



We Energies  
333 West Everett St., A231  
Milwaukee, WI 53203

www.we-energies.com

June 17, 2019

Ms. Jennifer Borski  
Hydrogeologist  
Remediation & Redevelopment Program  
Wisconsin Dept. of Natural Resources  
625 E. Cty. Road Y, Ste. 700  
Oshkosh, WI 54901

**Subject: Transmittal of April 2019 Monitoring Well Sampling Results We Energies' Appleton  
MGP Site, FID #445033380, BRRTS #02-45-000042**

Dear Ms. Borski:

We Energies recently received final analytical results for monitoring wells and piezometers for our April 2019 semi-annual sampling event on the Fox River Mills Apartments property, located adjacent to the above referenced site. A copy of the notification to the property owner and associated summary report are attached.

Please do not hesitate to contact me at (414) 221-2156 or via email at [frank.dombrowski@wecenergygroup.com](mailto:frank.dombrowski@wecenergygroup.com) if you have any questions or if further information may be required.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Dombrowski'.

Frank Dombrowski  
Principal Environmental Consultant  
WEC Energy Group- Business Services  
Environmental Dept.

Enclosure

Cc: Project File  
B. Hennings, OBG, Part of Ramboll



**We Energies**  
333 West Everett St., A231  
Milwaukee, WI 53203  
[www.we-energies.com](http://www.we-energies.com)

June 17, 2019

Mr. Dean Bornemann  
Area Manager  
Oakbrook Corp.  
111 E Water St., #300  
Appleton, WI 54911

**Subject: April 2019 Groundwater Sampling Results for Fox River Mills Properties**

Dear Mr. Bornemann,

We Energies recently completed groundwater sampling at your proper as part of routine semi-annual monitoring for the former manufactured gas plant (MGP) site located at 337 Water Street in Appleton, Wisconsin (Figure 1) summarizes routine groundwater sampling activities that occurred in April 2019 located on the property occupied by the Fox River Mills Apartments (Figure 1 in the attached report).

Two wells (PZ-26 and PZ-28) contained evidence of free product (oily material) at thicknesses comparable to previous monitoring events. Due to small amount of material present, no attempt was made to recover free product during this sampling event and free product was not observed in other wells. Consistent with previous samples collected from the existing wells, presence of volatile organic compounds (VOCs), naphthalene, and metals in groundwater were present above the Wisconsin Department of Natural Resources (WDNR) Enforcement Standards (ES) and/or the WDNR preventative action limit (PAL).

The laboratory report containing groundwater results is included in Attachment A and the results are summarized in Table 1. There are no indications that the observed groundwater impacts are a recent occurrence or pose an immediate risk to the health of the occupants in the apartment building. However, the presence of free product will warrant further investigation and we plan to continue quarterly monitoring activities on your property consistent with the WDNR-approved Supplemental Site Investigation Plan and the access agreement.

We Energies appreciates your ongoing cooperation and assistance with this matter. Please feel free to contact me at your convenience at (414) 221-2156 or via email at [frank.dombrowski@wecenergygroup.com](mailto:frank.dombrowski@wecenergygroup.com) with any questions or if further information may be needed.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Dombrowski'.

Frank Dombrowski  
Principal Environmental Consultant  
WEC Energy Group- Business Services  
Environmental Dept.

**Enclosures**

Cc: Project File  
J. Borski, WDNR  
B. Hennings, OBG, Part of Ramboll  
Janet Smith, Heartland Properties, Inc.

June 18, 2019

**Mr. Frank Dombrowski**  
**Principal Environmental Consultant**  
**WEC Business Services, LLC**  
333 W. Everett Street, A231  
Milwaukee, WI 53203  
(via email)

**RE: April 2019 Sample Results Notification**  
Groundwater results collected in April 2019  
Appleton City (Coal Tar), aka Appleton MGP  
337 Water Street, Appleton, Wisconsin  
**WDNR ERP Case #02-45-000042**  
**FID #445033380**

Dear **Mr. Dombrowski**:

This sample results notification letter for the Appleton City former manufactured gas plant (MGP) site located at 337 Water Street in Appleton, Wisconsin (Figure 1) summarizes routine groundwater sampling activities that occurred in April 2019 located on the property occupied by the Fox River Mills Apartments (Figure 1). Free product (oily material) was measured in PZ-26 and PZ-28. Groundwater samples were collected from monitoring wells and piezometers PZ-23, MW-26, MW-27, PZ-27, and MW-28 in accordance with the groundwater monitoring plan.


Groundwater monitoring wells PZ-23, PZ-26, PZ-27, and PZ-28 are screened within the shallow bedrock approximately 20 to 25 feet below ground surface. Consistent with previous monitoring events, free product was observed in PZ-26 and PZ-28 (1.45 and 1.05 feet, respectively). Free product was not observed in any of the other wells. No attempt was made to recover free product during this sampling event. Groundwater analytical results (Table 1) collected from the remaining shallow bedrock wells are consistent with previous samples collected from these wells which indicate benzene, naphthalene, and iron in excess of the Wisconsin Department of Natural Resources (WDNR) enforcement standards (ES) in groundwater and arsenic in excess of the WDNR preventative action limit (PAL).

Groundwater monitoring wells MW-26, MW-27, and MW-28 are screened within the unlithified material above bedrock approximately 5 to 15 feet below ground surface. No free product was observed in any of these wells. Groundwater analytical results indicate the presence of benzene, naphthalene, arsenic, and iron in excess of the WDNR ES in groundwater.

The laboratory report containing groundwater results is included in Attachment A, and the results are summarized in Table 1. There are no indications that the observed groundwater impacts (or the presence of free product in wells with previous groundwater exceedances) are a recent occurrence or pose an immediate risk to the health of the occupants in the apartment building.



Very truly yours,  
OBG, PART OF RAMBOLL



**Brian G. Hennings, PG**  
Managing Hydrogeologist

**Attachments:**

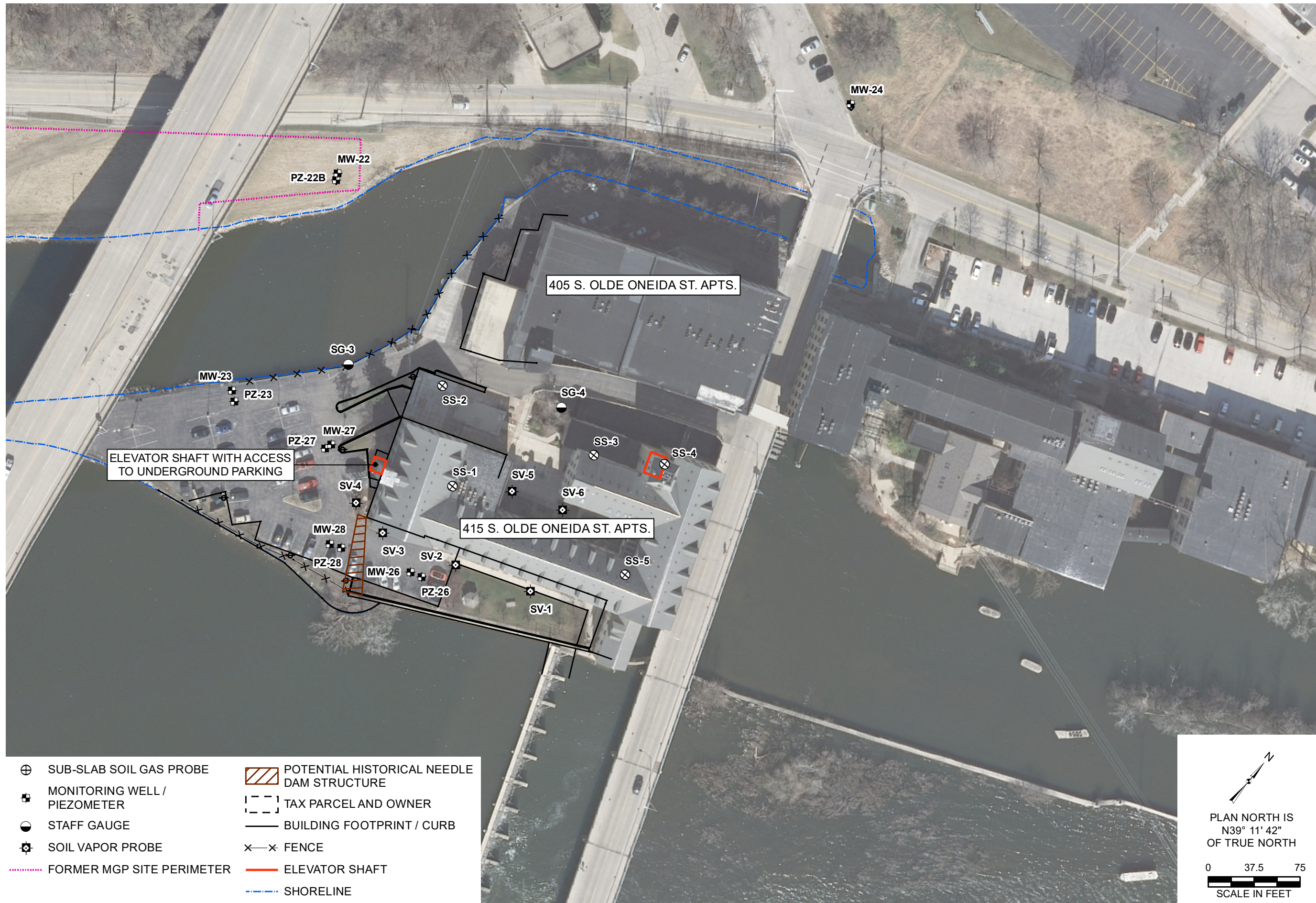
Figure 1            Site Features  
Table 1            Summary of Groundwater Results – Heartland-Appleton Fox River Mills  
Attachment A      Laboratory Report

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**Figures**

Y:\GIS\Projects\151508MXD\SSWP\Figure 1\_Site Features\_190605.mxd\_Author: stolzsd, Date/Time: 6/5/2019, 5:33:14 PM



DRAWN BY/DATE:  
SDS 6/5/19  
REVIEWED BY/DATE:  
KLT 6/5/19  
APPROVED BY/DATE:  
BGH 6/7/19

**SITE FEATURES**  
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY  
WE ENERGIES  
APPLETON, WISCONSIN

PROJECT NO: 67973

FIGURE NO: 1





Tables

**Table 1. Summary of Groundwater Results - Heartland-Appleton Fox River Mills**

April 2019 Sample Results Notification  
 We Energies, Appleton City (Coal Tar), aka Appleton MGP  
 WDNR ERP Case #02-45-000042  
 FID #445033380

Sample Location	Sample Date	VOC							MNA						
		Benzene	Ethylbenzene	Naphthalene	Toluene	Xylenes, m + p	Xylene, o	Total Xylenes <sup>1</sup>	Alkalinity, Total as CaCO3	Arsenic, Dissolved	Iron, Dissolved	Manganese, Dissolved	Methane	Nitrogen, NO2 plus NO3	Sulfate
Reporting Units:		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
Wisconsin PAL:		<u>0.5</u>	<u>140</u>	<u>10</u>	<u>160</u>	NS	NS	<u>400</u>	NS	<u>1</u>	<u>150</u>	<u>60</u>	NS	<u>2</u>	<u>125</u>
Wisconsin ES:		<b>5</b>	<b>700</b>	<b>100</b>	<b>800</b>	NS	NS	<b>2,000</b>	NS	<b>10</b>	<b>300</b>	<b>300</b>	NS	<b>10</b>	<b>250</b>
MW-26	04/22/2019	<u>26.1</u>	<0.22 U	<u>28.0</u>	<0.17 U	0.91 J	1.5	2.41	362	<b>86.1</b>	<b>1,920</b>	<u>254</u>	6,420	<0.095	13.4
MW-27	04/22/2019	<b>258</b>	43.3	<b>339</b>	2.1 J	5.2 J	6.9	12.1	211	<u>4.1</u>	<u>251 J</u>	<u>78.9</u>	3,280	0.17 J	7.4
MW-28	04/22/2019	<0.25 U	<0.22 U	<1.2 U	<0.17 U	<0.47 U	<0.26 U	<0.73 U	244	<b>12.8</b>	118 J	<b>324</b>	3,790	0.40	36.7
PZ-23	04/22/2019	<u>459</u>	41.4	<u>432</u>	2.3 J	5.6 J	8.1 J	13.7	230	<u>4.9</u>	<u>297 J</u>	<u>63.5</u>	2,120	<0.095	1.4 J
PZ-23 DUP01	04/22/2019	<b>521</b>	47.7	<b>529</b>	2.5 J	6.4	9.4	15.8	224	<u>5.2</u>	<b>322 J</b>	<u>66.5</u>	5,670	<0.095	1.8 J
PZ-27	04/22/2019	<b>315</b>	33.6	<b>435</b>	2.2 J	5.7 J	9.3	15.0	221	<u>2.7</u>	<b>898</b>	<u>93.9</u>	4,670	<0.095	1.0 J

[O:ECK 6/3/19][C:MGP 6/3/19, QA: KLT 6/6/19]

NOTES:

Underline value exceeds the Preventative Action Limit

**BOLD Value exceeds the Enforcement Standard**

< = Concentration is less than reported limit

µg/L = micrograms per liter

DUP = Quality Control Field Duplicate Sample

ES = Enforcement Standard

J = Estimated concentration

mg/L = milligrams per liter

MGP = manufactured gas plant

MNA = Monitored Natural Attenuation

NS = No Standard

OBG = O'Brien & Gere Engineers, Inc.

PAL = Preventive Action Limit

PAL and ES from WI Administrative Code NR 140 groundwater quality standard revised effective February 2017.

U = Parameter not detected above the Limit of Detection indicated

VOC = Volatile Organic Compound

Lab comments and definitions can be found in associated laboratory reports.

1. Total Xylenes were calculated by OBG, Part of Ramboll, as follows:

- a. Where no detections were observed, the sum of the reporting limits is presented.
- b. Where detections were observed, the detected results were added together for the total summation.
- c. Analytes used for the calculation are Xylene-o and Xylenes-m+p.





**Attachment A**  
**Laboratory Report**

May 07, 2019

Frank Dombrowski  
WE Energies  
333 W. Everett St  
Milwaukee, WI 53203

RE: Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

Dear Frank Dombrowski:

Enclosed are the analytical results for sample(s) received by the laboratory on April 23, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Brian Basten  
brian.basten@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Alex Bartelme, OBG  
Brian Hennings, OBG  
WE Energies Lab Reports, WE Energies



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
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## CERTIFICATIONS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40186309001	MW-26	Water	04/22/19 11:19	04/23/19 15:35
40186309002	MW-28	Water	04/22/19 12:03	04/23/19 15:35
40186309003	PZ-27	Water	04/22/19 12:47	04/23/19 15:35
40186309004	MW-27	Water	04/22/19 13:29	04/23/19 15:35
40186309005	PZ-23	Water	04/22/19 14:11	04/23/19 15:35
40186309006	DUP01	Water	04/22/19 14:16	04/23/19 15:35

**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

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### SAMPLE ANALYTE COUNT

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40186309001	MW-26	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	3
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
		EPA 353.2	DAW	1
40186309002	MW-28	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	3
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
		EPA 353.2	DAW	1
40186309003	PZ-27	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	3
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
		EPA 353.2	DAW	1
40186309004	MW-27	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	3
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
		EPA 353.2	DAW	1
40186309005	PZ-23	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	3
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
		EPA 353.2	DAW	1
40186309006	DUP01	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	3
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
		EPA 353.2	DAW	1

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

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Lab ID	Sample ID	Method	Analysts	Analytes Reported
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**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

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Lab ID	Sample ID	Method	Analysts	Analytes Reported
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**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

**Sample: MW-26**      **Lab ID: 40186309001**      Collected: 04/22/19 11:19      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Methane, Ethane, Ethene GCV</b> Analytical Method: EPA 8015B Modified									
Methane	<b>6420</b>	ug/L	140	68.5	50		04/24/19 12:51	74-82-8	
<b>6020 MET ICPMS, Dissolved</b> Analytical Method: EPA 6020      Preparation Method: EPA 3010									
Arsenic, Dissolved	<b>86.1</b>	ug/L	1.0	0.28	1	04/25/19 07:02	04/30/19 14:04	7440-38-2	
Iron, Dissolved	<b>1920</b>	ug/L	368	111	1	04/25/19 07:02	04/30/19 14:04	7439-89-6	
Manganese, Dissolved	<b>254</b>	ug/L	9.0	2.7	1	04/25/19 07:02	04/30/19 14:04	7439-96-5	
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Benzene	<b>26.1</b>	ug/L	1.0	0.25	1		04/25/19 12:33	71-43-2	
Ethylbenzene	<b>&lt;0.22</b>	ug/L	1.0	0.22	1		04/25/19 12:33	100-41-4	
Naphthalene	<b>28.0</b>	ug/L	5.0	1.2	1		04/25/19 12:33	91-20-3	
Toluene	<b>&lt;0.17</b>	ug/L	5.0	0.17	1		04/25/19 12:33	108-88-3	
m&p-Xylene	<b>0.91J</b>	ug/L	2.0	0.47	1		04/25/19 12:33	179601-23-1	
o-Xylene	<b>1.5</b>	ug/L	1.0	0.26	1		04/25/19 12:33	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	121	%	70-130		1		04/25/19 12:33	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		04/25/19 12:33	2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-130		1		04/25/19 12:33	460-00-4	
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>13.4</b>	mg/L	3.0	1.0	1		04/30/19 02:28	14808-79-8	
<b>310.2 Alkalinity</b> Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<b>362</b>	mg/L	47.0	14.1	2		05/02/19 11:08		
<b>353.2 Nitrogen, NO2/NO3 pres.</b> Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<b>&lt;0.095</b>	mg/L	0.25	0.095	1		05/01/19 11:47		

**Sample: MW-28**      **Lab ID: 40186309002**      Collected: 04/22/19 12:03      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Methane, Ethane, Ethene GCV</b> Analytical Method: EPA 8015B Modified									
Methane	<b>3790</b>	ug/L	70.0	34.2	25		04/24/19 13:12	74-82-8	
<b>6020 MET ICPMS, Dissolved</b> Analytical Method: EPA 6020      Preparation Method: EPA 3010									
Arsenic, Dissolved	<b>12.8</b>	ug/L	1.0	0.28	1	04/25/19 07:02	04/30/19 14:17	7440-38-2	
Iron, Dissolved	<b>118J</b>	ug/L	368	111	1	04/25/19 07:02	04/30/19 14:17	7439-89-6	
Manganese, Dissolved	<b>324</b>	ug/L	9.0	2.7	1	04/25/19 07:02	04/30/19 14:17	7439-96-5	
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Benzene	<b>&lt;0.25</b>	ug/L	1.0	0.25	1		04/26/19 01:28	71-43-2	
Ethylbenzene	<b>&lt;0.22</b>	ug/L	1.0	0.22	1		04/26/19 01:28	100-41-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

**Sample: MW-28**      **Lab ID: 40186309002**      Collected: 04/22/19 12:03      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Naphthalene	<1.2	ug/L	5.0	1.2	1		04/26/19 01:28	91-20-3	
Toluene	<0.17	ug/L	5.0	0.17	1		04/26/19 01:28	108-88-3	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		04/26/19 01:28	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		04/26/19 01:28	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	113	%	70-130		1		04/26/19 01:28	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		04/26/19 01:28	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		1		04/26/19 01:28	460-00-4	
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	36.7	mg/L	3.0	1.0	1		04/30/19 03:25	14808-79-8	
<b>310.2 Alkalinity</b> Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	244	mg/L	47.0	14.1	2		05/02/19 11:08		
<b>353.2 Nitrogen, NO2/NO3 pres.</b> Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	0.40	mg/L	0.25	0.095	1		05/01/19 11:49		

**Sample: PZ-27**      **Lab ID: 40186309003**      Collected: 04/22/19 12:47      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Methane, Ethane, Ethene GCV</b> Analytical Method: EPA 8015B Modified									
Methane	4670	ug/L	112	54.8	40		04/24/19 13:19	74-82-8	
<b>6020 MET ICPMS, Dissolved</b> Analytical Method: EPA 6020      Preparation Method: EPA 3010									
Arsenic, Dissolved	2.7	ug/L	1.0	0.28	1	04/25/19 07:02	04/30/19 14:24	7440-38-2	
Iron, Dissolved	898	ug/L	368	111	1	04/25/19 07:02	04/30/19 14:24	7439-89-6	
Manganese, Dissolved	93.9	ug/L	9.0	2.7	1	04/25/19 07:02	04/30/19 14:24	7439-96-5	
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Benzene	315	ug/L	5.0	1.2	5		04/25/19 10:18	71-43-2	
Ethylbenzene	33.6	ug/L	5.0	1.1	5		04/25/19 10:18	100-41-4	
Naphthalene	435	ug/L	25.0	5.9	5		04/25/19 10:18	91-20-3	
Toluene	2.2J	ug/L	25.0	0.86	5		04/25/19 10:18	108-88-3	
m&p-Xylene	5.7J	ug/L	10.0	2.3	5		04/25/19 10:18	179601-23-1	
o-Xylene	9.3	ug/L	5.0	1.3	5		04/25/19 10:18	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	111	%	70-130		5		04/25/19 10:18	1868-53-7	
Toluene-d8 (S)	95	%	70-130		5		04/25/19 10:18	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		5		04/25/19 10:18	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

Sample: PZ-27      Lab ID: 40186309003      Collected: 04/22/19 12:47      Received: 04/23/19 15:35      Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>1.0J</b>	mg/L	3.0	1.0	1		04/30/19 03:40	14808-79-8	
<b>310.2 Alkalinity</b> Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<b>221</b>	mg/L	47.0	14.1	2		05/02/19 11:11		
<b>353.2 Nitrogen, NO2/NO3 pres.</b> Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<b>&lt;0.095</b>	mg/L	0.25	0.095	1		05/01/19 11:50		

Sample: MW-27      Lab ID: 40186309004      Collected: 04/22/19 13:29      Received: 04/23/19 15:35      Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Methane, Ethane, Ethene GCV</b> Analytical Method: EPA 8015B Modified									
Methane	<b>3280</b>	ug/L	70.0	34.2	25		04/24/19 13:26	74-82-8	
<b>6020 MET ICPMS, Dissolved</b> Analytical Method: EPA 6020      Preparation Method: EPA 3010									
Arsenic, Dissolved	<b>4.1</b>	ug/L	1.0	0.28	1	04/25/19 07:02	04/30/19 14:45	7440-38-2	
Iron, Dissolved	<b>251J</b>	ug/L	368	111	1	04/25/19 07:02	04/30/19 14:45	7439-89-6	
Manganese, Dissolved	<b>78.9</b>	ug/L	9.0	2.7	1	04/25/19 07:02	04/30/19 14:45	7439-96-5	
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Benzene	<b>258</b>	ug/L	5.0	1.2	5		04/25/19 10:41	71-43-2	
Ethylbenzene	<b>43.3</b>	ug/L	5.0	1.1	5		04/25/19 10:41	100-41-4	
Naphthalene	<b>339</b>	ug/L	25.0	5.9	5		04/25/19 10:41	91-20-3	
Toluene	<b>2.1J</b>	ug/L	25.0	0.86	5		04/25/19 10:41	108-88-3	
m&p-Xylene	<b>5.2J</b>	ug/L	10.0	2.3	5		04/25/19 10:41	179601-23-1	
o-Xylene	<b>6.9</b>	ug/L	5.0	1.3	5		04/25/19 10:41	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	113	%	70-130		5		04/25/19 10:41	1868-53-7	
Toluene-d8 (S)	101	%	70-130		5		04/25/19 10:41	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		5		04/25/19 10:41	460-00-4	
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>7.4</b>	mg/L	3.0	1.0	1		04/30/19 03:54	14808-79-8	
<b>310.2 Alkalinity</b> Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<b>211</b>	mg/L	47.0	14.1	2		05/02/19 11:11		
<b>353.2 Nitrogen, NO2/NO3 pres.</b> Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<b>0.17J</b>	mg/L	0.25	0.095	1		05/01/19 11:51		

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### ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

**Sample: PZ-23**      **Lab ID: 40186309005**      Collected: 04/22/19 14:11      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Methane, Ethane, Ethene GCV</b> Analytical Method: EPA 8015B Modified									
Methane	<b>2120</b>	ug/L	70.0	34.2	25		05/01/19 14:13	74-82-8	
<b>6020 MET ICPMS, Dissolved</b> Analytical Method: EPA 6020      Preparation Method: EPA 3010									
Arsenic, Dissolved	<b>4.9</b>	ug/L	1.0	0.28	1	04/25/19 07:02	04/30/19 14:51	7440-38-2	
Iron, Dissolved	<b>297J</b>	ug/L	368	111	1	04/25/19 07:02	04/30/19 14:51	7439-89-6	
Manganese, Dissolved	<b>63.5</b>	ug/L	9.0	2.7	1	04/25/19 07:02	04/30/19 14:51	7439-96-5	
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Benzene	<b>459</b>	ug/L	10.0	2.5	10		04/25/19 11:03	71-43-2	
Ethylbenzene	<b>41.4</b>	ug/L	10.0	2.2	10		04/25/19 11:03	100-41-4	
Naphthalene	<b>432</b>	ug/L	50.0	11.8	10		04/25/19 11:03	91-20-3	
Toluene	<b>2.3J</b>	ug/L	50.0	1.7	10		04/25/19 11:03	108-88-3	
m&p-Xylene	<b>5.6J</b>	ug/L	20.0	4.7	10		04/25/19 11:03	179601-23-1	
o-Xylene	<b>8.1J</b>	ug/L	10.0	2.6	10		04/25/19 11:03	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	113	%	70-130		10		04/25/19 11:03	1868-53-7	
Toluene-d8 (S)	98	%	70-130		10		04/25/19 11:03	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		10		04/25/19 11:03	460-00-4	
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>1.4J</b>	mg/L	3.0	1.0	1		04/30/19 04:08	14808-79-8	
<b>310.2 Alkalinity</b> Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<b>230</b>	mg/L	47.0	14.1	2		05/02/19 11:12		
<b>353.2 Nitrogen, NO2/NO3 pres.</b> Analytical Method: EPA 353.2									
Nitrogen, NO2 plus NO3	<b>&lt;0.095</b>	mg/L	0.25	0.095	1		05/01/19 11:51		

**Sample: DUP01**      **Lab ID: 40186309006**      Collected: 04/22/19 14:16      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>Methane, Ethane, Ethene GCV</b> Analytical Method: EPA 8015B Modified									
Methane	<b>5670</b>	ug/L	56.0	27.4	20		05/01/19 12:25	74-82-8	
<b>6020 MET ICPMS, Dissolved</b> Analytical Method: EPA 6020      Preparation Method: EPA 3010									
Arsenic, Dissolved	<b>5.2</b>	ug/L	1.0	0.28	1	04/25/19 07:02	04/30/19 14:58	7440-38-2	
Iron, Dissolved	<b>322J</b>	ug/L	368	111	1	04/25/19 07:02	04/30/19 14:58	7439-89-6	
Manganese, Dissolved	<b>66.5</b>	ug/L	9.0	2.7	1	04/25/19 07:02	04/30/19 14:58	7439-96-5	
<b>8260 MSV UST</b> Analytical Method: EPA 8260									
Benzene	<b>521</b>	ug/L	2.5	0.62	2.5		04/25/19 12:11	71-43-2	
Ethylbenzene	<b>47.7</b>	ug/L	2.5	0.55	2.5		04/25/19 12:11	100-41-4	

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### ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

**Sample:** DUP01      **Lab ID:** 40186309006      Collected: 04/22/19 14:16      Received: 04/23/19 15:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV UST</b>		Analytical Method: EPA 8260							
Naphthalene	<b>529</b>	ug/L	12.5	2.9	2.5		04/25/19 12:11	91-20-3	
Toluene	<b>2.5J</b>	ug/L	12.5	0.43	2.5		04/25/19 12:11	108-88-3	
m&p-Xylene	<b>6.4</b>	ug/L	5.0	1.2	2.5		04/25/19 12:11	179601-23-1	
o-Xylene	<b>9.4</b>	ug/L	2.5	0.65	2.5		04/25/19 12:11	95-47-6	
<b>Surrogates</b>									
Dibromofluoromethane (S)	114	%	70-130		2.5		04/25/19 12:11	1868-53-7	
Toluene-d8 (S)	96	%	70-130		2.5		04/25/19 12:11	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		2.5		04/25/19 12:11	460-00-4	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0							
Sulfate	<b>1.8J</b>	mg/L	3.0	1.0	1		04/30/19 04:23	14808-79-8	
<b>310.2 Alkalinity</b>		Analytical Method: EPA 310.2							
Alkalinity, Total as CaCO3	<b>224</b>	mg/L	47.0	14.1	2		05/02/19 11:12		
<b>353.2 Nitrogen, NO2/NO3 pres.</b>		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	<b>&lt;0.095</b>	mg/L	0.25	0.095	1		05/01/19 11:55		

**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

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## ANALYTICAL RESULTS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 319301 Analysis Method: EPA 8015B Modified  
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004

METHOD BLANK: 1855319 Matrix: Water  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	<1.4	2.8	04/24/19 08:16	

LABORATORY CONTROL SAMPLE & LCSD: 1855320 1855321

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	28.6	27.6	28.8	97	101	80-120	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1855589 1855590

Parameter	Units	40185905009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Methane	ug/L	<1.4	28.6	28.6	25.5	27.5	89	96	77-122	7	20	

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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QC Batch: 319961 Analysis Method: EPA 8015B Modified  
 QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV  
 Associated Lab Samples: 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021

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METHOD BLANK: 1858995 Matrix: Water  
 Associated Lab Samples: 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	<1.4	2.8	05/01/19 08:19	

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LABORATORY CONTROL SAMPLE & LCSD: 1858996 1858997

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	28.6	27.6	27.8	97	97	80-120	1	20	

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MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1858998 1858999

Parameter	Units	40186309021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Methane	ug/L	1940	714	714	3310	3570	191	227	77-122	8	20	M1

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 319410 Analysis Method: EPA 6020  
QC Batch Method: EPA 3010 Analysis Description: 6020 MET Dissolved  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021

METHOD BLANK: 1856023 Matrix: Water  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.28	1.0	04/30/19 13:23	
Iron, Dissolved	ug/L	<111	368	04/30/19 13:23	
Manganese, Dissolved	ug/L	<2.7	9.0	04/30/19 13:23	

LABORATORY CONTROL SAMPLE: 1856024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	494	99	80-120	
Iron, Dissolved	ug/L	5000	5220	104	80-120	
Manganese, Dissolved	ug/L	500	496	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1856025 1856026

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40186309021 Result	Spike Conc.	Spike Conc.	Conc.							
Arsenic, Dissolved	ug/L	5.2	500	500	498	489	99	97	75-125	2	20	
Iron, Dissolved	ug/L	131J	5000	5000	4920	4940	96	96	75-125	0	20	
Manganese, Dissolved	ug/L	33.1	500	500	508	506	95	94	75-125	1	20	

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

QC Batch:	319390	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV UST-WATER
Associated Lab Samples:	40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309010, 40186309011, 40186309012, 40186309013, 40186309014, 40186309015, 40186309016, 40186309017, 40186309018, 40186309019, 40186309020		

METHOD BLANK:	1855774	Matrix:	Water
Associated Lab Samples:	40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309010, 40186309011, 40186309012, 40186309013, 40186309014, 40186309015, 40186309016, 40186309017, 40186309018, 40186309019, 40186309020		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.25	1.0	04/25/19 06:12	
Ethy benzene	ug/L	<0.22	1.0	04/25/19 06:12	
m&p-Xylene	ug/L	<0.47	2.0	04/25/19 06:12	
Naphthalene	ug/L	<1.2	5.0	04/25/19 06:12	
o-Xylene	ug/L	<0.26	1.0	04/25/19 06:12	
Toluene	ug/L	<0.17	5.0	04/25/19 06:12	
4-Bromofluorobenzene (S)	%	84	70-130	04/25/19 06:12	
Dibromofluoromethane (S)	%	120	70-130	04/25/19 06:12	
Toluene-d8 (S)	%	98	70-130	04/25/19 06:12	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	54.8	110	70-130	
Ethy benzene	ug/L	50	50.1	100	80-124	
m&p-Xylene	ug/L	100	103	103	70-130	
o-Xylene	ug/L	50	49.3	99	70-130	
Toluene	ug/L	50	51.4	103	80-126	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			113	70-130	
Toluene-d8 (S)	%			102	70-130	

Parameter	Units	1856257		1856258		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40186309016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Benzene	ug/L	0.73J	50	50	53.1	53.9	105	106	70-130	2	20
Ethylbenzene	ug/L	<0.22	50	50	46.9	48.5	94	97	80-125	3	20
m&p-Xylene	ug/L	0.57J	100	100	96.2	100	96	100	70-130	4	20
o-Xylene	ug/L	0.76J	50	50	47.1	49.7	93	98	70-130	5	20
Toluene	ug/L	<0.17	50	50	48.7	49.1	97	98	80-131	1	20
4-Bromofluorobenzene (S)	%						93	95	70-130		
D bromofluoromethane (S)	%						108	109	70-130		
Toluene-d8 (S)	%						97	100	70-130		

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 319391 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER  
Associated Lab Samples: 40186309021

METHOD BLANK: 1855776 Matrix: Water  
Associated Lab Samples: 40186309021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.25	1.0	04/25/19 14:11	
Ethy benzene	ug/L	<0.22	1.0	04/25/19 14:11	
m&p-Xylene	ug/L	<0.47	2.0	04/25/19 14:11	
Naphthalene	ug/L	<1.2	5.0	04/25/19 14:11	
o-Xylene	ug/L	<0.26	1.0	04/25/19 14:11	
Toluene	ug/L	<0.17	5.0	04/25/19 14:11	
4-Bromofluorobenzene (S)	%	94	70-130	04/25/19 14:11	
Dibromofluoromethane (S)	%	110	70-130	04/25/19 14:11	
Toluene-d8 (S)	%	99	70-130	04/25/19 14:11	

LABORATORY CONTROL SAMPLE: 1855777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	58.8	118	70-130	
Ethy benzene	ug/L	50	56.7	113	80-124	
m&p-Xylene	ug/L	100	113	113	70-130	
o-Xylene	ug/L	50	56.5	113	70-130	
Toluene	ug/L	50	52.4	105	80-126	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1855778 1855779

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40186309021	Result	Spike Conc.	Spike Conc.								
Benzene	ug/L	1690	1250	1250	2980	3190	104	120	70-130	7	20		
Ethylbenzene	ug/L	417	1250	1250	1780	1920	109	120	80-125	7	20		
m&p-Xylene	ug/L	26.8J	2500	2500	2680	2900	106	115	70-130	8	20		
o-Xylene	ug/L	30.1	1250	1250	1370	1490	107	117	70-130	8	20		
Toluene	ug/L	5.5J	1250	1250	1290	1390	102	111	80-131	8	20		
4-Bromofluorobenzene (S)	%						99	101	70-130				
D bromofluoromethane (S)	%						106	107	70-130				
Toluene-d8 (S)	%						98	99	70-130				

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 319745 Analysis Method: EPA 8260  
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER  
Associated Lab Samples: 40186309022, 40186309023

METHOD BLANK: 1858108 Matrix: Water  
Associated Lab Samples: 40186309022, 40186309023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.25	1.0	04/30/19 07:31	
Ethy benzene	ug/L	<0.22	1.0	04/30/19 07:31	
m&p-Xylene	ug/L	<0.47	2.0	04/30/19 07:31	
Naphthalene	ug/L	<1.2	5.0	04/30/19 07:31	
o-Xylene	ug/L	<0.26	1.0	04/30/19 07:31	
Toluene	ug/L	<0.17	5.0	04/30/19 07:31	
4-Bromofluorobenzene (S)	%	90	70-130	04/30/19 07:31	
Dibromofluoromethane (S)	%	97	70-130	04/30/19 07:31	
Toluene-d8 (S)	%	98	70-130	04/30/19 07:31	

LABORATORY CONTROL SAMPLE: 1858109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.5	105	70-130	
Ethy benzene	ug/L	50	55.6	111	80-124	
m&p-Xylene	ug/L	100	115	115	70-130	
o-Xylene	ug/L	50	57.0	114	70-130	
Toluene	ug/L	50	53.4	107	80-126	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1858127 1858128

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40186647002 Result	Spike Conc.	Spike Conc.	Result								
Benzene	ug/L	82.6	125	125	211	216	103	106	70-130	2	20		
Ethylbenzene	ug/L	17.3	125	125	163	167	117	120	80-125	2	20		
m&p-Xylene	ug/L	17.0	250	250	304	315	115	119	70-130	3	20		
o-Xylene	ug/L	<2.5	125	125	147	149	115	118	70-130	2	20		
Toluene	ug/L	<12.5	125	125	140	145	107	112	80-131	4	20		
4-Bromofluorobenzene (S)	%						98	99	70-130				
D bromofluoromethane (S)	%						98	98	70-130				
Toluene-d8 (S)	%						98	98	70-130				

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 319633 Analysis Method: EPA 300.0  
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008

METHOD BLANK: 1857305 Matrix: Water  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	<1.0	3.0	04/29/19 22:24	

LABORATORY CONTROL SAMPLE: 1857306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	21.7	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1857307 1857308

Parameter	Units	40186384006 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	38.6	100	100	150	148	111	110	90-110	1	15	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1857309 1857310

Parameter	Units	40186309008 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfate	mg/L	279	400	400	720	708	110	107	90-110	2	15	

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

QC Batch:	319816	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021		

METHOD BLANK:	1858248	Matrix:	Water
Associated Lab Samples:	40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	<1.0	3.0	04/30/19 10:41	

LABORATORY CONTROL SAMPLE: 1858249						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1858250												1858251	
Parameter	Units	40186309021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Sulfate	mg/L	12.5	20	20	34.5	34.8	110	111	90-110	1	15	M0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1858252												1858253	
Parameter	Units	40186335006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Sulfate	mg/L	<1.0	20	20	23.8	23.7	118	117	90-110	0	15	M0	

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**QUALITY CONTROL DATA**

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 320098 Analysis Method: EPA 310.2  
QC Batch Method: EPA 310.2 Analysis Description: 310.2 Alkalinity  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021

METHOD BLANK: 1859736 Matrix: Water  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005, 40186309006, 40186309007, 40186309008, 40186309009, 40186309011, 40186309012, 40186309014, 40186309015, 40186309017, 40186309019, 40186309021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.0	23.5	05/02/19 11:06	

LABORATORY CONTROL SAMPLE: 1859737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	100	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1859738 1859739

Parameter	Units	40186309009 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Alkalinity, Total as CaCO3	mg/L	175	500	674	676	100	100	90-110	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1859740 1859741

Parameter	Units	40186309021 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Alkalinity, Total as CaCO3	mg/L	416	500	895	908	96	98	90-110	1	20		

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### QUALITY CONTROL DATA

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

QC Batch: 319847 Analysis Method: EPA 353.2  
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005

METHOD BLANK: 1858391 Matrix: Water  
Associated Lab Samples: 40186309001, 40186309002, 40186309003, 40186309004, 40186309005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.095	0.25	05/01/19 11:33	

LABORATORY CONTROL SAMPLE: 1858392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.4	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1858393 1858394

Parameter	Units	40185506001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Nitrogen, NO2 plus NO3	mg/L	<0.25	2.5	2.5	2.0	2.1	80	83	90-110	3	20	M0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1858395 1858396

Parameter	Units	40186309005		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Nitrogen, NO2 plus NO3	mg/L	<0.095	2.5	2.5	2.4	2.6	94	100	90-110	6	20		

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## QUALIFIERS

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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### DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40186309001	MW-26	EPA 8015B Modified	319301		
40186309002	MW-28	EPA 8015B Modified	319301		
40186309003	PZ-27	EPA 8015B Modified	319301		
40186309004	MW-27	EPA 8015B Modified	319301		
40186309005	PZ-23	EPA 8015B Modified	319961		
40186309006	DUP01	EPA 8015B Modified	319961		

**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

40186309001	MW-26	EPA 3010	319410	EPA 6020	319516
40186309002	MW-28	EPA 3010	319410	EPA 6020	319516
40186309003	PZ-27	EPA 3010	319410	EPA 6020	319516
40186309004	MW-27	EPA 3010	319410	EPA 6020	319516
40186309005	PZ-23	EPA 3010	319410	EPA 6020	319516
40186309006	DUP01	EPA 3010	319410	EPA 6020	319516

40186309001	MW-26	EPA 8260	319390		
40186309002	MW-28	EPA 8260	319390		
40186309003	PZ-27	EPA 8260	319390		
40186309004	MW-27	EPA 8260	319390		
40186309005	PZ-23	EPA 8260	319390		
40186309006	DUP01	EPA 8260	319390		

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 67973 APPLETON FORMER MGP  
Pace Project No.: 40186309

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

40186309001	MW-26	EPA 300.0	319633		
40186309002	MW-28	EPA 300.0	319633		
40186309003	PZ-27	EPA 300.0	319633		
40186309004	MW-27	EPA 300.0	319633		
40186309005	PZ-23	EPA 300.0	319633		
40186309006	DUP01	EPA 300.0	319633		

40186309001	MW-26	EPA 310.2	320098		
40186309002	MW-28	EPA 310.2	320098		
40186309003	PZ-27	EPA 310.2	320098		
40186309004	MW-27	EPA 310.2	320098		
40186309005	PZ-23	EPA 310.2	320098		
40186309006	DUP01	EPA 310.2	320098		

40186309001	MW-26	EPA 353.2	319847		
40186309002	MW-28	EPA 353.2	319847		
40186309003	PZ-27	EPA 353.2	319847		
40186309004	MW-27	EPA 353.2	319847		
40186309005	PZ-23	EPA 353.2	319847		

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 67973 APPLETON FORMER MGP

Pace Project No.: 40186309

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Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40186309006	DUP01	EPA 353.2	319849		

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**\*\*Sample results redacted due to sample results corresponding to a separate property.\*\***

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**Sample Preservation Receipt Form**

Client Name: We Energies

Project #: 40186309

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Pace Lab #	Glass							Plastic							Vials					Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)				
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC								GN			
021										3		3	3																X				X			2.5/5/10
022																																				2.5/5/10
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																																				2.5/5/21
																																				2.5/5/22
																																				2.5/5/23

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

Project #:

**WO# : 40186309**

Client Name: We Energies

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



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

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no

Custody Seal on Samples Present:  yes  no Seals intact:  yes  no

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used SR - NA Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ND / Corr: \_\_\_\_\_

Temp Blank Present:  yes  no

Biological Tissue is Frozen:  yes  no

Person examining contents:  
Date: 4-23/14  
Initials: JK

Temp should be above freezing to 6°C.  
Biota Samples may be received at ≤ 0°C.

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

**Client Notification/ Resolution:**

If checked, see attached form for additional comments

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

Project Manager Review: [Signature]

Date: 4-24-19