug/l	4.00	0.748	2
Nonane (C9)	ND		ug/l	4.00	0.622	2
Styrene	ND		ug/l	4.00	0.404	2
o-Xylene	46.5		ug/l	4.00	0.418	2
2-Nonene	ND		ug/l	10.0	0.508	2
Isopropylcyclohexane	ND		ug/l	4.00	0.424	2
Isopropylbenzene	33.8		ug/l	4.00	0.374	2
3,3-Dimethyloctane	ND		ug/l	4.00	0.404	2
n-Propylbenzene	12.4		ug/l	4.00	0.354	2
2-Methylnonane	ND		ug/l	4.00	0.566	2
3-Methylnonane	ND		ug/l	4.00	0.558	2
1-Methyl-3-Ethylbenzene	4.22		ug/l	4.00	0.632	2
1-Methyl-4-Ethylbenzene	3.05	J	ug/l	4.00	0.564	2
1,3,5-Trimethylbenzene	1.33	J	ug/l	4.00	0.460	2
1-Decene	ND		ug/l	4.00	0.520	2
Isobutylcyclohexane	ND		ug/l	4.00	0.326	2
1-Methyl-2-Ethylbenzene	18.5		ug/l	4.00	0.340	2
Decane (C10)	ND		ug/l	4.00	0.542	2



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	D	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
tert-Butylbenzene	ND		ug/l	4.00	0.422	2
1,2,4-Trimethylbenzene	40.0		ug/l	4.00	0.414	2
Isobutylbenzene	0.616	J	ug/l	4.00	0.540	2
sec-Butylbenzene	1.00	J	ug/l	4.00	0.518	2
1-Methyl-3-Isopropylbenzene	4.51		ug/l	4.00	0.516	2
1-Methyl-4-Isopropylbenzene	1.20	J	ug/l	4.00	0.424	2
1,2,3-Trimethylbenzene	46.0		ug/l	4.00	0.446	2
1-Methyl-2-Isopropylbenzene	1.21	J	ug/l	4.00	0.434	2
Indane	358		ug/l	4.00	0.246	2
1,3-Diethylbenzene	15.6		ug/l	4.00	0.498	2
1-Methyl-3-N-Propylbenzene	0.568	J	ug/l	4.00	0.404	2
Indene	18.9		ug/l	4.00	0.232	2
1-Methyl-4-N-Propylbenzene	2.98	J	ug/l	4.00	0.500	2
n-Butylbenzene	2.37	J	ug/l	4.00	0.394	2
1,2-Dimethyl-4-Ethylbenzene	0.570	J	ug/l	4.00	0.490	2
1,2-Diethylbenzene	1.51	J	ug/l	4.00	0.592	2
1-Methyl-2-N-Propylbenzene	3.17	J	ug/l	4.00	0.498	2
1,4-Dimethyl-2-Ethylbenzene	6.14		ug/l	4.00	0.374	2
Undecane	ND		ug/l	4.00	0.444	2
1,3-Dimethyl-4-Ethylbenzene	0.866	J	ug/l	4.00	0.388	2
1,3-Dimethyl-5-Ethylbenzene	19.8		ug/l	4.00	0.472	2
1,3-Dimethyl-2-Ethylbenzene	3.61	J	ug/l	4.00	0.298	2
1,2-Dimethyl-3-Ethylbenzene	4.05		ug/l	4.00	0.254	2
1,2,4,5-Tetramethylbenzene	15.5		ug/l	4.00	0.310	2
1,2,3,5-Tetramethylbenzene	8.38		ug/l	4.00	0.304	2
N-Pentylbenzene	ND		ug/l	4.00	0.498	2
1,2,3,4-Tetramethylbenzene	16.8		ug/l	4.00	0.428	2
1,3-Dimethyl-5-tert-Butylbenzene	ND		ug/l	4.00	0.570	2
Dodecane (C12)	ND		ug/l	10.0	1.31	2
1,3,5-Triethylbenzene	ND		ug/l	4.00	0.760	2
Naphthalene	225		ug/l	4.00	1.67	2
Benzothiophene	13.0		ug/l	4.00	2.11	2
1,2,4-Triethylbenzene	ND		ug/l	4.00	0.680	2
Hexylbenzene	ND		ug/l	4.00	0.770	2
MMT	ND		ug/l	10.0	2.57	2
Tridecane	ND		ug/l	10.0	2.79	2
2-Methylnaphthalene	8.85	J	ug/l	10.0	2.64	2



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	D	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PIANO Volatile Organics by GC/MS - Mansfield Lab</b>						
1-Methylnaphthalene	71.6		ug/l	10.0	2.94	2
Tetradecane (C14)	ND		ug/l	10.0	1.22	2
Pentadecane	ND		ug/l	10.0	2.23	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B  
Analytical Date: 04/25/22 17:41  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s):	01-04		Batch:	WG1630877-5	
3-Methyl-1-butene	ND		ug/l	2.00	0.297
Isopentane	ND		ug/l	2.00	0.366
1-Pentene	ND		ug/l	2.00	0.365
2-Methyl-1-Butene	ND		ug/l	2.00	0.311
Pentane	ND		ug/l	2.00	0.624
trans-2-Pentene	ND		ug/l	2.00	0.270
Isoprene	ND		ug/l	2.00	0.357
cis-2-Pentene	ND		ug/l	2.00	0.322
Tertiary Butanol	17.7	J	ug/l	25.0	3.24
2,2-Dimethylbutane	ND		ug/l	2.00	0.617
4-Methyl-1-pentene	ND		ug/l	2.00	0.311
Cyclopentane	ND		ug/l	2.00	0.519
2,3-Dimethylbutane	ND		ug/l	2.00	0.826
2-Methylpentane	ND		ug/l	2.00	0.542
Methyl tert butyl ether	ND		ug/l	2.00	0.412
3-Methylpentane	ND		ug/l	2.00	0.317
1-Hexene	ND		ug/l	2.00	0.281
n-Hexane	ND		ug/l	2.00	0.329
Isopropyl Ether	ND		ug/l	2.00	0.242
trans-2-Hexene	ND		ug/l	2.00	0.261
2-Methyl-2-pentene	ND		ug/l	2.00	0.306
cis-2-Hexene	ND		ug/l	2.00	0.271
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.303
2,2-Dimethylpentane	ND		ug/l	2.00	0.269
Methylcyclopentane	ND		ug/l	2.00	0.268
2,4-Dimethylpentane	ND		ug/l	2.00	0.247
2,2,3-Trimethylbutane	ND		ug/l	2.00	0.270
1,2-Dichloroethane	ND		ug/l	2.00	0.295
3,3-Dimethylpentane	ND		ug/l	2.00	0.372

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B  
Analytical Date: 04/25/22 17:41  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s):	01-04		Batch:	WG1630877-5	
Cyclohexane	ND	ug/l	2.00	0.247	
2-Methylhexane	ND	ug/l	2.00	0.315	
Benzene	ND	ug/l	2.00	0.305	
2,3-Dimethylpentane	ND	ug/l	2.00	0.265	
Thiophene	ND	ug/l	2.00	0.284	
1,1-Dimethylcyclopentane	ND	ug/l	2.00	0.240	
3-Methylhexane	ND	ug/l	2.00	0.320	
Tertiary-Amyl Methyl Ether	ND	ug/l	2.00	0.246	
3-Ethylpentane	ND	ug/l	2.00	0.289	
1-Heptene/1,2-DMCP (trans)	ND	ug/l	4.00	0.585	
Isooctane	ND	ug/l	2.00	0.218	
trans-3-Heptene	ND	ug/l	2.00	0.311	
Heptane	ND	ug/l	2.00	0.348	
trans-2-Heptene	ND	ug/l	2.00	0.256	
cis-2-Heptene	ND	ug/l	2.00	0.387	
2,2-Dimethylhexane	ND	ug/l	2.00	0.290	
Methylcyclohexane	ND	ug/l	2.00	0.270	
2,5-Dimethylhexane	ND	ug/l	2.00	0.348	
2,4-Dimethylhexane	ND	ug/l	2.00	0.243	
Ethylcyclopentane	ND	ug/l	2.00	0.265	
2,2,3-Trimethylpentane	ND	ug/l	2.00	0.347	
2,3,4-Trimethylpentane	ND	ug/l	2.00	0.261	
2,3,3-Trimethylpentane	ND	ug/l	2.00	0.397	
Xylene (Total) <sup>1</sup>	ND	ug/l	2.00	0.209	
2,3-Dimethylhexane	ND	ug/l	2.00	0.485	
2-Methylheptane	ND	ug/l	2.00	0.338	
4-Methylheptane	ND	ug/l	2.00	0.344	
3-Methylheptane	ND	ug/l	2.00	0.385	
3-Ethylhexane	ND	ug/l	2.00	0.358	

**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B  
Analytical Date: 04/25/22 17:41  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s):	01-04	Batch:	WG1630877-5		
Toluene	ND	ug/l	2.00	0.271	
2-Methylthiophene	ND	ug/l	2.00	0.170	
1,4-Dimethylcyclohexane (trans)	ND	ug/l	2.00	0.260	
3-Methylthiophene	ND	ug/l	2.00	0.234	
1-Octene	ND	ug/l	5.00	0.307	
Octane	ND	ug/l	2.00	0.235	
1,2-Dimethylcyclohexane (trans)	ND	ug/l	2.00	0.294	
1,2-Dibromoethane	ND	ug/l	2.00	0.320	
cis-2-Octene	ND	ug/l	2.00	0.229	
Isopropylcyclopentane	ND	ug/l	2.00	0.293	
1,2-Dimethylcyclohexane (cis)	ND	ug/l	2.00	0.581	
2,5-Dimethylheptane	ND	ug/l	2.00	0.335	
3,5-Dimethylheptane	ND	ug/l	2.00	0.282	
3,3-Dimethylheptane	ND	ug/l	2.00	0.242	
1,1,4-Trimethylcyclohexane	ND	ug/l	2.00	0.199	
2,3-Dimethylheptane	ND	ug/l	2.00	0.228	
3,4-Dimethylheptane	ND	ug/l	2.00	0.340	
4-Methyloctane	ND	ug/l	2.00	0.334	
2-Methyloctane	ND	ug/l	2.00	0.512	
Ethylbenzene	ND	ug/l	2.00	0.216	
2-Ethylthiophene	ND	ug/l	2.00	0.176	
3-Methyloctane	ND	ug/l	2.00	0.224	
3,3-Diethylpentane	ND	ug/l	2.00	0.233	
p/m-Xylene	ND	ug/l	4.00	0.381	
1-Nonene	ND	ug/l	5.00	0.270	
trans-3-Nonene	ND	ug/l	2.00	0.237	
cis-3-Nonene	ND	ug/l	2.00	0.374	
Nonane (C9)	ND	ug/l	2.00	0.311	
Styrene	ND	ug/l	2.00	0.202	

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B  
Analytical Date: 04/25/22 17:41  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s):	01-04	Batch:	WG1630877-5		
o-Xylene	ND	ug/l	2.00	0.209	
2-Nonene	ND	ug/l	5.00	0.254	
Isopropylcyclohexane	ND	ug/l	2.00	0.212	
Isopropylbenzene	ND	ug/l	2.00	0.187	
3,3-Dimethyloctane	ND	ug/l	2.00	0.202	
n-Propylbenzene	ND	ug/l	2.00	0.177	
2-Methylnonane	ND	ug/l	2.00	0.283	
3-Methylnonane	ND	ug/l	2.00	0.279	
1-Methyl-3-Ethylbenzene	ND	ug/l	2.00	0.316	
1-Methyl-4-Ethylbenzene	ND	ug/l	2.00	0.282	
1,3,5-Trimethylbenzene	ND	ug/l	2.00	0.230	
1-Decene	ND	ug/l	2.00	0.260	
Isobutylcyclohexane	ND	ug/l	2.00	0.163	
1-Methyl-2-Ethylbenzene	ND	ug/l	2.00	0.170	
Decane (C10)	ND	ug/l	2.00	0.271	
tert-Butylbenzene	ND	ug/l	2.00	0.211	
1,2,4-Trimethylbenzene	ND	ug/l	2.00	0.207	
Isobutylbenzene	ND	ug/l	2.00	0.270	
sec-Butylbenzene	ND	ug/l	2.00	0.259	
1-Methyl-3-Isopropylbenzene	ND	ug/l	2.00	0.258	
1-Methyl-4-Isopropylbenzene	ND	ug/l	2.00	0.212	
1,2,3-Trimethylbenzene	ND	ug/l	2.00	0.223	
1-Methyl-2-Isopropylbenzene	ND	ug/l	2.00	0.217	
Indane	ND	ug/l	2.00	0.123	
1,3-Diethylbenzene	ND	ug/l	2.00	0.249	
1-Methyl-3-N-Propylbenzene	ND	ug/l	2.00	0.202	
Indene	ND	ug/l	2.00	0.116	
1-Methyl-4-N-Propylbenzene	ND	ug/l	2.00	0.250	
n-Butylbenzene	ND	ug/l	2.00	0.197	

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B  
Analytical Date: 04/25/22 17:41  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s):	01-04	Batch:	WG1630877-5		
1,2-Dimethyl-4-Ethylbenzene	ND	ug/l	2.00	0.245	
1,2-Diethylbenzene	ND	ug/l	2.00	0.296	
1-Methyl-2-N-Propylbenzene	ND	ug/l	2.00	0.249	
1,4-Dimethyl-2-Ethylbenzene	ND	ug/l	2.00	0.187	
Undecane	ND	ug/l	2.00	0.222	
1,3-Dimethyl-4-Ethylbenzene	ND	ug/l	2.00	0.194	
1,3-Dimethyl-5-Ethylbenzene	ND	ug/l	2.00	0.236	
1,3-Dimethyl-2-Ethylbenzene	ND	ug/l	2.00	0.149	
1,2-Dimethyl-3-Ethylbenzene	ND	ug/l	2.00	0.127	
1,2,4,5-Tetramethylbenzene	ND	ug/l	2.00	0.155	
1,2,3,5-Tetramethylbenzene	ND	ug/l	2.00	0.152	
N-Pentylbenzene	ND	ug/l	2.00	0.249	
1,2,3,4-Tetramethylbenzene	ND	ug/l	2.00	0.214	
1,3-Dimethyl-5-tert-Butylbenzene	ND	ug/l	2.00	0.285	
Dodecane (C12)	ND	ug/l	5.00	0.657	
1,3,5-Triethylbenzene	ND	ug/l	2.00	0.380	
Naphthalene	ND	ug/l	2.00	0.835	
Benzothiophene	ND	ug/l	2.00	1.06	
1,2,4-Triethylbenzene	ND	ug/l	2.00	0.340	
Hexylbenzene	ND	ug/l	2.00	0.385	
MMT	ND	ug/l	5.00	1.29	
Tridecane	ND	ug/l	5.00	1.39	
2-Methylnaphthalene	ND	ug/l	5.00	1.32	
1-Methylnaphthalene	ND	ug/l	5.00	1.47	
Tetradecane (C14)	ND	ug/l	5.00	0.612	
Pentadecane	ND	ug/l	5.00	1.12	

**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260B  
Analytical Date: 04/25/22 17:41  
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-04				Batch: WG1630877-5	

Surrogate	%Recovery	Acceptance Criteria	
		Qualifier	
Dibromofluoromethane	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-04 Batch: WG1630877-3 WG1630877-4								
1-Pentene	108		100		50-130	8		30
Pentane	92		84		50-130	9		30
Tertiary Butanol	95		109		50-130	14		30
Cyclopentane	90		84		50-130	7		30
2-Methylpentane	100		90		50-130	11		30
Methyl tert butyl ether	92		104		50-130	12		30
3-Methylpentane	100		90		50-130	11		30
1-Hexene	96		90		50-130	6		30
n-Hexane	86		80		50-130	7		30
Isopropyl Ether	98		100		50-130	2		30
Ethyl-Tert-Butyl-Ether	84		92		50-130	9		30
Methylcyclopentane	96		91		50-130	5		30
2,4-Dimethylpentane	105		92		50-130	13		30
Cyclohexane	97		89		50-130	9		30
2-Methylhexane	99		90		50-130	10		30
Benzene	89		92		50-130	3		30
2,3-Dimethylpentane	101		89		50-130	13		30
3-Methylhexane	92		82		50-130	11		30
Tertiary-Amyl Methyl Ether	86		95		50-130	10		30
Isooctane	99		91		50-130	8		30
Heptane	100		93		50-130	7		30
Methylcyclohexane	94		86		50-130	9		30
2-Methylheptane	94		96		50-130	2		30

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-04 Batch: WG1630877-3 WG1630877-4								
3-Methylheptane	95		96		50-130	1		30
Toluene	92		91		50-130	1		30
Octane	94		96		50-130	2		30
Ethylbenzene	87		90		50-130	3		30
p/m-Xylene	89		93		50-130	4		30
Nonane (C9)	82		86		50-130	5		30
o-Xylene	89		92		50-130	3		30
Isopropylbenzene	88		92		50-130	4		30
n-Propylbenzene	87		94		50-130	8		30
1-Methyl-3-Ethylbenzene	86		92		50-130	7		30
1-Methyl-4-Ethylbenzene	89		95		50-130	7		30
1,3,5-Trimethylbenzene	88		94		50-130	7		30
1-Decene	69		76		50-130	10		30
1-Methyl-2-Ethylbenzene	88		95		50-130	8		30
Decane (C10)	86		92		50-130	7		30
1,2,4-Trimethylbenzene	84		90		50-130	7		30
sec-Butylbenzene	90		100		50-130	11		30
1-Methyl-4-N-Propylbenzene	86		93		50-130	8		30
n-Butylbenzene	88		94		50-130	7		30
1,2-Diethylbenzene	85		93		50-130	9		30
Undecane	78		88		50-130	12		30
N-Pentylbenzene	88		92		50-130	4		30
Dodecane (C12)	78		93		50-130	18		30

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-04 Batch: WG1630877-3 WG1630877-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Dibromofluoromethane	100		115		70-130
Toluene-d8	101		98		70-130
4-Bromofluorobenzene	98		101		70-130

# **SEMIVOLATILES**



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
Client ID: MW-24  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8270D  
Analytical Date: 04/28/22 18:03  
Analyst: PS

Extraction Method: EPA 3510C  
Extraction Date: 04/26/22 13:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Mansfield Lab</b>						
Phenol	ND		ug/l	0.500	0.051	1
2-Chlorophenol	ND		ug/l	0.500	0.091	1
2-Methylphenol	ND		ug/l	0.500	0.104	1
4-Methylphenol	ND		ug/l	0.500	0.113	1
2-Nitrophenol	ND		ug/l	0.500	0.115	1
2,4-Dimethylphenol	ND		ug/l	2.00	0.241	1
2,4-Dichlorophenol	ND		ug/l	0.500	0.100	1
4-Chloro-3-methylphenol	ND		ug/l	0.500	0.103	1
2,4,6-Trichlorophenol	ND		ug/l	0.500	0.152	1
2,4,5-Trichlorophenol	ND		ug/l	0.500	0.091	1
2,4-Dinitrophenol	ND		ug/l	5.00	0.728	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	0.500	0.143	1
4-Nitrophenol	ND		ug/l	2.50	0.590	1
4,6-Dinitro-2-methylphenol	ND		ug/l	2.00	0.510	1
Pentachlorophenol	ND		ug/l	2.00	0.430	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		15-115
Phenol-d5	38		15-115
Nitrobenzene-d5	83		30-130
2-Fluorobiphenyl	81		30-130
2,4,6-Tribromophenol	96		15-115
Terphenyl-d14	92		30-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
Client ID: MW-24  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8270D-SIM(M)  
Analytical Date: 04/29/22 02:35  
Analyst: CC

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	4.76	J	ng/l	10.5	2.07	1
C1-Naphthalenes	3.36	J	ng/l	10.5	2.07	1
C2-Naphthalenes	4.41	J	ng/l	10.5	2.07	1
C3-Naphthalenes	3.70	J	ng/l	10.5	2.07	1
C4-Naphthalenes	ND		ng/l	10.5	2.07	1
2-Methylnaphthalene	2.50	J	ng/l	10.5	2.42	1
1-Methylnaphthalene	ND		ng/l	10.5	2.05	1
Biphenyl	ND		ng/l	10.5	2.45	1
2,6-Dimethylnaphthalene	ND		ng/l	10.5	2.45	1
Dibenzofuran	ND		ng/l	10.5	1.92	1
Acenaphthylene	ND		ng/l	10.5	2.10	1
Acenaphthene	ND		ng/l	10.5	1.35	1
2,3,5-Trimethylnaphthalene	ND		ng/l	10.5	1.59	1
Fluorene	ND		ng/l	10.5	1.86	1
C1-Fluorennes	ND		ng/l	10.5	1.86	1
C2-Fluorennes	ND		ng/l	10.5	1.86	1
C3-Fluorennes	ND		ng/l	10.5	1.86	1
Dibenzothiophene	ND		ng/l	10.5	1.54	1
C1-Dibenzothiophenes BS	2.00	J	ng/l	10.5	1.54	1
C2-Dibenzothiophenes	2.86	J	ng/l	10.5	1.54	1
C3-Dibenzothiophenes	ND		ng/l	10.5	1.54	1
C4-Dibenzothiophenes	ND		ng/l	10.5	1.54	1
Phenanthrene	5.37	J	ng/l	10.5	1.26	1
C1-Phenanthrenes/Anthracenes	2.19	J	ng/l	10.5	1.26	1
C2-Phenanthrenes/Anthr BS	ND		ng/l	10.5	1.26	1
C3-Phenanthrenes/Anthracenes	ND		ng/l	10.5	1.26	1
C4-Phenanthrenes/Anthracenes	ND		ng/l	10.5	1.26	1
Retene	ND		ng/l	10.5	2.95	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
 Client ID: MW-24  
 Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Anthracene	ND		ng/l	10.5	1.90	1
Fluoranthene	4.85	J	ng/l	10.5	1.87	1
Pyrene	4.05	J	ng/l	10.5	1.92	1
C1-Fluoranthenes/Pyrenes	ND		ng/l	10.5	1.92	1
C2-Fluoranthenes/Pyrenes	ND		ng/l	10.5	1.92	1
C3-Fluoranthenes/Pyrenes	ND		ng/l	10.5	1.92	1
C4-Fluoranthenes/Pyrenes	ND		ng/l	10.5	1.92	1
Benz(a)anthracene	1.59	J	ng/l	10.5	1.22	1
Chrysene/Triphenylene	3.06	J	ng/l	10.5	1.33	1
C1-Chrysenes	ND		ng/l	10.5	1.33	1
C2-Chrysenes BS	ND		ng/l	10.5	1.33	1
C3-Chrysenes	ND		ng/l	10.5	1.33	1
C4-Chrysenes	ND		ng/l	10.5	1.33	1
Benzo(b)fluoranthene	3.53	J	ng/l	10.5	1.55	1
Benzo(j)+(k)fluoranthene	2.80	J	ng/l	10.5	1.57	1
Benzo(e)pyrene	1.77	J	ng/l	10.5	1.38	1
Benzo(a)pyrene	2.49	J	ng/l	10.5	2.26	1
Perylene	ND		ng/l	10.5	1.93	1
Indeno(1,2,3-cd)pyrene	ND		ng/l	10.5	2.59	1
Dibenz(a,h)+(a,c)anthracene	ND		ng/l	10.5	3.09	1
Benzo(g,h,i)perylene	ND		ng/l	10.5	2.79	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	68		50-130
Phenanthrene-d10	99		50-130
Benzo(a)pyrene-d12	85		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-02  
Client ID: MW-12R  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 17:18  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8270D  
Analytical Date: 04/28/22 18:32  
Analyst: PS

Extraction Method: EPA 3510C  
Extraction Date: 04/26/22 13:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Mansfield Lab</b>						
Phenol	2.37		ug/l	0.500	0.051	1
2-Chlorophenol	ND		ug/l	0.500	0.091	1
2-Methylphenol	ND		ug/l	0.500	0.104	1
4-Methylphenol	1.39		ug/l	0.500	0.113	1
2-Nitrophenol	ND		ug/l	0.500	0.115	1
2,4-Dimethylphenol	ND		ug/l	2.00	0.241	1
2,4-Dichlorophenol	ND		ug/l	0.500	0.100	1
4-Chloro-3-methylphenol	ND		ug/l	0.500	0.103	1
2,4,6-Trichlorophenol	ND		ug/l	0.500	0.152	1
2,4,5-Trichlorophenol	ND		ug/l	0.500	0.091	1
2,4-Dinitrophenol	ND		ug/l	5.00	0.728	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	0.500	0.143	1
4-Nitrophenol	ND		ug/l	2.50	0.590	1
4,6-Dinitro-2-methylphenol	ND		ug/l	2.00	0.510	1
Pentachlorophenol	ND		ug/l	2.00	0.430	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	12	Q	15-115
Phenol-d5	19		15-115
Nitrobenzene-d5	136	Q	30-130
2-Fluorobiphenyl	89		30-130
2,4,6-Tribromophenol	29		15-115
Terphenyl-d14	91		30-130

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D2	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM(M)	Extraction Date:	04/28/22 10:51
Analytical Date:	04/29/22 15:30		
Analyst:	CC		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	894000		ng/l	1000	197.	100
C1-Naphthalenes	340000		ng/l	1000	197.	100
1-Methylnaphthalene	497000		ng/l	1000	195.	100
Surrogate		% Recovery	Qualifier	Acceptance Criteria		
Naphthalene-d8		76		50-130		
Phenanthrene-d10		99		50-130		
Benzo(a)pyrene-d12		72		50-130		

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-02 D  
Client ID: MW-12R  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 17:18  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8270D-SIM(M)  
Analytical Date: 04/29/22 16:55  
Analyst: CC

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	710000	E	ng/l	100	19.7	10
C1-Naphthalenes	283000	E	ng/l	100	19.7	10
C2-Naphthalenes	128000		ng/l	100	19.7	10
C3-Naphthalenes	21800		ng/l	100	19.7	10
C4-Naphthalenes	2740		ng/l	100	19.7	10
2-Methylnaphthalene	55000		ng/l	100	23.0	10
1-Methylnaphthalene	411000	E	ng/l	100	19.5	10
Biphenyl	26800		ng/l	100	23.3	10
2,6-Dimethylnaphthalene	59200		ng/l	100	23.3	10
Dibenzofuran	6770		ng/l	100	18.2	10
Acenaphthylene	28900		ng/l	100	20.0	10
Acenaphthene	72500		ng/l	100	12.8	10
2,3,5-Trimethylnaphthalene	3630		ng/l	100	15.1	10
Fluorene	27300		ng/l	100	17.7	10
C1-Fluorennes	8440		ng/l	100	17.7	10
C2-Fluorennes	2210		ng/l	100	17.7	10
C3-Fluorennes	569.		ng/l	100	17.7	10
Dibenzothiophene	4420		ng/l	100	14.6	10
C1-Dibenzothiophenes BS	1870		ng/l	100	14.6	10
C2-Dibenzothiophenes	533.		ng/l	100	14.6	10
C3-Dibenzothiophenes	112.		ng/l	100	14.6	10
C4-Dibenzothiophenes	ND		ng/l	100	14.6	10
Phenanthrene	34600		ng/l	100	12.0	10
C1-Phenanthrenes/Anthracenes	9770		ng/l	100	12.0	10
C2-Phenanthrenes/Anthr BS	1770		ng/l	100	12.0	10
C3-Phenanthrenes/Anthracenes	203.		ng/l	100	12.0	10
C4-Phenanthrenes/Anthracenes	ND		ng/l	100	12.0	10
Retene	ND		ng/l	100	28.0	10



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	D	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Anthracene	5790		ng/l	100	18.1	10
Fluoranthene	1550		ng/l	100	17.8	10
Pyrene	1750		ng/l	100	18.2	10
C1-Fluoranthenes/Pyrenes	748.		ng/l	100	18.2	10
C2-Fluoranthenes/Pyrenes	125.		ng/l	100	18.2	10
C3-Fluoranthenes/Pyrenes	ND		ng/l	100	18.2	10
C4-Fluoranthenes/Pyrenes	ND		ng/l	100	18.2	10
Benz(a)anthracene	97.8	J	ng/l	100	11.6	10
Chrysene/Triphenylene	102.		ng/l	100	12.6	10
C1-Chrysenes	42.1	J	ng/l	100	12.6	10
C2-Chrysenes BS	ND		ng/l	100	12.6	10
C3-Chrysenes	ND		ng/l	100	12.6	10
C4-Chrysenes	ND		ng/l	100	12.6	10
Benzo(b)fluoranthene	ND		ng/l	100	14.7	10
Benzo(j)+(k)fluoranthene	ND		ng/l	100	14.9	10
Benzo(e)pyrene	ND		ng/l	100	13.1	10
Benzo(a)pyrene	ND		ng/l	100	21.5	10
Perylene	ND		ng/l	100	18.3	10
Indeno(1,2,3-cd)pyrene	ND		ng/l	100	24.6	10
Dibenz(a,h)+(a,c)anthracene	ND		ng/l	100	29.4	10
Benzo(g,h,i)perylene	ND		ng/l	100	26.5	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	65		50-130
Phenanthrene-d10	88		50-130
Benzo(a)pyrene-d12	71		50-130

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D2	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM(M)	Extraction Date:	04/28/22 10:51
Analytical Date:	04/29/22 18:20		
Analyst:	CC		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	2480000		ng/l	2220	438.	200
<b>Surrogate</b>						
Naphthalene-d8		% Recovery		Qualifer	<b>Acceptance Criteria</b>	
Phenanthrene-d10	72				50-130	
Benzo(a)pyrene-d12	97				50-130	
	71				50-130	

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D	Extraction Date:	04/26/22 13:01
Analytical Date:	04/29/22 14:51		
Analyst:	PS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Mansfield Lab</b>						
Phenol	10.1		ug/l	2.50	0.256	5
2-Chlorophenol	ND		ug/l	2.50	0.456	5
2-Methylphenol	ND		ug/l	2.50	0.520	5
4-Methylphenol	ND		ug/l	2.50	0.565	5
2-Nitrophenol	ND		ug/l	2.50	0.575	5
2,4-Dimethylphenol	ND		ug/l	10.0	1.20	5
2,4-Dichlorophenol	ND		ug/l	2.50	0.498	5
4-Chloro-3-methylphenol	ND		ug/l	2.50	0.515	5
2,4,6-Trichlorophenol	ND		ug/l	2.50	0.760	5
2,4,5-Trichlorophenol	ND		ug/l	2.50	0.456	5
2,4-Dinitrophenol	ND		ug/l	25.0	3.64	5
2,3,4,6-Tetrachlorophenol	ND		ug/l	2.50	0.715	5
4-Nitrophenol	ND		ug/l	12.5	2.95	5
4,6-Dinitro-2-methylphenol	ND		ug/l	10.0	2.55	5
Pentachlorophenol	ND		ug/l	10.0	2.15	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		15-115
Phenol-d5	41		15-115
Nitrobenzene-d5	113		30-130
2-Fluorobiphenyl	94		30-130
2,4,6-Tribromophenol	104		15-115
Terphenyl-d14	83		30-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-03 D  
Client ID: MW-22  
Sample Location: APPLETON, WI

Date Collected: 04/22/22 07:46  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8270D-SIM(M)  
Analytical Date: 04/29/22 19:45  
Analyst: CC

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	2100000	E	ng/l	222	43.8	20
C1-Naphthalenes	262000		ng/l	222	43.8	20
C2-Naphthalenes	54100		ng/l	222	43.8	20
C3-Naphthalenes	8930		ng/l	222	43.8	20
C4-Naphthalenes	1590		ng/l	222	43.8	20
2-Methylnaphthalene	168000		ng/l	222	51.1	20
1-Methylnaphthalene	261000		ng/l	222	43.3	20
Biphenyl	24300		ng/l	222	51.8	20
2,6-Dimethylnaphthalene	22300		ng/l	222	51.8	20
Dibenzofuran	30100		ng/l	222	40.4	20
Acenaphthylene	2100		ng/l	222	44.4	20
Acenaphthene	72500		ng/l	222	28.4	20
2,3,5-Trimethylnaphthalene	1160		ng/l	222	33.6	20
Fluorene	29200		ng/l	222	39.3	20
C1-Fluorennes	2790		ng/l	222	39.3	20
C2-Fluorennes	692.		ng/l	222	39.3	20
C3-Fluorennes	ND		ng/l	222	39.3	20
Dibenzothiophene	4290		ng/l	222	32.4	20
C1-Dibenzothiophenes BS	1190		ng/l	222	32.4	20
C2-Dibenzothiophenes	343.		ng/l	222	32.4	20
C3-Dibenzothiophenes	ND		ng/l	222	32.4	20
C4-Dibenzothiophenes	ND		ng/l	222	32.4	20
Phenanthrene	30000		ng/l	222	26.7	20
C1-Phenanthrenes/Anthracenes	3640		ng/l	222	26.7	20
C2-Phenanthrenes/Anthr BS	464.		ng/l	222	26.7	20
C3-Phenanthrenes/Anthracenes	118.	J	ng/l	222	26.7	20
C4-Phenanthrenes/Anthracenes	ND		ng/l	222	26.7	20
Retene	ND		ng/l	222	62.2	20



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Anthracene	4770		ng/l	222	40.2	20
Fluoranthene	3630		ng/l	222	39.6	20
Pyrene	2540		ng/l	222	40.4	20
C1-Fluoranthenes/Pyrenes	408.		ng/l	222	40.4	20
C2-Fluoranthenes/Pyrenes	ND		ng/l	222	40.4	20
C3-Fluoranthenes/Pyrenes	ND		ng/l	222	40.4	20
C4-Fluoranthenes/Pyrenes	ND		ng/l	222	40.4	20
Benz(a)anthracene	100.	J	ng/l	222	25.8	20
Chrysene/Triphenylene	116.	J	ng/l	222	28.0	20
C1-Chrysenes	ND		ng/l	222	28.0	20
C2-Chrysenes BS	ND		ng/l	222	28.0	20
C3-Chrysenes	ND		ng/l	222	28.0	20
C4-Chrysenes	ND		ng/l	222	28.0	20
Benzo(b)fluoranthene	ND		ng/l	222	32.7	20
Benzo(j)+(k)fluoranthene	ND		ng/l	222	33.1	20
Benzo(e)pyrene	ND		ng/l	222	29.1	20
Benzo(a)pyrene	ND		ng/l	222	47.8	20
Perylene	ND		ng/l	222	40.7	20
Indeno(1,2,3-cd)pyrene	ND		ng/l	222	54.7	20
Dibenz(a,h)+(a,c)anthracene	ND		ng/l	222	65.3	20
Benzo(g,h,i)perylene	ND		ng/l	222	58.9	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	69		50-130
Phenanthrene-d10	106		50-130
Benzo(a)pyrene-d12	76		50-130

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-04  
 Client ID: MW-3  
 Sample Location: APPLETON, WI

Date Collected: 04/22/22 12:46  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8270D  
 Analytical Date: 04/28/22 19:32  
 Analyst: PS

Extraction Method: EPA 3510C  
 Extraction Date: 04/26/22 13:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Mansfield Lab</b>						
Phenol	1.41		ug/l	0.500	0.051	1
2-Chlorophenol	ND		ug/l	0.500	0.091	1
2-Methylphenol	ND		ug/l	0.500	0.104	1
4-Methylphenol	ND		ug/l	0.500	0.113	1
2-Nitrophenol	ND		ug/l	0.500	0.115	1
2,4-Dimethylphenol	ND		ug/l	2.00	0.241	1
2,4-Dichlorophenol	ND		ug/l	0.500	0.100	1
4-Chloro-3-methylphenol	ND		ug/l	0.500	0.103	1
2,4,6-Trichlorophenol	ND		ug/l	0.500	0.152	1
2,4,5-Trichlorophenol	ND		ug/l	0.500	0.091	1
2,4-Dinitrophenol	ND		ug/l	5.00	0.728	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	0.500	0.143	1
4-Nitrophenol	ND		ug/l	2.50	0.590	1
4,6-Dinitro-2-methylphenol	ND		ug/l	2.00	0.510	1
Pentachlorophenol	ND		ug/l	2.00	0.430	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		15-115
Phenol-d5	42		15-115
Nitrobenzene-d5	84		30-130
2-Fluorobiphenyl	82		30-130
2,4,6-Tribromophenol	97		15-115
Terphenyl-d14	72		30-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-04  
Client ID: MW-3  
Sample Location: APPLETON, WI

Date Collected: 04/22/22 12:46  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8270D-SIM(M)  
Analytical Date: 04/29/22 06:49  
Analyst: CC

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	97800	E	ng/l	9.90	1.95	1
C1-Naphthalenes	26800	E	ng/l	9.90	1.95	1
C2-Naphthalenes	4610		ng/l	9.90	1.95	1
C3-Naphthalenes	385.		ng/l	9.90	1.95	1
C4-Naphthalenes	223.		ng/l	9.90	1.95	1
2-Methylnaphthalene	5200		ng/l	9.90	2.28	1
1-Methylnaphthalene	38900	E	ng/l	9.90	1.93	1
Biphenyl	558.		ng/l	9.90	2.31	1
2,6-Dimethylnaphthalene	2230		ng/l	9.90	2.31	1
Dibenzofuran	518.		ng/l	9.90	1.80	1
Acenaphthylene	89.5		ng/l	9.90	1.98	1
Acenaphthene	2020		ng/l	9.90	1.27	1
2,3,5-Trimethylnaphthalene	40.3		ng/l	9.90	1.50	1
Fluorene	238.		ng/l	9.90	1.75	1
C1-Fluorennes	82.5	G	ng/l	9.90	1.75	1
C2-Fluorennes	30.3		ng/l	9.90	1.75	1
C3-Fluorennes	23.8		ng/l	9.90	1.75	1
Dibenzothiophene	21.5		ng/l	9.90	1.44	1
C1-Dibenzothiophenes BS	8.00	J	ng/l	9.90	1.44	1
C2-Dibenzothiophenes	12.4		ng/l	9.90	1.44	1
C3-Dibenzothiophenes	ND		ng/l	9.90	1.44	1
C4-Dibenzothiophenes	ND		ng/l	9.90	1.44	1
Phenanthrene	108.		ng/l	9.90	1.19	1
C1-Phenanthrenes/Anthracenes	26.4		ng/l	9.90	1.19	1
C2-Phenanthrenes/Anthr BS	16.6		ng/l	9.90	1.19	1
C3-Phenanthrenes/Anthracenes	17.2		ng/l	9.90	1.19	1
C4-Phenanthrenes/Anthracenes	25.4		ng/l	9.90	1.19	1
Retene	12.0		ng/l	9.90	2.77	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-04  
 Client ID: MW-3  
 Sample Location: APPLETON, WI

Date Collected: 04/22/22 12:46  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Anthracene	20.3		ng/l	9.90	1.79	1
Fluoranthene	21.2		ng/l	9.90	1.76	1
Pyrene	17.7		ng/l	9.90	1.80	1
C1-Fluoranthenes/Pyrenes	22.2		ng/l	9.90	1.80	1
C2-Fluoranthenes/Pyrenes	ND		ng/l	9.90	1.80	1
C3-Fluoranthenes/Pyrenes	ND		ng/l	9.90	1.80	1
C4-Fluoranthenes/Pyrenes	ND		ng/l	9.90	1.80	1
Benz(a)anthracene	2.73	J	ng/l	9.90	1.15	1
Chrysene/Triphenylene	3.94	J	ng/l	9.90	1.25	1
C1-Chrysenes	ND		ng/l	9.90	1.25	1
C2-Chrysenes BS	ND		ng/l	9.90	1.25	1
C3-Chrysenes	ND		ng/l	9.90	1.25	1
C4-Chrysenes	ND		ng/l	9.90	1.25	1
Benzo(b)fluoranthene	3.80	J	ng/l	9.90	1.46	1
Benzo(j)+(k)fluoranthene	2.41	J	ng/l	9.90	1.48	1
Benzo(e)pyrene	2.30	J	ng/l	9.90	1.30	1
Benzo(a)pyrene	2.20	J	ng/l	9.90	2.13	1
Perylene	ND		ng/l	9.90	1.81	1
Indeno(1,2,3-cd)pyrene	ND		ng/l	9.90	2.44	1
Dibenz(a,h)+(a,c)anthracene	ND		ng/l	9.90	2.91	1
Benzo(g,h,i)perylene	ND		ng/l	9.90	2.62	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	65		50-130
Phenanthrene-d10	103		50-130
Benzo(a)pyrene-d12	96		50-130

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	D	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM(M)	Extraction Date:	04/28/22 10:51
Analytical Date:	04/29/22 21:10		
Analyst:	CC		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>PAHs - Mansfield Lab</b>						
Naphthalene	95900		ng/l	99.0	19.5	10
C1-Naphthalenes	24200		ng/l	99.0	19.5	10
1-Methylnaphthalene	35000		ng/l	99.0	19.3	10
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>		
Naphthalene-d8		59		50-130		
Phenanthrene-d10		90		50-130		
Benzo(a)pyrene-d12		71		50-130		

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270D  
Analytical Date: 04/28/22 15:36  
Analyst: PS

Extraction Method: EPA 3510C  
Extraction Date: 04/26/22 13:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Mansfield Lab for sample(s):	01-04		Batch:	WG1631124-1	
Phenol	ND		ug/l	0.500	0.051
2-Chlorophenol	ND		ug/l	0.500	0.091
2-Methylphenol	ND		ug/l	0.500	0.104
4-Methylphenol	ND		ug/l	0.500	0.113
2-Nitrophenol	ND		ug/l	0.500	0.115
2,4-Dimethylphenol	ND		ug/l	2.00	0.241
2,4-Dichlorophenol	ND		ug/l	0.500	0.100
4-Chloro-3-methylphenol	ND		ug/l	0.500	0.103
2,4,6-Trichlorophenol	ND		ug/l	0.500	0.152
2,4,5-Trichlorophenol	ND		ug/l	0.500	0.091
2,4-Dinitrophenol	ND		ug/l	5.00	0.728
2,3,4,6-Tetrachlorophenol	ND		ug/l	0.500	0.143
4-Nitrophenol	ND		ug/l	2.50	0.590
4,6-Dinitro-2-methylphenol	ND		ug/l	2.00	0.510
Pentachlorophenol	ND		ug/l	2.00	0.430

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		15-115
Phenol-d5	39		15-115
Nitrobenzene-d5	86		30-130
2-Fluorobiphenyl	85		30-130
2,4,6-Tribromophenol	93		15-115
Terphenyl-d14	102		30-130



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270D-SIM(M)  
Analytical Date: 04/28/22 22:20  
Analyst: MJS

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL
PAHs - Mansfield Lab for sample(s): 01-04	Batch: WG1632063-1				
Naphthalene	ND		ng/l	10.0	1.97
C1-Naphthalenes	ND		ng/l	10.0	1.97
C2-Naphthalenes	ND		ng/l	10.0	1.97
C3-Naphthalenes	ND		ng/l	10.0	1.97
C4-Naphthalenes	ND		ng/l	10.0	1.97
2-Methylnaphthalene	ND		ng/l	10.0	2.30
1-Methylnaphthalene	ND		ng/l	10.0	1.95
Biphenyl	ND		ng/l	10.0	2.33
2,6-Dimethylnaphthalene	ND		ng/l	10.0	2.33
Dibenzofuran	ND		ng/l	10.0	1.82
Acenaphthylene	ND		ng/l	10.0	2.00
Acenaphthene	ND		ng/l	10.0	1.28
2,3,5-Trimethylnaphthalene	ND		ng/l	10.0	1.51
Fluorene	ND		ng/l	10.0	1.77
C1-Fluorenes	ND		ng/l	10.0	1.77
C2-Fluorenes	ND		ng/l	10.0	1.77
C3-Fluorenes	ND		ng/l	10.0	1.77
Dibenzothiophene	ND		ng/l	10.0	1.46
C1-Dibenzothiophenes BS	ND		ng/l	10.0	1.46
C2-Dibenzothiophenes	2.56	J	ng/l	10.0	1.46
C3-Dibenzothiophenes	ND		ng/l	10.0	1.46
C4-Dibenzothiophenes	ND		ng/l	10.0	1.46
Phenanthrene	1.76	J	ng/l	10.0	1.20
C1-Phenanthrenes/Anthracenes	ND		ng/l	10.0	1.20
C2-Phenanthrenes/Anthr BS	ND		ng/l	10.0	1.20
C3-Phenanthrenes/Anthracenes	ND		ng/l	10.0	1.20
C4-Phenanthrenes/Anthracenes	ND		ng/l	10.0	1.20
Retene	ND		ng/l	10.0	2.80
Anthracene	ND		ng/l	10.0	1.81

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM(M)  
Analytical Date: 04/28/22 22:20  
Analyst: MJS

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL
PAHs - Mansfield Lab for sample(s): 01-04	Batch: WG1632063-1				
Fluoranthene	ND	ng/l	10.0	1.78	
Pyrene	ND	ng/l	10.0	1.82	
C1-Fluoranthenes/Pyrenes	ND	ng/l	10.0	1.82	
C2-Fluoranthenes/Pyrenes	ND	ng/l	10.0	1.82	
C3-Fluoranthenes/Pyrenes	ND	ng/l	10.0	1.82	
C4-Fluoranthenes/Pyrenes	ND	ng/l	10.0	1.82	
Benz(a)anthracene	ND	ng/l	10.0	1.16	
Chrysene/Triphenylene	ND	ng/l	10.0	1.26	
C1-Chrysenes	ND	ng/l	10.0	1.26	
C2-Chrysenes BS	ND	ng/l	10.0	1.26	
C3-Chrysenes	ND	ng/l	10.0	1.26	
C4-Chrysenes	ND	ng/l	10.0	1.26	
Benzo(b)fluoranthene	ND	ng/l	10.0	1.47	
Benzo(j)+(k)fluoranthene	ND	ng/l	10.0	1.49	
Benzo(e)pyrene	ND	ng/l	10.0	1.31	
Benzo(a)pyrene	ND	ng/l	10.0	2.15	
Perylene	ND	ng/l	10.0	1.83	
Indeno(1,2,3-cd)pyrene	ND	ng/l	10.0	2.46	
Dibenz(a,h)+(a,c)anthracene	ND	ng/l	10.0	2.94	
Benzo(g,h,i)perylene	ND	ng/l	10.0	2.65	

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	72		50-130
Phenanthrene-d10	97		50-130
Benzo(a)pyrene-d12	84		50-130



# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-04 Batch: WG1631124-2 WG1631124-3								
Phenol	40		44		18-54	10		20
2-Chlorophenol	73		84		30-130	14		20
2-Methylphenol	73		82		30-130	12		20
4-Methylphenol	68		77		30-130	12		20
2-Nitrophenol	76		90		40-140	17		20
2,4-Dimethylphenol	73		82		40-140	12		20
2,4-Dichlorophenol	77		89		30-130	14		20
4-Chloro-3-methylphenol	84		93		30-130	10		20
2,4,6-Trichlorophenol	78		89		30-130	13		20
2,4,5-Trichlorophenol	88		99		30-130	12		20
2,4-Dinitrophenol	74		85		30-130	14		20
2,3,4,6-Tetrachlorophenol	92		102		30-130	10		20
4-Nitrophenol	47		53		17-65	12		20
4,6-Dinitro-2-methylphenol	86		98		30-130	13		20
Pentachlorophenol	82		94		30-130	14		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	60		61		15-115
Phenol-d5	43		42		15-115
Nitrobenzene-d5	89		90		30-130
2-Fluorobiphenyl	86		88		30-130
2,4,6-Tribromophenol	104		102		15-115
Terphenyl-d14	100		101		30-130

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PAHs - Mansfield Lab Associated sample(s): 01-04 Batch: WG1632063-2 WG1632063-3								
Naphthalene	66		60		50-130	10		30
2-Methylnaphthalene	70		62		50-130	12		30
Acenaphthylene	77		76		50-130	1		30
Acenaphthene	79		77		50-130	3		30
Fluorene	88		89		50-130	1		30
Phenanthrene	91		93		50-130	2		30
Anthracene	96		99		50-130	3		30
Fluoranthene	95		96		50-130	1		30
Pyrene	94		95		50-130	1		30
Benz(a)anthracene	88		88		50-130	0		30
Chrysene/Triphenylene	86		87		50-130	1		30
Benzo(b)fluoranthene	93		94		50-130	1		30
Benzo(j)+(k)fluoranthene	88		88		50-130	0		30
Benzo(a)pyrene	86		86		50-130	0		30
Indeno(1,2,3-cd)pyrene	85		92		50-130	8		30
Dibenz(a,h)+(a,c)anthracene	90		84		50-130	7		30
Benzo(g,h,i)perylene	91		91		50-130	0		30

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

<b>Parameter</b>	<i>LCS</i> %Recovery	Qual	<i>LCSD</i> %Recovery	Qual	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	Qual	<i>RPD</i> <i>Limits</i>
PAHs - Mansfield Lab Associated sample(s): 01-04 Batch: WG1632063-2 WG1632063-3								
<b>Surrogate</b>			<i>LCS</i> %Recovery	Qual	<i>LCSD</i> %Recovery	Qual		<i>Acceptance</i> <i>Criteria</i>
Naphthalene-d8			76		71			50-130
Phenanthrene-d10			103		104			50-130
Benzo(a)pyrene-d12			91		89			50-130

# PETROLEUM HYDROCARBONS



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
Client ID: MW-24  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8015D(M)  
Analytical Date: 04/29/22 22:37  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0011	0.0003	1
n-Decane (C10)	ND		mg/l	0.0011	0.0001	1
n-Undecane (C11)	ND		mg/l	0.0011	0.0001	1
n-Dodecane (C12)	ND		mg/l	0.0011	0.0001	1
n-Tridecane (C13)	ND		mg/l	0.0053	0.0009	1
2,6,10-Trimethyldodecane (1380)	ND		mg/l	0.0011	0.0001	1
n-Tetradecane (C14)	ND		mg/l	0.0011	0.0001	1
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0011	0.0002	1
n-Pentadecane (C15)	ND		mg/l	0.0011	0.0002	1
n-Hexadecane (C16)	ND		mg/l	0.0011	0.0002	1
Norpristane (1650)	ND		mg/l	0.0011	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0011	0.0001	1
Pristane	ND		mg/l	0.0011	0.0002	1
n-Octadecane (C18)	0.0009	JC	mg/l	0.0011	0.0001	1
Phytane	ND		mg/l	0.0011	0.0001	1
n-Nonadecane (C19)	ND		mg/l	0.0011	0.0002	1
n-Eicosane (C20)	ND		mg/l	0.0011	0.0001	1
n-Heneicosane (C21)	ND		mg/l	0.0011	0.0001	1
n-Docosane (C22)	ND		mg/l	0.0011	0.00004	1
n-Tricosane (C23)	0.0002	J	mg/l	0.0011	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0011	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0053	0.0006	1
n-Hexacosane (C26)	ND		mg/l	0.0011	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0011	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0011	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0011	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0011	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0011	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01  
 Client ID: MW-24  
 Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0011	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0011	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0011	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0011	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0011	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0011	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0011	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0011	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0011	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/l	0.0347	0.0059	1
Total Saturated Hydrocarbons	0.0011	JB	mg/l	0.0011	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	90		50-130
d50-Tetracosane	89		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-01 RE  
Client ID: MW-24  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 15:05  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8015D(M)  
Analytical Date: 05/07/22 00:17  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 05/05/22 04:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0010	0.0003	1
n-Decane (C10)	ND		mg/l	0.0010	0.0001	1
n-Undecane (C11)	ND		mg/l	0.0010	0.0001	1
n-Dodecane (C12)	ND		mg/l	0.0010	0.0001	1
n-Tridecane (C13)	ND		mg/l	0.0050	0.0009	1
2,6,10-Trimethyldodecane (1380)	ND		mg/l	0.0010	0.0001	1
n-Tetradecane (C14)	ND		mg/l	0.0010	0.0001	1
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0010	0.0001	1
n-Pentadecane (C15)	ND		mg/l	0.0010	0.0001	1
n-Hexadecane (C16)	ND		mg/l	0.0010	0.0001	1
Norpristane (1650)	ND		mg/l	0.0010	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001	1
Pristane	ND		mg/l	0.0010	0.0002	1
n-Octadecane (C18)	0.0010	JC	mg/l	0.0010	0.0001	1
Phytane	ND		mg/l	0.0010	0.0001	1
n-Nonadecane (C19)	ND		mg/l	0.0010	0.0002	1
n-Eicosane (C20)	ND		mg/l	0.0010	0.0001	1
n-Heneicosane (C21)	ND		mg/l	0.0010	0.0001	1
n-Docosane (C22)	ND		mg/l	0.0010	0.00004	1
n-Tricosane (C23)	ND		mg/l	0.0010	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0050	0.0006	1
n-Hexacosane (C26)	ND		mg/l	0.0010	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-01	RE	Date Collected:	04/21/22 15:05
Client ID:	MW-24		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0010	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0010	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0010	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0010	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0010	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0010	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0010	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/l	0.0330	0.0056	1
Total Saturated Hydrocarbons	0.0010	J	mg/l	0.0010	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	101		50-130
d50-Tetracosane	100		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-02  
Client ID: MW-12R  
Sample Location: APPLETON, WI

Date Collected: 04/21/22 17:18  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8015D(M)  
Analytical Date: 04/30/22 00:06  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0010	0.0003	1
n-Decane (C10)	0.0149		mg/l	0.0010	0.0001	1
n-Undecane (C11)	0.0145		mg/l	0.0010	0.0001	1
n-Dodecane (C12)	ND		mg/l	0.0010	0.0001	1
n-Tridecane (C13)	0.0086		mg/l	0.0050	0.0009	1
2,6,10-Trimethyldodecane (1380)	0.0022		mg/l	0.0010	0.0001	1
n-Tetradecane (C14)	0.0028		mg/l	0.0010	0.0001	1
2,6,10-Trimethyltridecane (1470)	0.0333		mg/l	0.0010	0.0001	1
n-Pentadecane (C15)	0.0983		mg/l	0.0010	0.0001	1
n-Hexadecane (C16)	0.0369		mg/l	0.0010	0.0001	1
Norpristane (1650)	0.0020		mg/l	0.0010	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001	1
Pristane	0.0006	J	mg/l	0.0010	0.0002	1
n-Octadecane (C18)	0.0407		mg/l	0.0010	0.0001	1
Phytane	0.0066		mg/l	0.0010	0.0001	1
n-Nonadecane (C19)	ND		mg/l	0.0010	0.0002	1
n-Eicosane (C20)	ND		mg/l	0.0010	0.0001	1
n-Heneicosane (C21)	ND		mg/l	0.0010	0.0001	1
n-Docosane (C22)	ND		mg/l	0.0010	0.00004	1
n-Tricosane (C23)	0.0004	J	mg/l	0.0010	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0050	0.0006	1
n-Hexacosane (C26)	0.0003	J	mg/l	0.0010	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-02  
 Client ID: MW-12R  
 Sample Location: APPLETON, WI

Date Collected: 04/21/22 17:18  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0010	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0010	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0010	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0010	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0010	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0010	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0010	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	4.230		mg/l	0.0330	0.0056	1
Total Saturated Hydrocarbons	0.2621	J	mg/l	0.0010	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	90		50-130
d50-Tetracosane	86		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	RE	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8015D(M)	Extraction Date:	05/05/22 04:18
Analytical Date:	05/07/22 01:46		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0010	0.0003	1
n-Decane (C10)	0.0043		mg/l	0.0010	0.0001	1
n-Undecane (C11)	0.0117		mg/l	0.0010	0.0001	1
n-Dodecane (C12)	ND		mg/l	0.0010	0.0001	1
n-Tridecane (C13)	0.0146		mg/l	0.0050	0.0009	1
2,6,10-Trimethyldodecane (1380)	0.0033		mg/l	0.0010	0.0001	1
n-Tetradecane (C14)	0.0021		mg/l	0.0010	0.0001	1
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0010	0.0001	1
n-Pentadecane (C15)	0.0903		mg/l	0.0010	0.0001	1
n-Hexadecane (C16)	0.0377		mg/l	0.0010	0.0001	1
Norpristane (1650)	ND		mg/l	0.0010	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001	1
Pristane	0.0005	J	mg/l	0.0010	0.0002	1
n-Octadecane (C18)	0.0392		mg/l	0.0010	0.0001	1
Phytane	0.0074		mg/l	0.0010	0.0001	1
n-Nonadecane (C19)	0.0011		mg/l	0.0010	0.0002	1
n-Eicosane (C20)	0.0016		mg/l	0.0010	0.0001	1
n-Heneicosane (C21)	0.0003	J	mg/l	0.0010	0.0001	1
n-Docosane (C22)	0.0003	J	mg/l	0.0010	0.00004	1
n-Tricosane (C23)	ND		mg/l	0.0010	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0050	0.0006	1
n-Hexacosane (C26)	ND		mg/l	0.0010	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-02	RE	Date Collected:	04/21/22 17:18
Client ID:	MW-12R		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0010	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0010	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0010	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0010	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0010	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0010	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0010	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	2.660		mg/l	0.0330	0.0056	1
Total Saturated Hydrocarbons	0.2145	J	mg/l	0.0010	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	93		50-130
d50-Tetracosane	92		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-03  
Client ID: MW-22  
Sample Location: APPLETON, WI

Date Collected: 04/22/22 07:46  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8015D(M)  
Analytical Date: 04/30/22 01:34  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0011	0.0004	1
n-Decane (C10)	0.0040		mg/l	0.0011	0.0001	1
n-Undecane (C11)	0.0014		mg/l	0.0011	0.0001	1
n-Dodecane (C12)	2.810	E	mg/l	0.0011	0.0001	1
n-Tridecane (C13)	ND		mg/l	0.0056	0.0010	1
2,6,10-Trimethyldodecane (1380)	ND		mg/l	0.0011	0.0001	1
n-Tetradecane (C14)	ND		mg/l	0.0011	0.0001	1
2,6,10-Trimethyltridecane (1470)	0.0020		mg/l	0.0011	0.0002	1
n-Pentadecane (C15)	0.0804		mg/l	0.0011	0.0002	1
n-Hexadecane (C16)	0.0299		mg/l	0.0011	0.0002	1
Norpristane (1650)	0.0027		mg/l	0.0011	0.0002	1
n-Heptadecane (C17)	0.0002	J	mg/l	0.0011	0.0002	1
Pristane	0.0033		mg/l	0.0011	0.0002	1
n-Octadecane (C18)	0.0298		mg/l	0.0011	0.0001	1
Phytane	0.0046		mg/l	0.0011	0.0001	1
n-Nonadecane (C19)	0.0007	J	mg/l	0.0011	0.0002	1
n-Eicosane (C20)	ND		mg/l	0.0011	0.0001	1
n-Heneicosane (C21)	ND		mg/l	0.0011	0.0001	1
n-Docosane (C22)	ND		mg/l	0.0011	0.00005	1
n-Tricosane (C23)	0.0005	J	mg/l	0.0011	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0011	0.0001	1
n-Pentacosane (C25)	0.0010	J	mg/l	0.0056	0.0007	1
n-Hexacosane (C26)	0.0009	J	mg/l	0.0011	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0011	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0011	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0011	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0011	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0011	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-03  
 Client ID: MW-22  
 Sample Location: APPLETON, WI

Date Collected: 04/22/22 07:46  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0011	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0011	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0011	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0011	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0011	0.0002	1
n-Heptriacontane (C37)	ND		mg/l	0.0011	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0011	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0011	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0011	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	5.730		mg/l	0.0367	0.0062	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	93		50-130
d50-Tetracosane	89		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-03 RE  
Client ID: MW-22  
Sample Location: APPLETON, WI

Date Collected: 04/22/22 07:46  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8015D(M)  
Analytical Date: 05/07/22 03:15  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 05/05/22 04:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0010	0.0003	1
n-Decane (C10)	0.0060		mg/l	0.0010	0.0001	1
n-Undecane (C11)	0.0015		mg/l	0.0010	0.0001	1
n-Dodecane (C12)	0.0053		mg/l	0.0010	0.0001	1
n-Tridecane (C13)	0.0112		mg/l	0.0052	0.0009	1
2,6,10-Trimethyldodecane (1380)	0.0012		mg/l	0.0010	0.0001	1
n-Tetradecane (C14)	0.0022		mg/l	0.0010	0.0001	1
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0010	0.0001	1
n-Pentadecane (C15)	0.0787		mg/l	0.0010	0.0001	1
n-Hexadecane (C16)	0.0319		mg/l	0.0010	0.0002	1
Norpristane (1650)	ND		mg/l	0.0010	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001	1
Pristane	ND		mg/l	0.0010	0.0002	1
n-Octadecane (C18)	0.0281		mg/l	0.0010	0.0001	1
Phytane	0.0043		mg/l	0.0010	0.0001	1
n-Nonadecane (C19)	0.0008	J	mg/l	0.0010	0.0002	1
n-Eicosane (C20)	0.0009	J	mg/l	0.0010	0.0001	1
n-Heneicosane (C21)	0.0003	J	mg/l	0.0010	0.0001	1
n-Docosane (C22)	ND		mg/l	0.0010	0.00004	1
n-Tricosane (C23)	ND		mg/l	0.0010	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0052	0.0006	1
n-Hexacosane (C26)	ND		mg/l	0.0010	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	RE	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0010	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0010	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0010	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0010	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0010	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0010	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0010	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	2.880		mg/l	0.0340	0.0057	1
Total Saturated Hydrocarbons	0.1723	J	mg/l	0.0010	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	98		50-130
d50-Tetracosane	94		50-130

Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-03	D	Date Collected:	04/22/22 07:46
Client ID:	MW-22		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8015D(M)	Extraction Date:	04/28/22 10:51
Analytical Date:	05/03/22 06:12		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dodecane (C12)	0.322		mg/l	0.056	0.007	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	121		50-130
d50-Tetracosane	120		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-04  
Client ID: MW-3  
Sample Location: APPLETON, WI

Date Collected: 04/22/22 12:46  
Date Received: 04/23/22  
Field Prep: Not Specified

Sample Depth:

Matrix: Water  
Analytical Method: 1,8015D(M)  
Analytical Date: 04/30/22 03:03  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0010	0.0003	1
n-Decane (C10)	0.0010	J	mg/l	0.0010	0.0001	1
n-Undecane (C11)	ND		mg/l	0.0010	0.0001	1
n-Dodecane (C12)	ND		mg/l	0.0010	0.0001	1
n-Tridecane (C13)	ND		mg/l	0.0050	0.0009	1
2,6,10-Trimethyldodecane (1380)	0.0001	J	mg/l	0.0010	0.0001	1
n-Tetradecane (C14)	0.0016		mg/l	0.0010	0.0001	1
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0010	0.0001	1
n-Pentadecane (C15)	0.0024		mg/l	0.0010	0.0001	1
n-Hexadecane (C16)	ND		mg/l	0.0010	0.0001	1
Norpristane (1650)	ND		mg/l	0.0010	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001	1
Pristane	ND		mg/l	0.0010	0.0002	1
n-Octadecane (C18)	0.0009	JC	mg/l	0.0010	0.0001	1
Phytane	ND		mg/l	0.0010	0.0001	1
n-Nonadecane (C19)	ND		mg/l	0.0010	0.0002	1
n-Eicosane (C20)	ND		mg/l	0.0010	0.0001	1
n-Heneicosane (C21)	ND		mg/l	0.0010	0.0001	1
n-Docosane (C22)	0.0001	J	mg/l	0.0010	0.00004	1
n-Tricosane (C23)	0.0006	J	mg/l	0.0010	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0050	0.0006	1
n-Hexacosane (C26)	ND		mg/l	0.0010	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID: L2221332-04  
 Client ID: MW-3  
 Sample Location: APPLETON, WI

Date Collected: 04/22/22 12:46  
 Date Received: 04/23/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0010	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0010	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0010	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0010	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0010	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0010	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0010	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	0.9940		mg/l	0.0327	0.0055	1
Total Saturated Hydrocarbons	0.0067	JB	mg/l	0.0010	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	89		50-130
d50-Tetracosane	88		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	RE	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8015D(M)	Extraction Date:	05/05/22 04:18
Analytical Date:	05/07/22 04:43		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Nonane (C9)	ND		mg/l	0.0010	0.0003	1
n-Decane (C10)	0.0009	J	mg/l	0.0010	0.0001	1
n-Undecane (C11)	ND		mg/l	0.0010	0.0001	1
n-Dodecane (C12)	0.001		mg/l	0.0010	0.0001	1
n-Tridecane (C13)	0.0013	J	mg/l	0.0051	0.0009	1
2,6,10-Trimethyldodecane (1380)	ND		mg/l	0.0010	0.0001	1
n-Tetradecane (C14)	0.0011		mg/l	0.0010	0.0001	1
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0010	0.0001	1
n-Pentadecane (C15)	0.0018		mg/l	0.0010	0.0001	1
n-Hexadecane (C16)	0.0002	J	mg/l	0.0010	0.0002	1
Norpristane (1650)	ND		mg/l	0.0010	0.0001	1
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001	1
Pristane	ND		mg/l	0.0010	0.0002	1
n-Octadecane (C18)	0.0007	JC	mg/l	0.0010	0.0001	1
Phytane	ND		mg/l	0.0010	0.0001	1
n-Nonadecane (C19)	ND		mg/l	0.0010	0.0002	1
n-Eicosane (C20)	ND		mg/l	0.0010	0.0001	1
n-Heneicosane (C21)	0.0002	J	mg/l	0.0010	0.0001	1
n-Docosane (C22)	0.0001	J	mg/l	0.0010	0.00004	1
n-Tricosane (C23)	0.0004	J	mg/l	0.0010	0.0001	1
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001	1
n-Pentacosane (C25)	ND		mg/l	0.0051	0.0006	1
n-Hexacosane (C26)	ND		mg/l	0.0010	0.0001	1
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001	1
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002	1
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001	1
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001	1
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001	1



Project Name: APPLETON MGP

Lab Number: L2221332

Project Number: 1940101019

Report Date: 05/13/22

**SAMPLE RESULTS**

Lab ID:	L2221332-04	RE	Date Collected:	04/22/22 12:46
Client ID:	MW-3		Date Received:	04/23/22
Sample Location:	APPLETON, WI		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Saturated Hydrocarbons by GC-FID - Mansfield Lab</b>						
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001	1
n-Tritiacontane (C33)	ND		mg/l	0.0010	0.0001	1
n-Tetracontane (C34)	ND		mg/l	0.0010	0.0002	1
n-Pentriacontane (C35)	ND		mg/l	0.0010	0.0002	1
n-Hexriacontane (C36)	ND		mg/l	0.0010	0.0001	1
n-Heptacontane (C37)	ND		mg/l	0.0010	0.0002	1
n-Octriacontane (C38)	ND		mg/l	0.0010	0.0002	1
n-Nonriacontane (C39)	ND		mg/l	0.0010	0.0002	1
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002	1
Total Petroleum Hydrocarbons (C9-C44)	0.7190		mg/l	0.0333	0.0056	1
Total Saturated Hydrocarbons	0.0077	J	mg/l	0.0010	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
ortho-terphenyl	97		50-130
d50-Tetracosane	97		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8015D(M)  
Analytical Date: 04/29/22 16:42  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

Parameter	Result	Qualifier	Units	RL	MDL
Saturated Hydrocarbons by GC-FID - Mansfield Lab for sample(s):	01-04		Batch:	WG1632063-1	
n-Nonane (C9)	ND		mg/l	0.0010	0.0003
n-Decane (C10)	ND		mg/l	0.0010	0.0001
n-Undecane (C11)	ND		mg/l	0.0010	0.0001
n-Dodecane (C12)	ND		mg/l	0.0010	0.0001
n-Tridecane (C13)	ND		mg/l	0.0050	0.0009
2,6,10-Trimethyldodecane (1380)	ND		mg/l	0.0010	0.0001
n-Tetradecane (C14)	ND		mg/l	0.0010	0.0001
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.0010	0.0001
n-Pentadecane (C15)	ND		mg/l	0.0010	0.0001
n-Hexadecane (C16)	ND		mg/l	0.0010	0.0001
Norpristane (1650)	ND		mg/l	0.0010	0.0001
n-Heptadecane (C17)	ND		mg/l	0.0010	0.0001
Pristane	ND		mg/l	0.0010	0.0002
n-Octadecane (C18)	0.0008	JC	mg/l	0.0010	0.0001
Phytane	ND		mg/l	0.0010	0.0001
n-Nonadecane (C19)	ND		mg/l	0.0010	0.0002
n-Eicosane (C20)	ND		mg/l	0.0010	0.0001
n-Heneicosane (C21)	ND		mg/l	0.0010	0.0001
n-Docosane (C22)	ND		mg/l	0.0010	0.00004
n-Tricosane (C23)	0.0002	J	mg/l	0.0010	0.0001
n-Tetracosane (C24)	ND		mg/l	0.0010	0.0001
n-Pentacosane (C25)	ND		mg/l	0.0050	0.0006
n-Hexacosane (C26)	ND		mg/l	0.0010	0.0001
n-Heptacosane (C27)	ND		mg/l	0.0010	0.0001
n-Octacosane (C28)	ND		mg/l	0.0010	0.0002
n-Nonacosane (C29)	ND		mg/l	0.0010	0.0001
n-Triacontane (C30)	ND		mg/l	0.0010	0.0001
n-Hentriacontane (C31)	ND		mg/l	0.0010	0.0001
n-Dotriacontane (C32)	ND		mg/l	0.0010	0.0001

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

### **Method Blank Analysis Batch Quality Control**

Analytical Method: 1,8015D(M)  
Analytical Date: 04/29/22 16:42  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/28/22 10:51

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Saturated Hydrocarbons by GC-FID - Mansfield Lab for sample(s):	01-04		Batch:	WG1632063-1	
n-Tritriacontane (C33)	ND		mg/l	0.0010	0.0001
n-Tetratriacontane (C34)	ND		mg/l	0.0010	0.0002
n-Pentatriacontane (C35)	ND		mg/l	0.0010	0.0002
n-Hexatriacontane (C36)	ND		mg/l	0.0010	0.0001
n-Heptatriacontane (C37)	ND		mg/l	0.0010	0.0002
n-Octatriacontane (C38)	ND		mg/l	0.0010	0.0002
n-Nonatriacontane (C39)	ND		mg/l	0.0010	0.0002
n-Tetracontane (C40)	ND		mg/l	0.0010	0.0002
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/l	0.0330	0.0056
Total Saturated Hydrocarbons	0.0011	J	mg/l	0.0010	0.00004

<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>
			<b>Criteria</b>
ortho-terphenyl	88		50-130
d50-Tetracosane	86		50-130

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8015D(M)  
Analytical Date: 05/06/22 18:23  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 05/05/22 04:18

Parameter	Result	Qualifier	Units	RL	MDL
Saturated Hydrocarbons by GC-FID - Mansfield Lab for sample(s):	01-04		Batch:	WG1634624-1	
n-Nonane (C9)	ND		mg/l	0.001	0.0003
n-Decane (C10)	ND		mg/l	0.001	0.0001
n-Undecane (C11)	ND		mg/l	0.001	0.0001
n-Dodecane (C12)	ND		mg/l	0.001	0.0001
n-Tridecane (C13)	ND		mg/l	0.005	0.001
2,6,10-Trimethyldodecane (1380)	ND		mg/l	0.001	0.0001
n-Tetradecane (C14)	ND		mg/l	0.001	0.0001
2,6,10-Trimethyltridecane (1470)	ND		mg/l	0.001	0.0001
n-Pentadecane (C15)	ND		mg/l	0.001	0.0001
n-Hexadecane (C16)	ND		mg/l	0.001	0.0001
Norpristane (1650)	ND		mg/l	0.001	0.0001
n-Heptadecane (C17)	ND		mg/l	0.001	0.0001
Pristane	ND		mg/l	0.001	0.0002
n-Octadecane (C18)	0.001	JC	mg/l	0.001	0.0001
Phytane	ND		mg/l	0.001	0.0001
n-Nonadecane (C19)	ND		mg/l	0.001	0.0002
n-Eicosane (C20)	ND		mg/l	0.001	0.0001
n-Heneicosane (C21)	ND		mg/l	0.001	0.0001
n-Docosane (C22)	ND		mg/l	0.001	0.00004
n-Tricosane (C23)	ND		mg/l	0.001	0.0001
n-Tetracosane (C24)	ND		mg/l	0.001	0.0001
n-Pentacosane (C25)	ND		mg/l	0.005	0.001
n-Hexacosane (C26)	ND		mg/l	0.001	0.0001
n-Heptacosane (C27)	ND		mg/l	0.001	0.0001
n-Octacosane (C28)	ND		mg/l	0.001	0.0002
n-Nonacosane (C29)	ND		mg/l	0.001	0.0001
n-Triacontane (C30)	ND		mg/l	0.001	0.0001
n-Hentriacontane (C31)	ND		mg/l	0.001	0.0001
n-Dotriacontane (C32)	ND		mg/l	0.001	0.0001

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

### **Method Blank Analysis Batch Quality Control**

Analytical Method: 1,8015D(M)  
Analytical Date: 05/06/22 18:23  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 05/05/22 04:18

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Saturated Hydrocarbons by GC-FID - Mansfield Lab for sample(s):	01-04		Batch:	WG1634624-1	
n-Tritriacontane (C33)	ND		mg/l	0.001	0.0001
n-Tetratriacontane (C34)	ND		mg/l	0.001	0.0002
n-Pentatriacontane (C35)	ND		mg/l	0.001	0.0002
n-Hexatriacontane (C36)	ND		mg/l	0.001	0.0001
n-Heptatriacontane (C37)	ND		mg/l	0.001	0.0002
n-Octatriacontane (C38)	ND		mg/l	0.001	0.0002
n-Nonatriacontane (C39)	ND		mg/l	0.001	0.0002
n-Tetracontane (C40)	ND		mg/l	0.001	0.0002
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/l	0.033	0.006
Total Saturated Hydrocarbons	0.001	J	mg/l	0.001	0.00004

<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>
			<b>Criteria</b>
ortho-terphenyl	94		50-130
d50-Tetracosane	94		50-130

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Saturated Hydrocarbons by GC-FID - Mansfield Lab Associated sample(s): 01-04 Batch: WG1632063-2 WG1632063-3								
Nonane (C9)	42	Q	25	Q	50-130	51	Q	30
n-Decane (C10)	49	Q	28	Q	50-130	55	Q	30
n-Dodecane (C12)	56		36	Q	50-130	43	Q	30
n-Tetradecane (C14)	72		62		50-130	15		30
n-Hexadecane (C16)	89		91		50-130	2		30
n-Octadecane (C18)	96		101		50-130	5		30
n-Nonadecane (C19)	92		93		50-130	1		30
n-Eicosane (C20)	91		92		50-130	1		30
n-Docosane (C22)	92		92		50-130	0		30
n-Tetracosane (C24)	94		95		50-130	1		30
n-Hexacosane (C26)	93		94		50-130	1		30
n-Octacosane (C28)	92		92		50-130	0		30
n-Triacontane (C30)	92		93		50-130	1		30
n-Hexatriacontane (C36)	84		83		50-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
ortho-terphenyl d50-Tetracosane	92 90		92 90		50-130 50-130

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Saturated Hydrocarbons by GC-FID - Mansfield Lab Associated sample(s): 01-04 Batch: WG1634624-2 WG1634624-3								
Nonane (C9)	87		82		50-130	6		30
n-Decane (C10)	90		87		50-130	3		30
n-Dodecane (C12)	91		90		50-130	1		30
n-Tetradecane (C14)	98		97		50-130	1		30
n-Hexadecane (C16)	107		107		50-130	0		30
n-Octadecane (C18)	112		112		50-130	0		30
n-Nonadecane (C19)	101		101		50-130	0		30
n-Eicosane (C20)	102		102		50-130	0		30
n-Docosane (C22)	102		102		50-130	0		30
n-Tetracosane (C24)	108		108		50-130	0		30
n-Hexacosane (C26)	104		104		50-130	0		30
n-Octacosane (C28)	105		104		50-130	1		30
n-Triacontane (C30)	103		102		50-130	1		30
n-Hexatriacontane (C36)	89		89		50-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
ortho-terphenyl d50-Tetracosane	99		99		50-130 50-130

### **Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

#### **Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Present/Intact
B	Present/Intact

#### **Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L2221332-01A	Vial HCl preserved	A	NA		5.3	Y	Present/Intact		A2-PIANO8260(14)
L2221332-01B	Vial HCl preserved	A	NA		5.3	Y	Present/Intact		A2-PIANO8260(14)
L2221332-01C	Vial HCl preserved	A	NA		5.3	Y	Present/Intact		A2-PIANO8260(14)
L2221332-01D	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-01E	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-01F	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)
L2221332-01G	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)
L2221332-02A	Vial HCl preserved	A	NA		5.3	Y	Present/Intact		A2-PIANO8260(14)
L2221332-02B	Vial HCl preserved	A	NA		5.3	Y	Present/Intact		A2-PIANO8260(14)
L2221332-02C	Vial HCl preserved	A	NA		5.3	Y	Present/Intact		A2-PIANO8260(14)
L2221332-02D	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-02E	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-02F	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)
L2221332-02G	Amber 1000ml unpreserved	A	7	7	5.3	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)
L2221332-03A	Vial HCl preserved	B	NA		3.8	Y	Present/Intact		A2-PIANO8260(14)
L2221332-03B	Vial HCl preserved	B	NA		3.8	Y	Present/Intact		A2-PIANO8260(14)
L2221332-03C	Vial HCl preserved	B	NA		3.8	Y	Present/Intact		A2-PIANO8260(14)
L2221332-03D	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-03E	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-03F	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)

\*Values in parentheses indicate holding time in days

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L2221332-03G	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)
L2221332-04A	Vial HCl preserved	B	NA		3.8	Y	Present/Intact		A2-PIANO8260(14)
L2221332-04B	Vial HCl preserved	B	NA		3.8	Y	Present/Intact		A2-PIANO8260(14)
L2221332-04C	Vial HCl preserved	B	NA		3.8	Y	Present/Intact		A2-PIANO8260(14)
L2221332-04D	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-04E	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SHC(7),A2-ALKPAH(7)
L2221332-04F	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)
L2221332-04G	Amber 1000ml unpreserved	B	7	7	3.8	Y	Present/Intact		A2-SVOC-8270(7),8270TCL(7),8270TCL-SIM(7)

\*Values in parentheses indicate holding time in days

**Project Name:** APPLETION MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

## GLOSSARY

### **Acronyms**

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

*Report Format: DU Report with 'J' Qualifiers*



**Project Name:** APPLETON MGP  
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#### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Difference:** With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PAH Total:** With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthrenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e., co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

**Report Format:** DU Report with 'J' Qualifiers



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**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

*Report Format: DU Report with 'J' Qualifiers*



**Project Name:** APPLETON MGP  
**Project Number:** 1940101019

**Lab Number:** L2221332  
**Report Date:** 05/13/22

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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**The following analytes are not included in our Primary NELAP Scope of Accreditation:**

**Westborough Facility**

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine. SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**Mansfield Facility**

**SM 2540D**: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix**: EPA 3050B

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation**

**Westborough Facility:**

**Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C**, **SM4500CN-CE**, **EPA 180.1**, **SM2130B**, **SM4500CI-D**, **SM2320B**, **SM2540C**, **SM4500H-B**, **SM4500NO2-B**

EPA 332: Perchlorate; **EPA 524.2**: THMs and VOCs; **EPA 504.1**: EDB, DBCP.

**Microbiology**: **SM9215B**; **SM9223-P/A**, **SM9223B-Colilert-QT**, **SM9222D**.

**Non-Potable Water**

**SM4500H,B**, **EPA 120.1**, **SM2510B**, **SM2540C**, **SM2320B**, **SM4500CL-E**, **SM4500F-BC**, **SM4500NH3-BH**: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1**, **SM4500NO3-F**, **EPA 353.2**: Nitrate-N, **SM4500P-E**, **SM4500P-B**, **E**, **SM4500SO4-E**, **SM5220D**, **EPA 410.4**, **SM5210B**, **SM5310C**, **SM4500CL-D**, **EPA 1664**, **EPA 420.1**, **SM4500-CN-CE**, **SM2540D**, **EPA 300**: Chloride, Sulfate, Nitrate.

**EPA 624.1**: Volatile Halocarbons & Aromatics,

**EPA 608.3**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1**: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.

**Microbiology**: **SM9223B-Colilert-QT**; **Enterolert-QT**, **SM9221E**, **EPA 1600**, **EPA 1603**, **SM9222D**.

**Mansfield Facility:**

**Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8**: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522**, **EPA 537.1**.

**Non-Potable Water**

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



## **CHAIN OF CUSTODY**

PAGE 1 OF 1

Date Rec'd in Lab: 4/23/22

ALPHA Job #: L2221332

ORIGIN ID:MKEA (262) 573-6315  
NATURAL RESOURCE TECH INC  
234 W FLORIDA ST  
MILWAUKEE, WI 53204  
UNITED STATES US

SHIP DATE: 22APR22  
ACTWGT: 52.25 LB  
CSD: 6994541/SSFE2300  
DIMS: 25x14x15 IN

BILL: THIRD PARTY

TO ALPHA ANALYTICAL INC  
ALPHA ANALYTICAL INC  
8 WALKUP DR

WESTBOROUGH MA 01581

(508) 898-9220

REF:

TRK:

POL:

DEPT:



1 of 2  
TRK# 2723 2783 7189  
0201

## MASTER ##

XO BBFA

SATURDAY 12:00P  
PRIORITY OVERNIGHT  
AHS  
01581  
MA-US BOS



FedEx® Saturday Delivery

FedEx®  
Express

SD

