

### **ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS**

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This attachment contains the laboratory analytical reports prepared by BC Laboratories, Inc., of Bakersfield, California.



Date of Report: 08/08/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1923881

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/22/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda

Client Service Rep

Stuart Buttram

Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

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Chain of Custody Form

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BC Laboratories, Inc. 19-23881

Client: Tidewater, Inc.
Attn: David Conner
Street Address: 3761 Altlucks Drive
City: Powell State: OH Zip: 43065

Billing
Client: Tidewater
Attn: David Conner
Address: 3761 Altlucks Drive
City: Powell State: OH Zip: 43065

Analysis Requested
Hexavalent Cr6 - 218.6 (mg/L)
Chloride, NO3, NO2, SO4
Orthophosphate 365.1

Project Description: JPL-GW Monitoring
Project Code: 3Q19
Sampler(s): Blaine Tech

Table with columns: Sample #, Sample Description, Date, Time, Matrix, and various analysis results (VOCs, TRM, Perchlorate, etc.)

Matrix Types: S = Soil, SL = Sludge, DW = Drinking Water, WW = Wastewater, GW = Groundwater, L = Liquid, M = Miscellaneous, O = Other
Turnaround # of working days: 24 Hr Rush, 48 Hr Rush, 3-5 Day Rush, Normal (10 - Days)

Global ID: 1
1. Received By: [Signature] Date: 7-22-19 Time: 1530
2. Received By: [Signature] Date: 7-22-19 Time: 1755

Comments:
PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)
90% Level III and 10% Level IV data validation required, Level IV Notated on C of C
NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com





# Laboratories, Inc.

Environmental Testing Laboratory Since 1949

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page	Of
Submission #: <u>19-23881</u>					<u>4</u>
SHIPPING INFORMATION Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Ontrac <input type="checkbox"/> Hand Delivery <input type="checkbox"/> BC Lab Field Service <input checked="" type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		SHIPPING CONTAINER Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		FREE LIQUID YES <input type="checkbox"/> NO <input type="checkbox"/> W / S	
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments:					
Custody Seals: Ice Chest <input checked="" type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments:					
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Description(s) match COC? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Emissivity: <u>0.98</u> Container: <u>VOA</u> Thermometer ID: <u>708</u>		Date/Time <u>7/22/2016</u>	
		Temperature: (A) <u>3.7</u> °C / (C) <u>4.1</u> °C		Analyst Init <u>SKL</u>	

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr*										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PLA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A	ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/608/8080										
QT EPA 515/L8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 5015M										
QT EPA 3270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: SKL Date/Time: 7-22-16 18:38 Rev 21 05/23/2016  
 A = Actual / C = Corrected

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 4

Submission #: 19-138811

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.18 Container: VOA Thermometer ID: 708 Date/Time: 7/22/2010

Temperature: (A) 3.7 °C / (C) 4.1 °C Analyst Init: [Signature]

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>4</sup>										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
OT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL - 504										
QT EPA 511/603/6080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLERVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUDMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: [Signature] Date/Time: 7/22/10 1838 Rev 21 05/23/2016

A = Actual / C = Corrected





BC LABORATORIES INC. COOLER RECEIPT FORM Page 5 of 4

Submission #: 19-23881

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 708 Date/Time: 7/22/2008

Temperature: (A) 1.6 °C / (C) 2.3 °C Analyst Init: [Signature]

SAMPLE CONTAINERS	SAMPLE NUMBERS										
	2	3	14	15	16	17	18	19	20	21	22
QT PE UNPRES	D	D	PEAK	D	D	D	D	D	D	D	D
4oz / 8oz / 16oz PE UNPRES											
2oz Cr <sup>6+</sup>	E	E	E	E	E						
QT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	F	F	F	F	F						
PT CYANIDE											
PT NITROGEN FORMS											
PT TOTAL SULFIDE											
2oz NITRATE / NITRITE											
PT TOTAL ORGANIC CARBON											
PT CHEMICAL OXYGEN DEMAND											
PLA PHENOLICS											
40ml VOA VIAL TRAVEL BLANK											
40ml VOA VIAL											
QT EPA 1664											
PT ODOR											
RADIOLOGICAL											
BACTERIOLOGICAL											
40 ml VOA VIAL - 504											
QT EPA 501/518/5080											
QT EPA 515/18150											
QT EPA 525											
QT EPA 525 TRAVEL BLANK											
40ml EPA 547											
40ml EPA 531.1											
8oz EPA 548											
QT EPA 549											
QT EPA 501SM											
QT EPA 827											
8oz / 16oz / 32oz AMBER											
8oz / 16oz / 32oz JAR											
SOIL SLEEVE											
PCB VIAL											
PLASTIC BAG											
TEDLAR BAG											
FERROUS IRON											
ENCORE											
SMART KIT											
SUMMA CANISTER											

Comments: \_\_\_\_\_

Sample Numbering Completed By: [Signature] Date/Time: 7-22-19 18:30

Feb 21 05/23/2016

IS:WPP04/WaterProtect/LAB 05/23/2016/05/23/2016



BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 of 4

Submission #: 1923881

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 708 Date/Time: 7/22/2008

Temperature: (A) 1.6 °C / (C) 2.3 °C Analyst Init: EM

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	12	13	3	4	5	6	7	8	9	10
QT PE UNPRES	D	D								
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6+</sup>	E	E								
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	F	F								
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL - 504										
QT EPA 518/608/630										
QT EPA 518/18150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8370										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCE VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: EM Date/Time: 7-22-09 1030 Rev 21 05/23/2016

1 = Actual / C = Corrected



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1923881-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-1-072219 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-1-072219 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-20-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 08:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-20-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 09:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1923881-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-20-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 09:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-20-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 10:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-20-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 11:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1923881-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-19-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 12:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-19-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 13:05 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-19-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 13:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1923881-10</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-19-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 14:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-11</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-19-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 14:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1923881-12</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> EB-1-072219 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/22/2019 17:55 <b>Sampling Date:</b> 07/22/2019 14:40 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-1-072219 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1923881-13</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/22/2019 17:55
	<b>Project Number:</b> NASA JPL	<b>Sampling Date:</b> 07/22/2019 14:45
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> SB-1-072219	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): SB-1-072219
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

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Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-01	<b>Client Sample Name:</b> NASA JPL, TB-1-072219, 7/22/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-01	<b>Client Sample Name:</b> NASA JPL, TB-1-072219, 7/22/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-01 Client Sample Name: NASA JPL, TB-1-072219, 7/22/2019 7:00:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.7	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 16:27	MGC	MS-V5	1	B052164

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Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-01	<b>Client Sample Name:</b> NASA JPL, TB-1-072219, 7/22/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 16:27	MGC	MS-V5	1	B052164

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-02 Client Sample Name: NASA JPL, MW-20-5, 7/22/2019 8:30:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-02		Client Sample Name: NASA JPL, MW-20-5, 7/22/2019 8:30:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
<b>Carbon disulfide</b>	<b>0.49</b>	<b>ug/L</b>	<b>1.0</b>	<b>0.48</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-02	<b>Client Sample Name:</b> NASA JPL, MW-20-5, 7/22/2019 8:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	124	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/26/19 10:40	07/26/19 23:48	MGC	MS-V5	1	B052153

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-02	<b>Client Sample Name:</b> NASA JPL, MW-20-5, 7/22/2019 8:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/26/19 10:40	07/26/19 23:48	MGC	MS-V5	1	B052153

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-02	<b>Client Sample Name:</b> NASA JPL, MW-20-5, 7/22/2019 8:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/02/19 23:54	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-02	<b>Client Sample Name:</b> NASA JPL, MW-20-5, 7/22/2019 8:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00011	mg/L	0.00040	0.000064	EPA-218.6	ND	J,A07	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 13:14		SAV	IC-4	2	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 14:46		AS1	PE-EL3	1	B051850

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-03	<b>Client Sample Name:</b> NASA JPL, MW-20-4, 7/22/2019 9:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1923881-03) and Client Sample Name (NASA JPL, MW-20-4, 7/22/2019 9:10:00AM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical compounds and their analysis results.

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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-03	<b>Client Sample Name:</b> NASA JPL, MW-20-4, 7/22/2019 9:10:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.5	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 16:51	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-03	<b>Client Sample Name:</b> NASA JPL, MW-20-4, 7/22/2019 9:10:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 16:51	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-03	<b>Client Sample Name:</b> NASA JPL, MW-20-4, 7/22/2019 9:10:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/03/19 00:09	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-03	<b>Client Sample Name:</b> NASA JPL, MW-20-4, 7/22/2019 9:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000089	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 09:29	SAV	IC-4	1	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 14:49	AS1	PE-EL3	1	B051850

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-04 Client Sample Name: NASA JPL, MW-20-3, 7/22/2019 9:45:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-04		Client Sample Name: NASA JPL, MW-20-3, 7/22/2019 9:45:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
<b>Ethylbenzene</b>	<b>0.18</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	J	1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.50</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.55</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
<b>Acrylonitrile</b>	<b>1.8</b>	<b>ug/L</b>	<b>5.0</b>	<b>1.5</b>	<b>EPA-524.2</b>	ND	J	1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-04	<b>Client Sample Name:</b> NASA JPL, MW-20-3, 7/22/2019 9:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	122	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/26/19 10:40	07/26/19 19:24	MGC	MS-V5	1	B052153

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-04	<b>Client Sample Name:</b> NASA JPL, MW-20-3, 7/22/2019 9:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/26/19 10:40	07/26/19 19:24	MGC	MS-V5	1	B052153

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-04	<b>Client Sample Name:</b> NASA JPL, MW-20-3, 7/22/2019 9:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/02/19 22:53	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-04	<b>Client Sample Name:</b> NASA JPL, MW-20-3, 7/22/2019 9:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 08:41	SAV	IC-4	1	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 14:17	AS1	PE-EL3	1	B051850

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-05	<b>Client Sample Name:</b> NASA JPL, MW-20-2, 7/22/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-05	<b>Client Sample Name:</b> NASA JPL, MW-20-2, 7/22/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.38</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-05	<b>Client Sample Name:</b> NASA JPL, MW-20-2, 7/22/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	94.5	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 17:15	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-05	<b>Client Sample Name:</b> NASA JPL, MW-20-2, 7/22/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 17:15	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-05	<b>Client Sample Name:</b> NASA JPL, MW-20-2, 7/22/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.0	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/05/19 09:11	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-05	<b>Client Sample Name:</b> NASA JPL, MW-20-2, 7/22/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>0.55</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 09:38		SAV	IC-4	1	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 14:52		AS1	PE-EL3	1	B051850

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-06	<b>Client Sample Name:</b> NASA JPL, MW-20-1, 7/22/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-06	<b>Client Sample Name:</b> NASA JPL, MW-20-1, 7/22/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-06	<b>Client Sample Name:</b> NASA JPL, MW-20-1, 7/22/2019 11:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	98.3	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 17:39	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-06	<b>Client Sample Name:</b> NASA JPL, MW-20-1, 7/22/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 17:39	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-06	<b>Client Sample Name:</b> NASA JPL, MW-20-1, 7/22/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/03/19 01:11	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-06	<b>Client Sample Name:</b> NASA JPL, MW-20-1, 7/22/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00016	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	0.62	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 09:48		SAV	IC-4	1	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 14:56		AS1	PE-EL3	1	B051850

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-07	<b>Client Sample Name:</b> NASA JPL, MW-19-5, 7/22/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>Bromodichloromethane</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.20</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>2.8</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1923881-07      **Client Sample Name:** NASA JPL, MW-19-5, 7/22/2019 12:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.39</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-07	<b>Client Sample Name:</b> NASA JPL, MW-19-5, 7/22/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	98.7	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 18:03	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-07	<b>Client Sample Name:</b> NASA JPL, MW-19-5, 7/22/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 18:03	MGC	MS-V5	1	B052164

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-07	<b>Client Sample Name:</b> NASA JPL, MW-19-5, 7/22/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.3	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/05/19 09:26	TMS	IC6	1	B052864

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-08	<b>Client Sample Name:</b> NASA JPL, MW-19-4, 7/22/2019 1:05:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.81</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1923881-08) and Client Sample Name (NASA JPL, MW-19-4, 7/22/2019 1:05:00PM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quads, Run #. Lists various chemical compounds and their detection results.

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1923881-08      **Client Sample Name:** NASA JPL, MW-19-4, 7/22/2019 1:05:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.8	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 18:27	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-08	<b>Client Sample Name:</b> NASA JPL, MW-19-4, 7/22/2019 1:05:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 18:27	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-08	<b>Client Sample Name:</b> NASA JPL, MW-19-4, 7/22/2019 1:05:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.7	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/05/19 09:41	TMS	IC6	1	B052864

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1923881-09      **Client Sample Name:** NASA JPL, MW-19-3, 7/22/2019 1:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>3.3</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-09 Client Sample Name: NASA JPL, MW-19-3, 7/22/2019 1:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.83</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.34</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-09	<b>Client Sample Name:</b> NASA JPL, MW-19-3, 7/22/2019 1:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	97.9	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 18:51	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-09	<b>Client Sample Name:</b> NASA JPL, MW-19-3, 7/22/2019 1:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 18:51	MGC	MS-V5	1	B052164

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-09	<b>Client Sample Name:</b> NASA JPL, MW-19-3, 7/22/2019 1:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.8	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/05/19 09:57	TMS	IC6	1	B052864

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-10	<b>Client Sample Name:</b> NASA JPL, MW-19-2, 7/22/2019 2:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>2.2</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.16</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>cis-1,2-Dichloroethene</b>	<b>0.45</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.27</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-10	<b>Client Sample Name:</b> NASA JPL, MW-19-2, 7/22/2019 2:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.14</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	J	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>2.4</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.94</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1923881-10      **Client Sample Name:** NASA JPL, MW-19-2, 7/22/2019 2:15:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.6	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 19:15	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-10	<b>Client Sample Name:</b> NASA JPL, MW-19-2, 7/22/2019 2:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 19:15	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-10	<b>Client Sample Name:</b> NASA JPL, MW-19-2, 7/22/2019 2:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.8	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/05/19 10:12	TMS	IC6	1	B052864

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-11	<b>Client Sample Name:</b> NASA JPL, MW-19-1, 7/22/2019 2:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.46</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-11	<b>Client Sample Name:</b> NASA JPL, MW-19-1, 7/22/2019 2:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-11	<b>Client Sample Name:</b> NASA JPL, MW-19-1, 7/22/2019 2:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 19:39	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-11	<b>Client Sample Name:</b> NASA JPL, MW-19-1, 7/22/2019 2:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 19:39	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-11	<b>Client Sample Name:</b> NASA JPL, MW-19-1, 7/22/2019 2:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	1.7	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/05/19 10:27	TMS	IC6	1	B052864

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-12	<b>Client Sample Name:</b> NASA JPL, EB-1-072219, 7/22/2019 2:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-12	<b>Client Sample Name:</b> NASA JPL, EB-1-072219, 7/22/2019 2:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1923881-12      **Client Sample Name:** NASA JPL, EB-1-072219, 7/22/2019 2:40:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 20:03	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-12	<b>Client Sample Name:</b> NASA JPL, EB-1-072219, 7/22/2019 2:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 20:03	MGC	MS-V5	1	B052164

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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-12	<b>Client Sample Name:</b> NASA JPL, EB-1-072219, 7/22/2019 2:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/03/19 02:43	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-12	<b>Client Sample Name:</b> NASA JPL, EB-1-072219, 7/22/2019 2:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>0.55</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 10:17		SAV	IC-4	1	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 14:59		AS1	PE-EL3	1	B051850

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**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1923881-13      **Client Sample Name:** NASA JPL, SB-1-072219, 7/22/2019 2:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1923881-13		Client Sample Name: NASA JPL, SB-1-072219, 7/22/2019 2:45:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1923881-13	<b>Client Sample Name:</b> NASA JPL, SB-1-072219, 7/22/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 20:27	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1923881-13	<b>Client Sample Name:</b> NASA JPL, SB-1-072219, 7/22/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 20:27	MGC	MS-V5	1	B052164

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1923881-13	<b>Client Sample Name:</b> NASA JPL, SB-1-072219, 7/22/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/02/19 21:00	08/03/19 02:58	TMS	IC6	1	B052864

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1923881-13	<b>Client Sample Name:</b> NASA JPL, SB-1-072219, 7/22/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>0.61</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/23/19 08:00	07/23/19 10:26		SAV	IC-4	1	B051809
2	EPA-200.8	07/24/19 07:50	07/24/19 15:02		AS1	PE-EL3	1	B051850

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052153</b>						
Benzene	B052153-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052153-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052153-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052153-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052153-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052153-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052153-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052153-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052153-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052153-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052153-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052153-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052153-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052153-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052153-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052153-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052153-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052153-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052153-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052153-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052153-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052153-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052153-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052153-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052153-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052153-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052153-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052153-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052153-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052153-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052153-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052153-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052153-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052153-BLK1	ND	ug/L	0.50	0.14	

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### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052153</b>						
trans-1,3-Dichloropropene	B052153-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052153-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052153-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052153-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052153-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052153-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052153-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052153-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052153-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052153-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052153-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052153-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052153-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052153-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052153-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052153-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052153-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052153-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052153-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052153-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052153-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052153-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052153-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052153-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052153-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052153-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052153-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052153-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052153-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052153-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052153-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052153-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052153-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052153-BLK1	ND	ug/L	4.0	1.3	

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
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**QC Batch ID: B052153**

Ethyl t-butyl ether	B052153-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052153-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052153-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052153-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052153-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052153-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052153-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052153-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052153-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052153-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052153-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052153-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052153-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052153-BLK1</b>	<b>116</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052153-BLK1</b>	<b>100</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052153-BLK1</b>	<b>103</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

**QC Batch ID: B052164**

Benzene	B052164-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052164-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052164-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052164-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052164-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052164-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052164-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052164-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052164-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052164-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052164-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052164-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052164-BLK1	ND	ug/L	0.50	0.093	

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Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052164</b>						
Dibromochloromethane	B052164-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052164-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052164-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052164-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052164-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052164-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052164-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052164-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052164-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052164-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052164-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052164-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052164-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052164-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052164-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B052164-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052164-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052164-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052164-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052164-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052164-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052164-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052164-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052164-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052164-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B052164-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052164-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052164-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.15	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052164</b>						
1,1,1-Trichloroethane	B052164-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052164-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052164-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052164-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052164-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052164-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052164-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052164-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052164-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052164-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052164-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052164-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052164-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052164-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052164-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052164-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052164-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052164-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B052164-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052164-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052164-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052164-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052164-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052164-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052164-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052164-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052164-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052164-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052164-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052164-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052164-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052164-BLK1</b>	<b>88.8</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052164-BLK1</b>	<b>99.6</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052164-BLK1</b>	<b>97.1</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B052153</b>										
Benzene	B052153-BS1	LCS	26.750	25.000	ug/L	107		70 - 130		
Bromodichloromethane	B052153-BS1	LCS	29.250	25.000	ug/L	117		70 - 130		
Chlorobenzene	B052153-BS1	LCS	25.800	25.000	ug/L	103		70 - 130		
Chloroethane	B052153-BS1	LCS	29.310	25.000	ug/L	117		70 - 130		
1,4-Dichlorobenzene	B052153-BS1	LCS	23.720	25.000	ug/L	94.9		70 - 130		
1,1-Dichloroethane	B052153-BS1	LCS	29.790	25.000	ug/L	119		70 - 130		
1,1-Dichloroethene	B052153-BS1	LCS	31.320	25.000	ug/L	125		70 - 130		
Toluene	B052153-BS1	LCS	26.750	25.000	ug/L	107		70 - 130		
Trichloroethene	B052153-BS1	LCS	27.660	25.000	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052153-BS1	LCS	12.070	10.000	ug/L	121		75 - 125		
Toluene-d8 (Surrogate)	B052153-BS1	LCS	10.180	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052153-BS1	LCS	10.470	10.000	ug/L	105		80 - 120		

<b>QC Batch ID: B052164</b>										
Benzene	B052164-BS1	LCS	23.860	25.000	ug/L	95.4		70 - 130		
Bromodichloromethane	B052164-BS1	LCS	21.930	25.000	ug/L	87.7		70 - 130		
Chlorobenzene	B052164-BS1	LCS	24.480	25.000	ug/L	97.9		70 - 130		
Chloroethane	B052164-BS1	LCS	27.830	25.000	ug/L	111		70 - 130		
1,4-Dichlorobenzene	B052164-BS1	LCS	23.980	25.000	ug/L	95.9		70 - 130		
1,1-Dichloroethane	B052164-BS1	LCS	24.740	25.000	ug/L	99.0		70 - 130		
1,1-Dichloroethene	B052164-BS1	LCS	24.770	25.000	ug/L	99.1		70 - 130		
Toluene	B052164-BS1	LCS	22.170	25.000	ug/L	88.7		70 - 130		
Trichloroethene	B052164-BS1	LCS	23.590	25.000	ug/L	94.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052164-BS1	LCS	9.1600	10.000	ug/L	91.6		75 - 125		
Toluene-d8 (Surrogate)	B052164-BS1	LCS	9.8700	10.000	ug/L	98.7		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052164-BS1	LCS	9.5600	10.000	ug/L	95.6		80 - 120		

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Powell, OH 43065

Reported: 08/08/2019 19:47
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Percent Recovery, Lab Quals. Includes two sections for QC Batch IDs B052153 and B052164.

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B052164</b>		Used client sample: N								
1,1-Dichloroethene	MS	1924076-07	ND	25.740	25.000	ug/L		103		70 - 130
	MSD	1924076-07	ND	25.280	25.000	ug/L	1.8	101	20	70 - 130
Toluene	MS	1924076-07	ND	24.500	25.000	ug/L		98.0		70 - 130
	MSD	1924076-07	ND	24.290	25.000	ug/L	0.9	97.2	20	70 - 130
Trichloroethene	MS	1924076-07	ND	26.020	25.000	ug/L		104		70 - 130
	MSD	1924076-07	ND	25.620	25.000	ug/L	1.5	102	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924076-07	ND	9.4000	10.000	ug/L		94.0		75 - 125
	MSD	1924076-07	ND	8.7500	10.000	ug/L	7.2	87.5		75 - 125
Toluene-d8 (Surrogate)	MS	1924076-07	ND	9.9900	10.000	ug/L		99.9		80 - 120
	MSD	1924076-07	ND	9.8400	10.000	ug/L	1.5	98.4		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924076-07	ND	9.4600	10.000	ug/L		94.6		80 - 120
	MSD	1924076-07	ND	9.5800	10.000	ug/L	1.3	95.8		80 - 120

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052153</b>						
Chloroacetonitrile	B052153-BLK1	0	ug/L			
1-Chlorobutane	B052153-BLK1	0	ug/L			
1,1-Dichloropropanone	B052153-BLK1	0	ug/L			
Methyl acrylate	B052153-BLK1	0	ug/L			
Nitrobenzene	B052153-BLK1	0	ug/L			
2-Nitropropane	B052153-BLK1	0	ug/L			
<b>QC Batch ID: B052164</b>						
Chloroacetonitrile	B052164-BLK1	0	ug/L			
1-Chlorobutane	B052164-BLK1	0	ug/L			
1,1-Dichloropropanone	B052164-BLK1	0	ug/L			
Methyl acrylate	B052164-BLK1	0	ug/L			
Nitrobenzene	B052164-BLK1	0	ug/L			
2-Nitropropane	B052164-BLK1	0	ug/L			

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Water Analysis (General Chemistry)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052864</b>						
Perchlorate	B052864-BLK1	ND	ug/L	4.0	0.76	

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Powell, OH 43065

**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052864</b>										
Perchlorate	B052864-BS1	LCS	11.510	10.000	ug/L	115		85 - 115		

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B052864</b>		Used client sample: Y - Description: MW-20-3, 07/22/2019 09:45								
Perchlorate	DUP	1923881-04	ND	ND		ug/L			15	
	MS	1923881-04	ND	11.541	10.101	ug/L		114		80 - 120
	MSD	1923881-04	ND	10.888	10.101	ug/L	5.8	108	15	80 - 120

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**Reported:** 08/08/2019 19:47  
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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B051809</b>						
Hexavalent Chromium	B051809-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B051850</b>						
Total Recoverable Chromium	B051850-BLK1	ND	ug/L	3.0	0.50	

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**Reported:** 08/08/2019 19:47  
Project: JPL- GW Monitoring Wells  
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Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B051809</b>										
Hexavalent Chromium	B051809-BS1	LCS	0.019525	0.020000	mg/L	97.6		90 - 110		
<b>QC Batch ID: B051850</b>										
Total Recoverable Chromium	B051850-BS1	LCS	39.563	40.000	ug/L	98.9		85 - 115		

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Powell, OH 43065

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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B051809</b>		Used client sample: Y - Description: MW-20-3, 07/22/2019 09:45								
Hexavalent Chromium	DUP	1923881-04	ND	ND		mg/L			10	
	MS	1923881-04	ND	0.019234	0.020202	mg/L		95.2		90 - 110
	MSD	1923881-04	ND	0.019101	0.020202	mg/L	0.7	94.6	10	90 - 110
<b>QC Batch ID: B051850</b>		Used client sample: Y - Description: MW-20-3, 07/22/2019 09:45								
Total Recoverable Chromium	DUP	1923881-04	ND	ND		ug/L			20	
	MS	1923881-04	ND	39.809	40.000	ug/L		99.5		70 - 130
	MSD	1923881-04	ND	38.876	40.000	ug/L	2.4	97.2	20	70 - 130

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**Reported:** 08/08/2019 19:47  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.



Date of Report: 08/09/2019

David Conner

Tidewater Inc.

3761 Attucks Drive  
Powell, OH 43065

Client Project: 3Q19  
BCL Project: JPL- GW Monitoring Wells  
BCL Work Order: 1924076  
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/23/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 43  
 Submission #: 19-24076 7/23

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/23 Analyst Init: ENL 2110

Temperature: (A) 4.3 °C / (C) 5.0 °C

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6</sup>										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PLA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC
QT EPA 144										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 5010R/8020										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 535 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 4015M										
QT EPA 820										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEFLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: ENL Date/Time: 7-23-19 2110 Rev 21 05/23/2016  
 A = Actual / C = Corrected



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 43  
 Submission #: 19-24076

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/13/19 Analyst Init: ENL 2110

Temperature: (A) 4.3 °C / (C) 5.0 °C

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	D							
4oz / 8oz / 16oz PE UNPRES		E	E							
2oz Cr <sup>4</sup>										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL-METALS 4oz / 8oz / 16oz		F	F							
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL		ABC	ABC	ABC						
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/508/5080										
QT EPA 515.1/5150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 6015M										
QT EPA 6270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCE VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: ENL Date/Time: 7-13-19 2:40 Rev 21 05/23/2016  
 A = Actual / C = Corrected



BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 of 43  
 Submission #: 19-24076  
 SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_  
 SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_  
 FREE LIQUID: YES  NO  W / S \_\_\_\_\_  
 Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_  
 Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No   
 COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/23 Analyst Init: ENK 2110  
 Temperature: (A) 1.8 °C / (C) 2.5 °C

SAMPLE CONTAINERS	SAMPLE NUMBERS										
	2	3	4	5	6	7	8	9	10	11	12
QT PE UNPRES	D	PE	D	D	D	D	D	D	D	D	D
4oz / 8oz / 16oz PE UNPRES											
2oz Cr <sup>6</sup>			E	E	E	F	E	F	E	E	E
QT INORGANIC CHEMICAL METALS			E	E	E	E	E	F	E	E	E
INORGANIC CHEMICAL METALS (4oz / 8oz / 16oz)			E	E	E	E	E	F	E	E	E
PT CYANIDE			F	F	F	F	F	F	F	F	F
PT NITROGEN FORMS											
PT TOTAL SULFIDE											
2oz. NITRATE / NITRITE											
PT TOTAL ORGANIC CARBON											
PT CHEMICAL OXYGEN DEMAND											
PLA PHENOLICS											
40ml VOA VIAL TRAVEL BLANK											
40ml VOA VIAL											
QT EPA 1664											
PT ODOR											
RADIOLOGICAL											
BACTERIOLOGICAL											
40 ml VOA VIAL- 504											
QT EPA 508/509/5050											
QT EPA 515.1/E150											
QT EPA 525											
QT EPA 525 TRAVEL BLANK											
40ml EPA 547											
40ml EPA 531.1											
8oz EPA 548											
QT EPA 549											
QT EPA 8015M											
QT EPA 8270											
8oz / 16oz / 32oz AMBER											
8oz / 16oz / 32oz JAR											
SOH, SLEEVE											
PCB VIAL											
PLASTIC BAG											
TEDLAR BAG											
FERROUS IRON											
ENCORE											
SMART KIT											
SUMMA CANISTER											

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: ENK Date/Time: 7-23-19 2140 Rev 21 05/23/2016  
 A = Actual / C = Corrected



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924076-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-2-072319 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-2-072319 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-14-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 07:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-14-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 08:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924076-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-14-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 08:50 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-14-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 09:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-14-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 10:05 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924076-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-25-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 11:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-25-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 12:25 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> DUP-1-3Q15 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 12:35 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-1-3Q15 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924076-10</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-25-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 13:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-11</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-25-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 14:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924076-12</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-25-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/23/2019 21:10 <b>Sampling Date:</b> 07/23/2019 14:35 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924076-13</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/23/2019 21:10
	<b>Project Number:</b> NASA JPL	<b>Sampling Date:</b> 07/23/2019 14:45
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> EB-2-072319	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): EB-2-072319
		Matrix: WG
		Sample QC Type (SACode): CS
	Cooler ID:	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-01	<b>Client Sample Name:</b> NASA JPL, TB-2-072319, 7/23/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-01	<b>Client Sample Name:</b> NASA JPL, TB-2-072319, 7/23/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-01	<b>Client Sample Name:</b> NASA JPL, TB-2-072319, 7/23/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 20:51	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-01	<b>Client Sample Name:</b> NASA JPL, TB-2-072319, 7/23/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 20:51	MGC	MS-V5	1	B052164

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-02	<b>Client Sample Name:</b> NASA JPL, MW-14-5, 7/23/2019 7:45:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/09/2019 10:29
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924076-02) and Client Sample Name (NASA JPL, MW-14-5, 7/23/2019 7:45:00AM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical compounds and their analysis results.

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-02	<b>Client Sample Name:</b> NASA JPL, MW-14-5, 7/23/2019 7:45:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 21:15	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-02	<b>Client Sample Name:</b> NASA JPL, MW-14-5, 7/23/2019 7:45:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 21:15	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-02	<b>Client Sample Name:</b> NASA JPL, MW-14-5, 7/23/2019 7:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 18:27	CMM	IC6	1	B052865

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924076-03      **Client Sample Name:** NASA JPL, MW-14-4, 7/23/2019 8:15:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.23</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/09/2019 10:29
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Qualls, Run #. Contains 30 rows of chemical analysis data.

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-03	<b>Client Sample Name:</b> NASA JPL, MW-14-4, 7/23/2019 8:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 01:40	MGC	MS-V5	1	B052286

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-03	<b>Client Sample Name:</b> NASA JPL, MW-14-4, 7/23/2019 8:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 01:40	MGC	MS-V5	1	B052286

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-03	<b>Client Sample Name:</b> NASA JPL, MW-14-4, 7/23/2019 8:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	4.6	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 18:42	CMM	IC6	1	B052865

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-04	<b>Client Sample Name:</b> NASA JPL, MW-14-3, 7/23/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.28</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.27</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-04	<b>Client Sample Name:</b> NASA JPL, MW-14-3, 7/23/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.38</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.69</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-04	<b>Client Sample Name:</b> NASA JPL, MW-14-3, 7/23/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 21:39	MGC	MS-V5	1	B052164

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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-04	<b>Client Sample Name:</b> NASA JPL, MW-14-3, 7/23/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 21:39	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-04	<b>Client Sample Name:</b> NASA JPL, MW-14-3, 7/23/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.9	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 19:43	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-04	<b>Client Sample Name:</b> NASA JPL, MW-14-3, 7/23/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00037	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 12:51		SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 20:56		ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-05	<b>Client Sample Name:</b> NASA JPL, MW-14-2, 7/23/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.48</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.17</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-05	<b>Client Sample Name:</b> NASA JPL, MW-14-2, 7/23/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.32</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>1.4</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-05	<b>Client Sample Name:</b> NASA JPL, MW-14-2, 7/23/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 22:03	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-05	<b>Client Sample Name:</b> NASA JPL, MW-14-2, 7/23/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 22:03	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-05	<b>Client Sample Name:</b> NASA JPL, MW-14-2, 7/23/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	4.2	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 19:59	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-05	<b>Client Sample Name:</b> NASA JPL, MW-14-2, 7/23/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00061	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.0	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 13:29		SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:02		ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924076-06      **Client Sample Name:** NASA JPL, MW-14-1, 7/23/2019 10:05:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.32</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-06	<b>Client Sample Name:</b> NASA JPL, MW-14-1, 7/23/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.26</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.60</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-06	<b>Client Sample Name:</b> NASA JPL, MW-14-1, 7/23/2019 10:05:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 22:27	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-06	<b>Client Sample Name:</b> NASA JPL, MW-14-1, 7/23/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 22:27	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-06	<b>Client Sample Name:</b> NASA JPL, MW-14-1, 7/23/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.5	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 20:14	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-06	<b>Client Sample Name:</b> NASA JPL, MW-14-1, 7/23/2019 10:05:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.2</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 13:39		SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:06		ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-07	<b>Client Sample Name:</b> NASA JPL, MW-25-5, 7/23/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-07	<b>Client Sample Name:</b> NASA JPL, MW-25-5, 7/23/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-07	<b>Client Sample Name:</b> NASA JPL, MW-25-5, 7/23/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	93.5	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 14:02	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-07	<b>Client Sample Name:</b> NASA JPL, MW-25-5, 7/23/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/29/19 14:02	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-07	<b>Client Sample Name:</b> NASA JPL, MW-25-5, 7/23/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 20:30	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-07	<b>Client Sample Name:</b> NASA JPL, MW-25-5, 7/23/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000053	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	0.53	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 13:48		SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:09		ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-08	<b>Client Sample Name:</b> NASA JPL, MW-25-4, 7/23/2019 12:25:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-08	<b>Client Sample Name:</b> NASA JPL, MW-25-4, 7/23/2019 12:25:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-08	<b>Client Sample Name:</b> NASA JPL, MW-25-4, 7/23/2019 12:25:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/30/19 02:04	MGC	MS-V5	1	B052164

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-08	<b>Client Sample Name:</b> NASA JPL, MW-25-4, 7/23/2019 12:25:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/30/19 02:04	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-08	<b>Client Sample Name:</b> NASA JPL, MW-25-4, 7/23/2019 12:25:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	6.2	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 21:16	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-08	<b>Client Sample Name:</b> NASA JPL, MW-25-4, 7/23/2019 12:25:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00046	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.8</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 13:58		SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:12		ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924076-09) and Client Sample Name (NASA JPL, DUP-1-3Q15, 7/23/2019 12:35:00PM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various organic compounds and their detection results.

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-09	<b>Client Sample Name:</b> NASA JPL, DUP-1-3Q15, 7/23/2019 12:35:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-09	<b>Client Sample Name:</b> NASA JPL, DUP-1-3Q15, 7/23/2019 12:35:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/30/19 02:28	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-09	<b>Client Sample Name:</b> NASA JPL, DUP-1-3Q15, 7/23/2019 12:35:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/30/19 02:28	MGC	MS-V5	1	B052164

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-09	<b>Client Sample Name:</b> NASA JPL, DUP-1-3Q15, 7/23/2019 12:35:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	8.4	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 21:31	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-09	<b>Client Sample Name:</b> NASA JPL, DUP-1-3Q15, 7/23/2019 12:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00044	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.7	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 14:27		SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:16		ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924076-10) and Client Sample Name (NASA JPL, MW-25-3, 7/23/2019 1:20:00PM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various VOCs like Benzene, Chloroform, etc.

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924076-10      **Client Sample Name:** NASA JPL, MW-25-3, 7/23/2019 1:20:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.43</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-10	<b>Client Sample Name:</b> NASA JPL, MW-25-3, 7/23/2019 1:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/30/19 02:52	MGC	MS-V5	1	B052164

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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-10	<b>Client Sample Name:</b> NASA JPL, MW-25-3, 7/23/2019 1:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:00	07/30/19 02:52	MGC	MS-V5	1	B052164

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-10	<b>Client Sample Name:</b> NASA JPL, MW-25-3, 7/23/2019 1:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	10	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 21:46	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-10	<b>Client Sample Name:</b> NASA JPL, MW-25-3, 7/23/2019 1:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0019	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	2.4	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 14:36	SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:19	ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924076-11) and Client Sample Name (NASA JPL, MW-25-2, 7/23/2019 2:00:00PM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quads, Run #. Lists various organic compounds and their detection results.

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-11	<b>Client Sample Name:</b> NASA JPL, MW-25-2, 7/23/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-11	<b>Client Sample Name:</b> NASA JPL, MW-25-2, 7/23/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 03:16	MGC	MS-V5	1	B052286

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-11	<b>Client Sample Name:</b> NASA JPL, MW-25-2, 7/23/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 03:16	MGC	MS-V5	1	B052286

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-11	<b>Client Sample Name:</b> NASA JPL, MW-25-2, 7/23/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	13	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 22:02	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-11	<b>Client Sample Name:</b> NASA JPL, MW-25-2, 7/23/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0010	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	3.1	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 14:46	SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:22	ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-12	<b>Client Sample Name:</b> NASA JPL, MW-25-1, 7/23/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.42</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-12	<b>Client Sample Name:</b> NASA JPL, MW-25-1, 7/23/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.53</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>1.5</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-12	<b>Client Sample Name:</b> NASA JPL, MW-25-1, 7/23/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	107	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 03:41	MGC	MS-V5	1	B052286

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-12	<b>Client Sample Name:</b> NASA JPL, MW-25-1, 7/23/2019 2:35:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 03:41	MGC	MS-V5	1	B052286

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-12	<b>Client Sample Name:</b> NASA JPL, MW-25-1, 7/23/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	6.7	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 22:17	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-12	<b>Client Sample Name:</b> NASA JPL, MW-25-1, 7/23/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00033	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>2.0</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 14:55	SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:25	ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-13	<b>Client Sample Name:</b> NASA JPL, EB-2-072319, 7/23/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924076-13	<b>Client Sample Name:</b> NASA JPL, EB-2-072319, 7/23/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924076-13      **Client Sample Name:** NASA JPL, EB-2-072319, 7/23/2019 2:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	106	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 04:05	MGC	MS-V5	1	B052286

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924076-13	<b>Client Sample Name:</b> NASA JPL, EB-2-072319, 7/23/2019 2:45:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 04:05	MGC	MS-V5	1	B052286

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924076-13	<b>Client Sample Name:</b> NASA JPL, EB-2-072319, 7/23/2019 2:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/05/19 14:00	08/05/19 22:32	CMM	IC6	1	B052865

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924076-13	<b>Client Sample Name:</b> NASA JPL, EB-2-072319, 7/23/2019 2:45:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>0.74</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 15:05	SAV	IC-4	1	B052201
2	EPA-200.8	07/25/19 11:40	07/25/19 23:29	ARD	PE-EL3	1	B052053

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052164</b>						
Benzene	B052164-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052164-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052164-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052164-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052164-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052164-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052164-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052164-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052164-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052164-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052164-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052164-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052164-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052164-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052164-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052164-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052164-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052164-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052164-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052164-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052164-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052164-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052164-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052164-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052164-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052164-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052164-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052164-BLK1	ND	ug/L	0.50	0.14	

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052164</b>						
trans-1,3-Dichloropropene	B052164-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052164-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052164-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052164-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052164-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052164-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052164-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052164-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052164-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052164-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052164-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052164-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052164-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052164-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052164-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052164-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052164-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052164-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052164-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052164-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052164-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052164-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052164-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052164-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052164-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052164-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052164-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052164-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052164-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052164-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052164-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052164-BLK1	ND	ug/L	4.0	1.3	

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
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**QC Batch ID: B052164**

Ethyl t-butyl ether	B052164-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052164-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052164-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052164-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052164-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052164-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052164-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052164-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052164-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052164-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052164-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052164-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052164-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052164-BLK1</b>	<b>88.8</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052164-BLK1</b>	<b>99.6</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052164-BLK1</b>	<b>97.1</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

**QC Batch ID: B052286**

Benzene	B052286-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052286-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052286-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052286-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052286-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052286-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052286-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052286-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052286-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052286-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052286-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052286-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052286-BLK1	ND	ug/L	0.50	0.093	

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Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052286</b>						
Dibromochloromethane	B052286-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052286-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052286-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052286-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052286-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Dichloroethane	B052286-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052286-BLK1	ND	ug/L	0.50	0.17	
1,1,1-Dichloroethene	B052286-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052286-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052286-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052286-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052286-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052286-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052286-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052286-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B052286-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052286-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052286-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052286-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052286-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052286-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052286-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052286-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052286-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052286-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052286-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052286-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052286-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.15	

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Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052286</b>						
1,1,1-Trichloroethane	B052286-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052286-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052286-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052286-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052286-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052286-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052286-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052286-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052286-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052286-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052286-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052286-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052286-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052286-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052286-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052286-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052286-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052286-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B052286-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052286-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052286-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052286-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052286-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052286-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052286-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052286-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052286-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052286-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052286-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052286-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052286-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052286-BLK1</b>	<b>101</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052286-BLK1</b>	<b>101</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052286-BLK1</b>	<b>102</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B052164</b>										
Benzene	B052164-BS1	LCS	23.860	25.000	ug/L	95.4		70 - 130		
Bromodichloromethane	B052164-BS1	LCS	21.930	25.000	ug/L	87.7		70 - 130		
Chlorobenzene	B052164-BS1	LCS	24.480	25.000	ug/L	97.9		70 - 130		
Chloroethane	B052164-BS1	LCS	27.830	25.000	ug/L	111		70 - 130		
1,4-Dichlorobenzene	B052164-BS1	LCS	23.980	25.000	ug/L	95.9		70 - 130		
1,1-Dichloroethane	B052164-BS1	LCS	24.740	25.000	ug/L	99.0		70 - 130		
1,1-Dichloroethene	B052164-BS1	LCS	24.770	25.000	ug/L	99.1		70 - 130		
Toluene	B052164-BS1	LCS	22.170	25.000	ug/L	88.7		70 - 130		
Trichloroethene	B052164-BS1	LCS	23.590	25.000	ug/L	94.4		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052164-BS1	LCS	9.1600	10.000	ug/L	91.6		75 - 125		
Toluene-d8 (Surrogate)	B052164-BS1	LCS	9.8700	10.000	ug/L	98.7		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052164-BS1	LCS	9.5600	10.000	ug/L	95.6		80 - 120		
<b>QC Batch ID: B052286</b>										
Benzene	B052286-BS1	LCS	23.510	25.000	ug/L	94.0		70 - 130		
Bromodichloromethane	B052286-BS1	LCS	24.490	25.000	ug/L	98.0		70 - 130		
Chlorobenzene	B052286-BS1	LCS	24.380	25.000	ug/L	97.5		70 - 130		
Chloroethane	B052286-BS1	LCS	26.970	25.000	ug/L	108		70 - 130		
1,4-Dichlorobenzene	B052286-BS1	LCS	24.310	25.000	ug/L	97.2		70 - 130		
1,1-Dichloroethane	B052286-BS1	LCS	26.460	25.000	ug/L	106		70 - 130		
1,1-Dichloroethene	B052286-BS1	LCS	27.290	25.000	ug/L	109		70 - 130		
Toluene	B052286-BS1	LCS	22.850	25.000	ug/L	91.4		70 - 130		
Trichloroethene	B052286-BS1	LCS	23.800	25.000	ug/L	95.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052286-BS1	LCS	11.060	10.000	ug/L	111		75 - 125		
Toluene-d8 (Surrogate)	B052286-BS1	LCS	10.170	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052286-BS1	LCS	10.260	10.000	ug/L	103		80 - 120		

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Reported: 08/09/2019 10:29
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Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Percent Recovery, Lab Quails. Includes QC Batch ID: B052164 and Used client sample: Y - Description: MW-25-5, 07/23/2019 11:45.

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Percent Recovery, Lab Quails. Includes QC Batch ID: B052286 and Used client sample: Y - Description: MW-14-4, 07/23/2019 08:15.

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**Reported:** 08/09/2019 10:29  
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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052286</b>		Used client sample: Y - Description: MW-14-4, 07/23/2019 08:15								
1,1-Dichloroethene	MS	1924076-03	ND	26.730	25.000	ug/L		107		70 - 130
	MSD	1924076-03	ND	25.980	25.000	ug/L	2.8	104	20	70 - 130
Toluene	MS	1924076-03	ND	23.460	25.000	ug/L		93.8		70 - 130
	MSD	1924076-03	ND	23.480	25.000	ug/L	0.1	93.9	20	70 - 130
Trichloroethene	MS	1924076-03	0.26000	24.510	25.000	ug/L		97.0		70 - 130
	MSD	1924076-03	0.26000	24.640	25.000	ug/L	0.5	97.5	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924076-03	ND	10.130	10.000	ug/L		101		75 - 125
	MSD	1924076-03	ND	9.6900	10.000	ug/L	4.4	96.9		75 - 125
Toluene-d8 (Surrogate)	MS	1924076-03	ND	10.090	10.000	ug/L		101		80 - 120
	MSD	1924076-03	ND	9.8800	10.000	ug/L	2.1	98.8		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924076-03	ND	10.310	10.000	ug/L		103		80 - 120
	MSD	1924076-03	ND	9.7800	10.000	ug/L	5.3	97.8		80 - 120

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**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052164</b>						
Chloroacetonitrile	B052164-BLK1	0	ug/L			
1-Chlorobutane	B052164-BLK1	0	ug/L			
1,1-Dichloropropanone	B052164-BLK1	0	ug/L			
Methyl acrylate	B052164-BLK1	0	ug/L			
Nitrobenzene	B052164-BLK1	0	ug/L			
2-Nitropropane	B052164-BLK1	0	ug/L			
<b>QC Batch ID: B052286</b>						
Chloroacetonitrile	B052286-BLK1	0	ug/L			
1-Chlorobutane	B052286-BLK1	0	ug/L			
1,1-Dichloropropanone	B052286-BLK1	0	ug/L			
Methyl acrylate	B052286-BLK1	0	ug/L			
Nitrobenzene	B052286-BLK1	0	ug/L			
2-Nitropropane	B052286-BLK1	0	ug/L			

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Water Analysis (General Chemistry)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052865</b>						
Perchlorate	B052865-BLK1	ND	ug/L	4.0	0.76	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052865</b>										
Perchlorate	B052865-BS1	LCS	10.992	10.000	ug/L	110		85 - 115		

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B052865</b>		Used client sample: Y - Description: MW-14-4, 07/23/2019 08:15								
Perchlorate	DUP	1924076-03	4.6456	4.3549		ug/L	6.5		15	
	MS	1924076-03	4.6456	14.549	10.101	ug/L		98.0		80 - 120
	MSD	1924076-03	4.6456	14.636	10.101	ug/L	0.6	98.9	15	80 - 120

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052053</b>						
Total Recoverable Chromium	B052053-BLK1	ND	ug/L	3.0	0.50	
<b>QC Batch ID: B052201</b>						
Hexavalent Chromium	B052201-BLK1	ND	mg/L	0.00020	0.000032	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052053</b>										
Total Recoverable Chromium	B052053-BS1	LCS	40.074	40.000	ug/L	100		85 - 115		
<b>QC Batch ID: B052201</b>										
Hexavalent Chromium	B052201-BS1	LCS	0.019940	0.020000	mg/L	99.7		90 - 110		

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 10:29  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052053</b>		Used client sample: Y - Description: MW-14-3, 07/23/2019 08:50								
Total Recoverable Chromium	DUP	1924076-04	ND	ND		ug/L			20	
	MS	1924076-04	ND	38.976	40.000	ug/L		97.4		70 - 130
	MSD	1924076-04	ND	37.382	40.000	ug/L	4.2	93.5	20	70 - 130
<b>QC Batch ID: B052201</b>		Used client sample: Y - Description: MW-14-3, 07/23/2019 08:50								
Hexavalent Chromium	DUP	1924076-04	0.00037400	0.00036900		mg/L	1.3		10	
	MS	1924076-04	0.00037400	0.020404	0.020202	mg/L		99.1		90 - 110
	MSD	1924076-04	0.00037400	0.020211	0.020202	mg/L	1.0	98.2	10	90 - 110

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 10:29  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit



Date of Report: 08/12/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1924233

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/24/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Page 1 of 2

Chain of Custody Form



19-24233

Report To: Tidelwater, Inc.  
 Client: Tidelwater, Inc.  
 Attn: David Conner  
 Street Address: 3761 Attucks Drive  
 City: Powell State: OH Zip: 43065  
 Phone: 626 1298 Fax: 614 792-2897  
 Email Address: david.conner@tdeli2o.net  
 Submission #: \_\_\_\_\_

Project Description: JPL-GW Monitoring  
 Project Code: 3019  
 Sampler(s): Blaine Tech

Analysis Requested:  
 Hexavalent Cr6 - 2186 (mg/L)  
 Cl, NO3, NO2, SO4  
 Orthophosphate 365.1

Billing:  
 Client: Tidelwater  
 Attn: David Conner  
 Address: 3761 Attucks Drive  
 City: Powell State: OH Zip: 43065  
 Are there any tests with holding times? less than or equal to 48 hours?  
 Yes  No  
 \*Standard Turnaround = 10

Notes:  
 SHORT HOLDING TIME  
 Cr-6 NO2 NO3 OR SR  
 DO Cl2 B7D WBSAS COT  
 Level IV  
 CHRYBY DISTRIBUTION  
 SUB OUT

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-3-022415	07/24/15	0700	W
-2	MW-3-4		0735	W
-3	MW-3-3		0800	W
-4	DUP-2-3515		0810	W
-5	MW-3-2		0840	W
-6	MW-17-4		1020	W
-7	MW-17-3		1045	W
-8	MW-17-2		1115	W
-9	MW-18-5		1220	W
-10	MW-18-4		250	W
-11	MW-18-3		316	W

Matrix Types: S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other

Turnaround # of working days:  24 Hr Rush  48 Hr Rush  3-5 Day Rush  Normal (10 - Days)  
 Lab TAT Approval: \_\_\_\_\_ \*Additional Charges May Apply

Comments:  
 PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)  
 90% Level III and 10% Level IV data validation required; Level IV Notated on C of C  
 NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

Cost Center:  
 1. Requisitioned By: [Signature] Date: 7/24/15 Time: 1440  
 2. Requisitioned By: [Signature] Date: 7-24-15 Time: 1450  
 3. Requisitioned By: [Signature] Date: 7-24-15 Time: 1800

Global ID: \_\_\_\_\_

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 13 of 18

Submission #: 19-24233

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: Voa Thermometer ID: 208 Date/Time: 7/24/1800

Temperature: (A) 0.9 °C / (C) 1.3 °C Analyst Init: SML

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	D	D	D	D	D	D		
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>4+</sup>		E	E	E	E	E	E	E		
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz (16oz)		F	F	F	F	F	F	F		
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC		
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/509/5080										
QT EPA 515.J/5150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.I										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 5270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz IAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: SML Date/Time: 7-24-18

A = Actual / C = Corrected

18/WPDoc/Rev/Print/BLAR Environments 05/23/2016



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 2

Submission #: 19-24233

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/24/800 Analyst Init: ENL

Temperature: (A) 3.5 °C / (C) 4.2 °C

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	15	16	17	18	19					
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>+</sup>	E	E	E	E	E					
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	F	F	F	F	F					
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PLA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
45ml VOA VIAL	ABC	ABC	ABC	ABC	ABC					
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/608/8080										
QT EPA 513.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERRROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: ENL Date/Time: 7-24-19 1846 Rev 21 05/23/2016

A = Actual / C = Corrected

(S:\W\Doc\Word\Perf\csl\LAB\_FOC\FORMS\SAMRECRev 20)



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924233-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-3-072419 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-3-072419 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924233-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-3-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 07:35 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1924233-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-3-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 08:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924233-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> Dup-2-3Q19 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 08:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): Dup-2-3Q19 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1924233-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-3-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 08:40 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1924233-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-17-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 10:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924233-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-17-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 10:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924233-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-17-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 11:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924233-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-18-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 12:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924233-10</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-18-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 12:50 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924233-11</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-18-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 13:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924233-12</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-18-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 13:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924233-13</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> Dup-3-3Q19 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 13:55 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): Dup-3-3Q19 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924233-14</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> EB-3-072419 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/24/2019 18:00 <b>Sampling Date:</b> 07/24/2019 14:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-3-072419 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 08/12/2019 23:02
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924233-01) and Client Sample Name (NASA JPL, TB-3-072419, 7/24/2019 7:00:00AM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various organic compounds and their detection results.

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-01	<b>Client Sample Name:</b> NASA JPL, TB-3-072419, 7/24/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924233-01 Client Sample Name: NASA JPL, TB-3-072419, 7/24/2019 7:00:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 04:29	MGC	MS-V5	1	B052286

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-01	<b>Client Sample Name:</b> NASA JPL, TB-3-072419, 7/24/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 04:29	MGC	MS-V5	1	B052286

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-02	<b>Client Sample Name:</b> NASA JPL, MW-3-4, 7/24/2019 7:35:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.24</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-02	<b>Client Sample Name:</b> NASA JPL, MW-3-4, 7/24/2019 7:35:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-02	<b>Client Sample Name:</b> NASA JPL, MW-3-4, 7/24/2019 7:35:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 04:53	MGC	MS-V5	1	B052286

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-02	<b>Client Sample Name:</b> NASA JPL, MW-3-4, 7/24/2019 7:35:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 04:53	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-02	<b>Client Sample Name:</b> NASA JPL, MW-3-4, 7/24/2019 7:35:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	1.1	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/08/19 22:00	08/09/19 15:41	CMM	IC6	1	B053364

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-02	<b>Client Sample Name:</b> NASA JPL, MW-3-4, 7/24/2019 7:35:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000063	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
<b>Total Recoverable Chromium</b>	<b>47</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>		<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 17:10		TMS	IC-4	1	B052202
2	EPA-200.8	07/29/19 09:35	07/29/19 19:34		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-03	<b>Client Sample Name:</b> NASA JPL, MW-3-3, 7/24/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.23</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-03	<b>Client Sample Name:</b> NASA JPL, MW-3-3, 7/24/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-03	<b>Client Sample Name:</b> NASA JPL, MW-3-3, 7/24/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	106	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 05:17	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-03	<b>Client Sample Name:</b> NASA JPL, MW-3-3, 7/24/2019 8:00:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 05:17	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-03	<b>Client Sample Name:</b> NASA JPL, MW-3-3, 7/24/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	1.4	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/08/19 22:00	08/09/19 15:56	TMS	IC6	1	B053364

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-03	<b>Client Sample Name:</b> NASA JPL, MW-3-3, 7/24/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0014	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.2	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Run		Analyst	Instrument	Dilution	QC
		Prep Date	Date/Time				Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 17:19	CMM	IC-4	1	B052202
2	EPA-200.8	07/29/19 09:35	07/29/19 19:57	ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-04	<b>Client Sample Name:</b> NASA JPL, Dup-2-3Q19, 7/24/2019 8:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924233-04      **Client Sample Name:** NASA JPL, Dup-2-3Q19, 7/24/2019 8:10:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-04	<b>Client Sample Name:</b> NASA JPL, Dup-2-3Q19, 7/24/2019 8:10:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 05:41	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-04	<b>Client Sample Name:</b> NASA JPL, Dup-2-3Q19, 7/24/2019 8:10:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 05:41	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-04	<b>Client Sample Name:</b> NASA JPL, Dup-2-3Q19, 7/24/2019 8:10:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	1.3	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/08/19 22:00	08/09/19 16:12	TMS	IC6	1	B053364

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-04	<b>Client Sample Name:</b> NASA JPL, Dup-2-3Q19, 7/24/2019 8:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0014	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.2	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 17:29		CMM	IC-4	1	B052202
2	EPA-200.8	07/29/19 09:35	07/29/19 19:59		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924233-05) and Client Sample Name (NASA JPL, MW-3-2, 7/24/2019 8:40:00AM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quads, Run #. Lists various organic compounds and their detection results.

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-05	<b>Client Sample Name:</b> NASA JPL, MW-3-2, 7/24/2019 8:40:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-05	<b>Client Sample Name:</b> NASA JPL, MW-3-2, 7/24/2019 8:40:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 06:05	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-05	<b>Client Sample Name:</b> NASA JPL, MW-3-2, 7/24/2019 8:40:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 06:05	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-05	<b>Client Sample Name:</b> NASA JPL, MW-3-2, 7/24/2019 8:40:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 16:33	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-05	<b>Client Sample Name:</b> NASA JPL, MW-3-2, 7/24/2019 8:40:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 17:38		CMM	IC-4	1	B052202
2	EPA-200.8	07/29/19 09:35	07/29/19 20:02		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-06	<b>Client Sample Name:</b> NASA JPL, MW-17-4, 7/24/2019 10:20:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.44</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-06	<b>Client Sample Name:</b> NASA JPL, MW-17-4, 7/24/2019 10:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.23</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.58</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-06	<b>Client Sample Name:</b> NASA JPL, MW-17-4, 7/24/2019 10:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 06:29	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-06	<b>Client Sample Name:</b> NASA JPL, MW-17-4, 7/24/2019 10:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 06:29	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-06	<b>Client Sample Name:</b> NASA JPL, MW-17-4, 7/24/2019 10:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	4.4	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 22:26	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-06	<b>Client Sample Name:</b> NASA JPL, MW-17-4, 7/24/2019 10:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0014	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	0.75	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 18:26		CMM	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 20:04		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-07	<b>Client Sample Name:</b> NASA JPL, MW-17-3, 7/24/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.38</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.18</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924233-07		Client Sample Name: NASA JPL, MW-17-3, 7/24/2019 10:45:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.31</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>1.9</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-07	<b>Client Sample Name:</b> NASA JPL, MW-17-3, 7/24/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 06:53	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-07	<b>Client Sample Name:</b> NASA JPL, MW-17-3, 7/24/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 06:53	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-07	<b>Client Sample Name:</b> NASA JPL, MW-17-3, 7/24/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	5.5	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/08/19 22:00	08/09/19 16:42	CMM	IC6	1	B053364

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-07	<b>Client Sample Name:</b> NASA JPL, MW-17-3, 7/24/2019 10:45:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 19:05		CMM	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 20:06		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-08	<b>Client Sample Name:</b> NASA JPL, MW-17-2, 7/24/2019 11:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1924233-08	Client Sample Name:	NASA JPL, MW-17-2, 7/24/2019 11:15:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1	
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1	
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1	
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1	
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1	
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1	
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1	
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1	
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1	
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1	
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1	
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1	
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1	
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1	

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-08	<b>Client Sample Name:</b> NASA JPL, MW-17-2, 7/24/2019 11:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 07:17	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-08	<b>Client Sample Name:</b> NASA JPL, MW-17-2, 7/24/2019 11:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 07:17	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-08	<b>Client Sample Name:</b> NASA JPL, MW-17-2, 7/24/2019 11:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 17:19	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-08	<b>Client Sample Name:</b> NASA JPL, MW-17-2, 7/24/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000071	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 19:14		TMS	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 20:09		ARD	PE-EL4	1	B052238

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-09	<b>Client Sample Name:</b> NASA JPL, MW-18-5, 7/24/2019 12:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-09	<b>Client Sample Name:</b> NASA JPL, MW-18-5, 7/24/2019 12:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.15</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
<b>Acrylonitrile</b>	<b>1.6</b>	<b>ug/L</b>	<b>5.0</b>	<b>1.5</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 08/12/2019 23:02
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924233-09 Client Sample Name: NASA JPL, MW-18-5, 7/24/2019 12:20:00PM, Blaine Tech

Table with 9 columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical compounds and their detection results.

QC Summary Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Shows details for Run 1.

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-09	<b>Client Sample Name:</b> NASA JPL, MW-18-5, 7/24/2019 12:20:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 07:41	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-09	<b>Client Sample Name:</b> NASA JPL, MW-18-5, 7/24/2019 12:20:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 22:57	CMM	IC6	1	B052924

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-10	<b>Client Sample Name:</b> NASA JPL, MW-18-4, 7/24/2019 12:50:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
<b>Carbon tetrachloride</b>	<b>0.99</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.17</b>	<b>EPA-524.2</b>	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.58</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-10	<b>Client Sample Name:</b> NASA JPL, MW-18-4, 7/24/2019 12:50:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.45</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.58</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-10	<b>Client Sample Name:</b> NASA JPL, MW-18-4, 7/24/2019 12:50:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 08:05	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-10	<b>Client Sample Name:</b> NASA JPL, MW-18-4, 7/24/2019 12:50:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 08:05	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-10	<b>Client Sample Name:</b> NASA JPL, MW-18-4, 7/24/2019 12:50:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	16	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 23:12	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-10	<b>Client Sample Name:</b> NASA JPL, MW-18-4, 7/24/2019 12:50:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0021	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>3.2</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>		<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 19:24		CMM	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 20:11		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924233-11 Client Sample Name: NASA JPL, MW-18-3, 7/24/2019 1:15:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
<b>Carbon tetrachloride</b>	<b>0.32</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.17</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.14</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 08/12/2019 23:02
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924233-11) and Client Sample Name (NASA JPL, MW-18-3, 7/24/2019 1:15:00PM, Blaine Tech)

Main data table with 9 columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical compounds and their analysis results.

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-11	<b>Client Sample Name:</b> NASA JPL, MW-18-3, 7/24/2019 1:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 08:29	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-11	<b>Client Sample Name:</b> NASA JPL, MW-18-3, 7/24/2019 1:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 08:29	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-11	<b>Client Sample Name:</b> NASA JPL, MW-18-3, 7/24/2019 1:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.0	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 18:05	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-11	<b>Client Sample Name:</b> NASA JPL, MW-18-3, 7/24/2019 1:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0015	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 19:34		CMM	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 20:13		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924233-12 Client Sample Name: NASA JPL, MW-18-2, 7/24/2019 1:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-12	<b>Client Sample Name:</b> NASA JPL, MW-18-2, 7/24/2019 1:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924233-12      **Client Sample Name:** NASA JPL, MW-18-2, 7/24/2019 1:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 08:53	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-12	<b>Client Sample Name:</b> NASA JPL, MW-18-2, 7/24/2019 1:45:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 08:53	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-12	<b>Client Sample Name:</b> NASA JPL, MW-18-2, 7/24/2019 1:45:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 18:51	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-12	<b>Client Sample Name:</b> NASA JPL, MW-18-2, 7/24/2019 1:45:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000045	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 19:43		TMS	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 20:16		ARD	PE-EL4	1	B052238

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924233-13 Client Sample Name: NASA JPL, Dup-3-3Q19, 7/24/2019 1:55:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-13	<b>Client Sample Name:</b> NASA JPL, Dup-3-3Q19, 7/24/2019 1:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-13	<b>Client Sample Name:</b> NASA JPL, Dup-3-3Q19, 7/24/2019 1:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 09:17	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-13	<b>Client Sample Name:</b> NASA JPL, Dup-3-3Q19, 7/24/2019 1:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 09:17	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-13	<b>Client Sample Name:</b> NASA JPL, Dup-3-3Q19, 7/24/2019 1:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 19:07	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-13	<b>Client Sample Name:</b> NASA JPL, Dup-3-3Q19, 7/24/2019 1:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000038	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 20:12		TMS	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 18:35		ARD	PE-EL4	1	B052237

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**Reported:** 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1924233-14							
Client Sample Name:	NASA JPL, EB-3-072419, 7/24/2019 2:15:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924233-14      **Client Sample Name:** NASA JPL, EB-3-072419, 7/24/2019 2:15:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924233-14	<b>Client Sample Name:</b> NASA JPL, EB-3-072419, 7/24/2019 2:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 09:41	MGC	MS-V5	1	B052286

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924233-14	<b>Client Sample Name:</b> NASA JPL, EB-3-072419, 7/24/2019 2:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/29/19 13:03	07/30/19 09:41	MGC	MS-V5	1	B052286

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924233-14	<b>Client Sample Name:</b> NASA JPL, EB-3-072419, 7/24/2019 2:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/06/19 12:00	08/06/19 19:22	CMM	IC6	1	B052924

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924233-14	<b>Client Sample Name:</b> NASA JPL, EB-3-072419, 7/24/2019 2:15:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/25/19 12:00	07/25/19 20:21		CMM	IC-4	1	B052203
2	EPA-200.8	07/29/19 09:35	07/29/19 18:37		ARD	PE-EL4	1	B052237

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052286</b>						
Benzene	B052286-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052286-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052286-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052286-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052286-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052286-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052286-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052286-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052286-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052286-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052286-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052286-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052286-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052286-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052286-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052286-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052286-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052286-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052286-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052286-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052286-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052286-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052286-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052286-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052286-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052286-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052286-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052286-BLK1	ND	ug/L	0.50	0.14	

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Reported: 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052286</b>						
trans-1,3-Dichloropropene	B052286-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052286-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052286-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052286-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052286-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052286-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052286-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052286-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052286-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052286-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052286-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052286-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052286-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052286-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052286-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052286-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052286-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052286-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052286-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052286-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052286-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052286-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052286-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052286-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052286-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052286-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052286-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052286-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052286-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052286-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052286-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052286-BLK1	ND	ug/L	4.0	1.3	

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**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052286</b>						
Ethyl t-butyl ether	B052286-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052286-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052286-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052286-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052286-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052286-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052286-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052286-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052286-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052286-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052286-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052286-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052286-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052286-BLK1</b>	<b>101</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052286-BLK1</b>	<b>101</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052286-BLK1</b>	<b>102</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
<b>QC Batch ID: B052286</b>											
Benzene	B052286-BS1	LCS	23.510	25.000	ug/L	94.0		70 - 130			
Bromodichloromethane	B052286-BS1	LCS	24.490	25.000	ug/L	98.0		70 - 130			
Chlorobenzene	B052286-BS1	LCS	24.380	25.000	ug/L	97.5		70 - 130			
Chloroethane	B052286-BS1	LCS	26.970	25.000	ug/L	108		70 - 130			
1,4-Dichlorobenzene	B052286-BS1	LCS	24.310	25.000	ug/L	97.2		70 - 130			
1,1-Dichloroethane	B052286-BS1	LCS	26.460	25.000	ug/L	106		70 - 130			
1,1-Dichloroethene	B052286-BS1	LCS	27.290	25.000	ug/L	109		70 - 130			
Toluene	B052286-BS1	LCS	22.850	25.000	ug/L	91.4		70 - 130			
Trichloroethene	B052286-BS1	LCS	23.800	25.000	ug/L	95.2		70 - 130			
1,2-Dichloroethane-d4 (Surrogate)	B052286-BS1	LCS	11.060	10.000	ug/L	111		75 - 125			
Toluene-d8 (Surrogate)	B052286-BS1	LCS	10.170	10.000	ug/L	102		80 - 120			
4-Bromofluorobenzene (Surrogate)	B052286-BS1	LCS	10.260	10.000	ug/L	103		80 - 120			

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Reported: 08/12/2019 23:02  
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Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery		Lab
								RPD	Percent Recovery	
<b>QC Batch ID: B052286</b>		Used client sample: N								
Benzene	MS	1924076-03	ND	24.130	25.000	ug/L		96.5		70 - 130
	MSD	1924076-03	ND	24.160	25.000	ug/L	0.1	96.6	20	70 - 130
Bromodichloromethane	MS	1924076-03	ND	24.350	25.000	ug/L		97.4		70 - 130
	MSD	1924076-03	ND	24.010	25.000	ug/L	1.4	96.0	20	70 - 130
Chlorobenzene	MS	1924076-03	ND	25.210	25.000	ug/L		101		70 - 130
	MSD	1924076-03	ND	25.120	25.000	ug/L	0.4	100	20	70 - 130
Chloroethane	MS	1924076-03	ND	27.570	25.000	ug/L		110		70 - 130
	MSD	1924076-03	ND	27.810	25.000	ug/L	0.9	111	20	70 - 130
1,4-Dichlorobenzene	MS	1924076-03	ND	25.770	25.000	ug/L		103		70 - 130
	MSD	1924076-03	ND	24.850	25.000	ug/L	3.6	99.4	20	70 - 130
1,1-Dichloroethane	MS	1924076-03	ND	26.730	25.000	ug/L		107		70 - 130
	MSD	1924076-03	ND	26.630	25.000	ug/L	0.4	107	20	70 - 130
1,1-Dichloroethene	MS	1924076-03	ND	26.730	25.000	ug/L		107		70 - 130
	MSD	1924076-03	ND	25.980	25.000	ug/L	2.8	104	20	70 - 130
Toluene	MS	1924076-03	ND	23.460	25.000	ug/L		93.8		70 - 130
	MSD	1924076-03	ND	23.480	25.000	ug/L	0.1	93.9	20	70 - 130
Trichloroethene	MS	1924076-03	0.26000	24.510	25.000	ug/L		97.0		70 - 130
	MSD	1924076-03	0.26000	24.640	25.000	ug/L	0.5	97.5	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924076-03	ND	10.130	10.000	ug/L		101		75 - 125
	MSD	1924076-03	ND	9.6900	10.000	ug/L	4.4	96.9		75 - 125
Toluene-d8 (Surrogate)	MS	1924076-03	ND	10.090	10.000	ug/L		101		80 - 120
	MSD	1924076-03	ND	9.8800	10.000	ug/L	2.1	98.8		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924076-03	ND	10.310	10.000	ug/L		103		80 - 120
	MSD	1924076-03	ND	9.7800	10.000	ug/L	5.3	97.8		80 - 120

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**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052286</b>						
Chloroacetonitrile	B052286-BLK1	0	ug/L			
1-Chlorobutane	B052286-BLK1	0	ug/L			
1,1-Dichloropropanone	B052286-BLK1	0	ug/L			
Methyl acrylate	B052286-BLK1	0	ug/L			
Nitrobenzene	B052286-BLK1	0	ug/L			
2-Nitropropane	B052286-BLK1	0	ug/L			

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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052924</b>						
Perchlorate	B052924-BLK1	ND	ug/L	4.0	0.76	
<b>QC Batch ID: B053364</b>						
Perchlorate	B053364-BLK1	ND	ug/L	4.0	0.76	

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**Reported:** 08/12/2019 23:02  
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Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052924</b>										
Perchlorate	B052924-BS1	LCS	10.549	10.000	ug/L	105		85	115	
<b>QC Batch ID: B053364</b>										
Perchlorate	B053364-BS1	LCS	10.223	10.000	ug/L	102		85	115	

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B052924</b>		Used client sample: N								
Perchlorate	DUP	1925539-01	ND	ND		ug/L			15	
	MS	1925539-01	ND	9.3894	10.101	ug/L		93.0		80 - 120
	MSD	1925539-01	ND	9.3796	10.101	ug/L	0.1	92.9	15	80 - 120
<b>QC Batch ID: B053364</b>		Used client sample: N								
Perchlorate	DUP	1926177-04	ND	ND		ug/L			15	
	MS	1926177-04	ND	9.9258	10.101	ug/L		98.3		80 - 120
	MSD	1926177-04	ND	10.605	10.101	ug/L	6.6	105	15	80 - 120

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052202</b>						
Hexavalent Chromium	B052202-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052203</b>						
Hexavalent Chromium	B052203-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052237</b>						
Total Recoverable Chromium	B052237-BLK1	ND	ug/L	3.0	0.50	
<b>QC Batch ID: B052238</b>						
Total Recoverable Chromium	B052238-BLK1	ND	ug/L	3.0	0.50	

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**Reported:** 08/12/2019 23:02  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052202</b>										
Hexavalent Chromium	B052202-BS1	LCS	0.020426	0.020000	mg/L	102		90 - 110		
<b>QC Batch ID: B052203</b>										
Hexavalent Chromium	B052203-BS1	LCS	0.019791	0.020000	mg/L	99.0		90 - 110		
<b>QC Batch ID: B052237</b>										
Total Recoverable Chromium	B052237-BS1	LCS	40.800	40.000	ug/L	102		85 - 115		
<b>QC Batch ID: B052238</b>										
Total Recoverable Chromium	B052238-BS1	LCS	40.957	40.000	ug/L	102		85 - 115		

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B052202</b>		Used client sample: N								
Hexavalent Chromium	DUP	1924209-01	0.00053200	0.00055400		mg/L	4.1		10	
	MS	1924209-01	0.00053200	0.020781	0.020202	mg/L		100		90 - 110
	MSD	1924209-01	0.00053200	0.020782	0.020202	mg/L	0.0	100	10	90 - 110
<b>QC Batch ID: B052203</b>		Used client sample: Y - Description: MW-17-4, 07/24/2019 10:20								
Hexavalent Chromium	DUP	1924233-06	0.0014410	0.0014400		mg/L	0.1		10	
	MS	1924233-06	0.0014410	0.021959	0.020202	mg/L		102		90 - 110
	MSD	1924233-06	0.0014410	0.022073	0.020202	mg/L	0.5	102	10	90 - 110
<b>QC Batch ID: B052237</b>		Used client sample: N								
Total Recoverable Chromium	DUP	1924172-08	ND	ND		ug/L			20	
	MS	1924172-08	ND	40.968	40.000	ug/L		102		70 - 130
	MSD	1924172-08	ND	38.781	40.000	ug/L	5.5	97.0	20	70 - 130
<b>QC Batch ID: B052238</b>		Used client sample: Y - Description: MW-3-4, 07/24/2019 07:35								
Total Recoverable Chromium	DUP	1924233-02	47.428	46.075		ug/L	2.9		20	
	MS	1924233-02	47.428	100.80	40.000	ug/L		133		70 - 130 Q03
	MSD	1924233-02	47.428	88.263	40.000	ug/L	13.3	102	20	70 - 130

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/12/2019 23:02  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- Q03 Matrix spike recovery(s) was(were) not within the control limits.



Date of Report: 08/09/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1924372

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/25/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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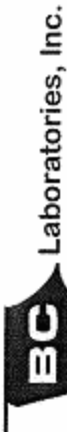


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Chain of Custody Form



19-24372

Page 1 of 1

Required Fields

Client: Tidelwater, Inc.  
 Attn: David Conner  
 Street Address: 3761 Attucks Drive  
 City: Powell State: OH Zip: 43065  
 Phone: 626 298 5715 Fax: 614 792 2897  
 Email Address: david.conner@tidelwater.net

Project Description: JPL-GW Monitoring  
 Project Code: 3Q19  
 Sampler(s): Blaine Tech

Submission #: \_\_\_\_\_

Sample #	Sample Description	Date	Time	Matrix*
-1	EB-4-072519	07/25/19	0700	W
-2	MW-22-3	0715	0715	W
-3	MW-22-2	0800	0800	W
-4	MW-22-1	0900	0900	W
-5	MW-24-4	0950	0950	W
-6	DP-4-3Q19	1000	1000	W
-7	MW-24-3	1045	1045	W
-8	MW-24-2	1120	1120	W
-9	MW-24-1	1200	1200	W
-10	EB-4-072519	1215	1215	W

Analysis Requested

Analysis	Requested
Orthophosphate 365.1	
CI, NO3, NO2, SO4	
Hexavalent Cr6 -218.6 (mg/L)	
Perchlorate	
TRM, Cr	
VOCs EPA 524.2	X

Billing

Client: Tidelwater  
 Attn: David Conner  
 Address: 3761 Attucks Drive  
 City: Powell State: OH Zip: 43065

Are there any tests with holding times? less than or equal to 48 hours?  
 Yes  No

\*Standard Turnaround = 10

Notes

MS/MSD  
 CHIK BY DISTRIBUTION  
 SUE VOT  
 HOLDING TIME  
 NO3 NO2 OP SS  
 DO Cl3 BOO MBAS GOT

Matrix Types: S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other

Turnaround # of working days:  24 Hr Rush  48 Hr Rush  3-5 Day Rush  Normal (10 - Days)

Lab TAT Approval: \_\_\_\_\_ \*Additional Charges May Apply

Comments:

PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)  
 90% Level III and 10% Level IV data validation required; Level IV Notated on C of C  
 NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform OC)

Global ID: \_\_\_\_\_  
 1. Relinquished By: \_\_\_\_\_ Date: 07/25/19 Time: 1710  
 2. Relinquished By: \_\_\_\_\_ Date: 07/25/19 Time: 1800  
 3. Relinquished By: \_\_\_\_\_ Date: 7-25-19 Time: 1850

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327-4911 Fax: (661) 327-1918 www.bclabs.com

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# Laboratories, Inc.

Environmental Testing Laboratory Since 1949

BC LABORATORIES INC. COOLER RECEIPT FORM Page    Of   

Submission #: 19-24372

**SHIPPING INFORMATION**  
 Fed Ex  UPS  Ontrac  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

**SHIPPING CONTAINER**  
 Ice Chest  None  Box   
 Other  (Specify) \_\_\_\_\_

**FREE LIQUID**  
 YES  NO   
 W / S \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received  YES  NO  
 Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/25/19  
 Temperature: (A) 1.6 °C / (C) 2.3 °C Analyst Init: SWK

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	GH	D			D	D	D	D
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6</sup>		E	I	E	A	A	E	E	F	E
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		F	KL	F	B	B	F	F	G	F
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PLA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		ABC	ABC	ABC	ABC		ABC	ABC	ABC	ABC
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/808										
QT EPA 515/1815										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 801SM										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: SWK Date/Time: 7-25-19 2010 Rev 21 05/23/2016  
 A = Actual / C = Corrected



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924372-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-4-072519 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/25/2019 18:50 <b>Sampling Date:</b> 07/25/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-4-072519 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

<b>1924372-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-22-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/25/2019 18:50 <b>Sampling Date:</b> 07/25/2019 07:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-22-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924372-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-22-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/25/2019 18:50 <b>Sampling Date:</b> 07/25/2019 08:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-22-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924372-04</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/25/2019 18:50
	<b>Project Number:</b> NASA JPL	<b>Sampling Date:</b> 07/25/2019 09:00
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> MW-22-1	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-22-1
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

<b>1924372-05</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/25/2019 18:50
	<b>Project Number:</b> NASA JPL	<b>Sampling Date:</b> 07/25/2019 09:50
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> MW-24-4	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-24-4
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

<b>1924372-06</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/25/2019 18:50
	<b>Project Number:</b> NASA JPL	<b>Sampling Date:</b> 07/25/2019 10:00
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> Dup-4-3Q19	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): Dup-4-3Q19
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924372-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-24-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/25/2019 18:50 <b>Sampling Date:</b> 07/25/2019 10:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW24-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

<b>1924372-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-24-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/25/2019 18:50 <b>Sampling Date:</b> 07/25/2019 11:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW24-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

<b>1924372-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-24-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/25/2019 18:50 <b>Sampling Date:</b> 07/25/2019 12:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW24-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

1924372-10

**COC Number:** ---  
**Project Number:** NASA JPL  
**Sampling Location:** ---  
**Sampling Point:** EB-4-072519  
**Sampled By:** Blaine Tech of BTST

**Receive Date:** 07/25/2019 18:50  
**Sampling Date:** 07/25/2019 12:15  
**Sample Depth:** ---  
**Lab Matrix:** Water  
**Sample Type:** Water  
Delivery Work Order:  
Global ID: 0000000000  
Location ID (FieldPoint): EB-4-072519  
Matrix: WG  
Sample QC Type (SACode): CS  
Cooler ID:

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-01	<b>Client Sample Name:</b> NASA JPL, TB-4-072519, 7/25/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-01	<b>Client Sample Name:</b> NASA JPL, TB-4-072519, 7/25/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924372-01      **Client Sample Name:** NASA JPL, TB-4-072519, 7/25/2019 7:00:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.0	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 16:09	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-01	<b>Client Sample Name:</b> NASA JPL, TB-4-072519, 7/25/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 16:09	MGC	MS-V5	1	B052354

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-02	<b>Client Sample Name:</b> NASA JPL, MW-22-3, 7/25/2019 7:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-02	<b>Client Sample Name:</b> NASA JPL, MW-22-3, 7/25/2019 7:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-02	<b>Client Sample Name:</b> NASA JPL, MW-22-3, 7/25/2019 7:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	95.4	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 16:33	MGC	MS-V5	1	B052354

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-02	<b>Client Sample Name:</b> NASA JPL, MW-22-3, 7/25/2019 7:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 16:33	MGC	MS-V5	1	B052354

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-02	<b>Client Sample Name:</b> NASA JPL, MW-22-3, 7/25/2019 7:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.5	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	07/25/19 23:00	07/26/19 01:08	SAV	IC6	1	B052212

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-02	<b>Client Sample Name:</b> NASA JPL, MW-22-3, 7/25/2019 7:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0012	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 09:37		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:19		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-03	<b>Client Sample Name:</b> NASA JPL, MW-22-2, 7/25/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-03	<b>Client Sample Name:</b> NASA JPL, MW-22-2, 7/25/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924372-03      **Client Sample Name:** NASA JPL, MW-22-2, 7/25/2019 8:00:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.1	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 13:44	MGC	MS-V5	1	B052354

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-03	<b>Client Sample Name:</b> NASA JPL, MW-22-2, 7/25/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 13:44	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-03	<b>Client Sample Name:</b> NASA JPL, MW-22-2, 7/25/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.9	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	07/25/19 23:00	07/26/19 15:50	SAV	IC6	1	B052212

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-03	<b>Client Sample Name:</b> NASA JPL, MW-22-2, 7/25/2019 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00054	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 09:47		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:01		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-04	<b>Client Sample Name:</b> NASA JPL, MW-22-1, 7/25/2019 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.97</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-04	<b>Client Sample Name:</b> NASA JPL, MW-22-1, 7/25/2019 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.22</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-04	<b>Client Sample Name:</b> NASA JPL, MW-22-1, 7/25/2019 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 16:57	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-04	<b>Client Sample Name:</b> NASA JPL, MW-22-1, 7/25/2019 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 16:57	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-04	<b>Client Sample Name:</b> NASA JPL, MW-22-1, 7/25/2019 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	160	ug/L	40	7.6	EPA-314.0	ND	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	07/25/19 23:00	07/26/19 09:37	SAV	IC6	10	B052212

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-04	<b>Client Sample Name:</b> NASA JPL, MW-22-1, 7/25/2019 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00056	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 10:33		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:22		ARD	PE-EL4	1	B052252

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-05	<b>Client Sample Name:</b> NASA JPL, MW-24-4, 7/25/2019 9:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000068	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 10:43		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:24		ARD	PE-EL4	1	B052252

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-06	<b>Client Sample Name:</b> NASA JPL, Dup-4-3Q19, 7/25/2019 10:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000064	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 10:52		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:27		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-07	<b>Client Sample Name:</b> NASA JPL, MW-24-3, 7/25/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-07	<b>Client Sample Name:</b> NASA JPL, MW-24-3, 7/25/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-07	<b>Client Sample Name:</b> NASA JPL, MW-24-3, 7/25/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 17:21	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-07	<b>Client Sample Name:</b> NASA JPL, MW-24-3, 7/25/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 17:21	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-07	<b>Client Sample Name:</b> NASA JPL, MW-24-3, 7/25/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	07/25/19 23:00	07/26/19 03:11	SAV	IC6	1	B052212

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-07	<b>Client Sample Name:</b> NASA JPL, MW-24-3, 7/25/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 11:21		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:29		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-08	<b>Client Sample Name:</b> NASA JPL, MW-24-2, 7/25/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>Bromodichloromethane</b>	<b>0.33</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.20</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.47</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.16</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-08	<b>Client Sample Name:</b> NASA JPL, MW-24-2, 7/25/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-08	<b>Client Sample Name:</b> NASA JPL, MW-24-2, 7/25/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 17:45	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-08	<b>Client Sample Name:</b> NASA JPL, MW-24-2, 7/25/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 17:45	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-08	<b>Client Sample Name:</b> NASA JPL, MW-24-2, 7/25/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	4.5	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	07/25/19 23:00	07/26/19 03:26	SAV	IC6	1	B052212

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-08	<b>Client Sample Name:</b> NASA JPL, MW-24-2, 7/25/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0016	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.3</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 11:31		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:31		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-09	<b>Client Sample Name:</b> NASA JPL, MW-24-1, 7/25/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>1.3</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-09	<b>Client Sample Name:</b> NASA JPL, MW-24-1, 7/25/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-09	<b>Client Sample Name:</b> NASA JPL, MW-24-1, 7/25/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 18:09	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-09	<b>Client Sample Name:</b> NASA JPL, MW-24-1, 7/25/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 18:09	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-09	<b>Client Sample Name:</b> NASA JPL, MW-24-1, 7/25/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	67	mg/L	0.50	0.15	EPA-300.0	ND		1
Nitrate as N	1.7	mg/L	0.10	0.042	EPA-300.0	ND		1
Sulfate	46	mg/L	1.0	0.20	EPA-300.0	ND		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
Perchlorate	17	ug/L	4.0	0.76	EPA-314.0	ND		3
ortho-Phosphate as P	ND	mg/L	0.050	0.017	EPA-365.1	ND		4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-300.0	07/25/19 15:00	07/26/19 06:40	SAV	IC2	1	B052196
2	EPA-353.2	07/26/19 08:29	07/26/19 08:33	MC1	KONE-1	1	B052385
3	EPA-314.0	07/25/19 23:00	07/26/19 03:42	SAV	IC6	1	B052212
4	EPA-365.1	07/26/19 07:22	07/26/19 07:39	MC1	SC-1	1	B052407

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-09	<b>Client Sample Name:</b> NASA JPL, MW-24-1, 7/25/2019 12:00:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00071	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.7	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 11:40		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:34		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-10	<b>Client Sample Name:</b> NASA JPL, EB-4-072519, 7/25/2019 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924372-10 Client Sample Name: NASA JPL, EB-4-072519, 7/25/2019 12:15:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924372-10	<b>Client Sample Name:</b> NASA JPL, EB-4-072519, 7/25/2019 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 18:33	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924372-10	<b>Client Sample Name:</b> NASA JPL, EB-4-072519, 7/25/2019 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/30/19 18:33	MGC	MS-V5	1	B052354

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924372-10	<b>Client Sample Name:</b> NASA JPL, EB-4-072519, 7/25/2019 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	07/25/19 23:00	07/26/19 03:57	SAV	IC6	1	B052212

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924372-10	<b>Client Sample Name:</b> NASA JPL, EB-4-072519, 7/25/2019 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000032	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 08:00	07/26/19 11:50		SAV	IC-4	1	B052192
2	EPA-200.8	07/29/19 12:15	07/29/19 22:36		ARD	PE-EL4	1	B052252

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
Benzene	B052354-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052354-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052354-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052354-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052354-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052354-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052354-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052354-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052354-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052354-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052354-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052354-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052354-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052354-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052354-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052354-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052354-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052354-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052354-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052354-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052354-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052354-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052354-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052354-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052354-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052354-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052354-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052354-BLK1	ND	ug/L	0.50	0.14	

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
trans-1,3-Dichloropropene	B052354-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052354-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052354-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052354-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052354-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052354-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052354-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052354-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052354-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052354-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052354-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethane	B052354-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052354-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052354-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052354-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052354-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052354-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052354-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052354-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052354-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052354-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052354-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052354-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052354-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052354-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052354-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052354-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052354-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052354-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052354-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052354-BLK1	ND	ug/L	4.0	1.3	

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
Ethyl t-butyl ether	B052354-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052354-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052354-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052354-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052354-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052354-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052354-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052354-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052354-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052354-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052354-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052354-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052354-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052354-BLK1</b>	<b>91.5</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052354-BLK1</b>	<b>100</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052354-BLK1</b>	<b>99.8</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052354</b>										
Benzene	B052354-BS1	LCS	27.420	25.000	ug/L	110		70 - 130		
Bromodichloromethane	B052354-BS1	LCS	26.760	25.000	ug/L	107		70 - 130		
Chlorobenzene	B052354-BS1	LCS	28.180	25.000	ug/L	113		70 - 130		
Chloroethane	B052354-BS1	LCS	31.430	25.000	ug/L	126		70 - 130		
1,4-Dichlorobenzene	B052354-BS1	LCS	28.510	25.000	ug/L	114		70 - 130		
1,1-Dichloroethane	B052354-BS1	LCS	29.530	25.000	ug/L	118		70 - 130		
1,1-Dichloroethene	B052354-BS1	LCS	29.130	25.000	ug/L	117		70 - 130		
Toluene	B052354-BS1	LCS	26.060	25.000	ug/L	104		70 - 130		
Trichloroethene	B052354-BS1	LCS	27.980	25.000	ug/L	112		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052354-BS1	LCS	9.5500	10.000	ug/L	95.5		75 - 125		
Toluene-d8 (Surrogate)	B052354-BS1	LCS	9.8500	10.000	ug/L	98.5		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052354-BS1	LCS	10.080	10.000	ug/L	101		80 - 120		

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Reported: 08/09/2019 14:30  
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Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052354</b>		Used client sample: Y - Description: MW-22-2, 07/25/2019 08:00								
Benzene	MS	1924372-03	ND	26.630	25.000	ug/L		107		70 - 130
	MSD	1924372-03	ND	26.420	25.000	ug/L	0.8	106	20	70 - 130
Bromodichloromethane	MS	1924372-03	ND	25.960	25.000	ug/L		104		70 - 130
	MSD	1924372-03	ND	25.160	25.000	ug/L	3.1	101	20	70 - 130
Chlorobenzene	MS	1924372-03	ND	26.550	25.000	ug/L		106		70 - 130
	MSD	1924372-03	ND	27.030	25.000	ug/L	1.8	108	20	70 - 130
Chloroethane	MS	1924372-03	ND	29.800	25.000	ug/L		119		70 - 130
	MSD	1924372-03	ND	29.870	25.000	ug/L	0.2	119	20	70 - 130
1,4-Dichlorobenzene	MS	1924372-03	ND	26.250	25.000	ug/L		105		70 - 130
	MSD	1924372-03	ND	27.440	25.000	ug/L	4.4	110	20	70 - 130
1,1-Dichloroethane	MS	1924372-03	ND	28.000	25.000	ug/L		112		70 - 130
	MSD	1924372-03	ND	27.230	25.000	ug/L	2.8	109	20	70 - 130
1,1-Dichloroethene	MS	1924372-03	ND	27.030	25.000	ug/L		108		70 - 130
	MSD	1924372-03	ND	26.500	25.000	ug/L	2.0	106	20	70 - 130
Toluene	MS	1924372-03	ND	25.290	25.000	ug/L		101		70 - 130
	MSD	1924372-03	ND	24.890	25.000	ug/L	1.6	99.6	20	70 - 130
Trichloroethene	MS	1924372-03	0.19000	27.250	25.000	ug/L		108		70 - 130
	MSD	1924372-03	0.19000	26.770	25.000	ug/L	1.8	106	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924372-03	ND	9.5900	10.000	ug/L		95.9		75 - 125
	MSD	1924372-03	ND	9.4200	10.000	ug/L	1.8	94.2		75 - 125
Toluene-d8 (Surrogate)	MS	1924372-03	ND	10.010	10.000	ug/L		100		80 - 120
	MSD	1924372-03	ND	9.8300	10.000	ug/L	1.8	98.3		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924372-03	ND	9.5200	10.000	ug/L		95.2		80 - 120
	MSD	1924372-03	ND	9.7600	10.000	ug/L	2.5	97.6		80 - 120

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**Reported:** 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
Chloroacetonitrile	B052354-BLK1	0	ug/L			
1-Chlorobutane	B052354-BLK1	0	ug/L			
1,1-Dichloropropanone	B052354-BLK1	0	ug/L			
Methyl acrylate	B052354-BLK1	0	ug/L			
Nitrobenzene	B052354-BLK1	0	ug/L			
2-Nitropropane	B052354-BLK1	0	ug/L			

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Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052196</b>						
Chloride	B052196-BLK1	ND	mg/L	0.50	0.15	
Nitrate as N	B052196-BLK1	ND	mg/L	0.10	0.042	
Sulfate	B052196-BLK1	ND	mg/L	1.0	0.20	
<b>QC Batch ID: B052212</b>						
Perchlorate	B052212-BLK1	ND	ug/L	4.0	0.76	
<b>QC Batch ID: B052385</b>						
Nitrite as N	B052385-BLK1	ND	mg/L	0.050	0.010	
<b>QC Batch ID: B052407</b>						
ortho-Phosphate as P	B052407-BLK1	ND	mg/L	0.050	0.017	

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Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052196</b>										
Chloride	B052196-BS1	LCS	50.286	50.000	mg/L	101		90 - 110		
Nitrate as N	B052196-BS1	LCS	5.0960	5.0000	mg/L	102		90 - 110		
Sulfate	B052196-BS1	LCS	101.10	100.00	mg/L	101		90 - 110		
<b>QC Batch ID: B052212</b>										
Perchlorate	B052212-BS1	LCS	10.784	10.000	ug/L	108		85 - 115		
<b>QC Batch ID: B052385</b>										
Nitrite as N	B052385-BS1	LCS	0.52424	0.50000	mg/L	105		90 - 110		
<b>QC Batch ID: B052407</b>										
ortho-Phosphate as P	B052407-BS1	LCS	0.52000	0.50000	mg/L	104		90 - 110		

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Reported: 08/09/2019 14:30  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B052196</b>		Used client sample: N								
Chloride	DUP	1924345-01	9.4320	9.4380		mg/L	0.1		10	
	MS	1924345-01	9.4320	61.940	50.505	mg/L		104		80 - 120
	MSD	1924345-01	9.4320	61.870	50.505	mg/L	0.1	104	10	80 - 120
Nitrate as N	DUP	1924345-01	ND	ND		mg/L			10	
	MS	1924345-01	ND	4.9000	5.0505	mg/L		97.0		80 - 120
	MSD	1924345-01	ND	4.9768	5.0505	mg/L	1.6	98.5	10	80 - 120
Sulfate	DUP	1924345-01	67.299	67.681		mg/L	0.6		10	
	MS	1924345-01	67.299	174.86	101.01	mg/L		106		80 - 120
	MSD	1924345-01	67.299	174.44	101.01	mg/L	0.2	106	10	80 - 120
<b>QC Batch ID: B052212</b>		Used client sample: Y - Description: MW-22-3, 07/25/2019 07:15								
Perchlorate	DUP	1924372-02	2.4804	2.5315		ug/L	2.0		15	J
	MS	1924372-02	2.4804	12.353	10.101	ug/L		97.7		80 - 120
	MSD	1924372-02	2.4804	12.684	10.101	ug/L	2.6	101	15	80 - 120
<b>QC Batch ID: B052385</b>		Used client sample: N								
Nitrite as N	DUP	1924345-01	ND	ND		mg/L			10	
	MS	1924345-01	ND	0.52048	0.50000	mg/L		104		90 - 110
	MSD	1924345-01	ND	0.51874	0.50000	mg/L	0.3	104	10	90 - 110
<b>QC Batch ID: B052407</b>		Used client sample: N								
ortho-Phosphate as P	DUP	1924188-01	0.038300	0.037200		mg/L	2.9		10	J
	MS	1924188-01	0.038300	0.58705	0.52632	mg/L		104		90 - 110
	MSD	1924188-01	0.038300	0.58895	0.52632	mg/L	0.3	105	10	90 - 110

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**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052192</b>						
Hexavalent Chromium	B052192-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052252</b>						
Total Recoverable Chromium	B052252-BLK1	ND	ug/L	3.0	0.50	

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Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
<b>QC Batch ID: B052192</b>											
Hexavalent Chromium	B052192-BS1	LCS	0.019408	0.020000	mg/L	97.0		90 - 110			
<b>QC Batch ID: B052252</b>											
Total Recoverable Chromium	B052252-BS1	LCS	41.243	40.000	ug/L	103		85 - 115			

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**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052192</b>		Used client sample: Y - Description: MW-22-2, 07/25/2019 08:00								
Hexavalent Chromium	DUP	1924372-03	0.00053500	0.00051800		mg/L	3.2		10	
	MS	1924372-03	0.00053500	0.020389	0.020202	mg/L		98.3		90 - 110
	MSD	1924372-03	0.00053500	0.020439	0.020202	mg/L	0.2	98.5	10	90 - 110
<b>QC Batch ID: B052252</b>		Used client sample: Y - Description: MW-22-2, 07/25/2019 08:00								
Total Recoverable Chromium	DUP	1924372-03	ND	ND		ug/L			20	
	MS	1924372-03	ND	38.832	40.000	ug/L		97.1		70 - 130
	MSD	1924372-03	ND	38.364	40.000	ug/L	1.2	95.9	20	70 - 130

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/09/2019 14:30  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.



Date of Report: 08/13/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1924515

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/26/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda

Client Service Rep

Stuart Buttram

Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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## Table of Contents

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BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Chain of Custody Form



Report To: Tidewater, Inc. Client: David Conner  
 Street Address: 3761 Allucks Drive City: Powell State: OH Zip: 43065  
 Phone: 628 1288 Fax: 614 792-2897  
 Email: david.conner@tidewater.net  
 Submission #: 1924515

Project Description: JPL-GW Monitoring  
 Project Code: 3Q19  
 Sampler(s): Blaine Tech

Matrix: WW

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-5-022619	07/26/19	0700	WW
-2	MW-11-4	1130	1130	WW
-3	MW-11-3	1200	1200	WW
-4	MW-11-2	1245	1245	WW
-5	MW-11-1	1315	1315	WW
-6	MW-26-2	1435	1435	WW
-7	MW-26-1	1510	1510	WW
-8	EB-5-022619	1520	1520	WW

Analysis Requested: Orthophosphate 365.1, CI, NO3, NO2, SO4, Hexavalent Cr6-218.6 (mg/L), Perchlorate, TRM: Cr, VOCs EPA 524.2

Matrix Types: S = Soil, SL = Sludge, DW = Drinking Water, WW = Wastewater, GW = Groundwater, L = Liquid, M = Miscellaneous, O = Other

Turnaround # of working days: 24 Hr Rush, 48 Hr Rush, 3-5 Day Rush, Normal (10 - Days)

Lab TAT Approval: [Signature]

Comments: PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD) 90% Level III and 10% Level IV data validation required: Level IV Notated on C of C NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (inform QC)

Global ID: 1924515  
 1. Requisitioned By: [Signature] Date: 07/26/19 Time: 1555  
 2. Requisitioned By: [Signature] Date: 7/26/19 Time: 1815  
 3. Requisitioned By: [Signature] Date: 7-26-19 Time: 1815

Billing: Client: Tidewater, Attn: David Conner, Address: 3761 Allucks Drive, City: Powell, State: OH, Zip: 43065  
 Are there any tests with holding times less than or equal to 48 hours? Yes [X] No [ ]  
 \*Standard Turnaround = 10  
 Notes: Level IV CHK BY DISTRIBUTION [Signature] SUB OUT [ ]  
 [Signature] DO, CL, BOD, MBAS, COT

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 1  
 Submission #: 19-24515

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_  
 SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_  
 FREE LIQUID: YES  NO  W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals: Ice Chest  Containers  None  Comments: \_\_\_\_\_  
Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/26/15  
 Temperature: (A) 0.2 °C / (C) 0.9 °C Analyst Init: GSP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	E	E	FF	E	JJ	E		
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>6</sup>			D	D	D	D	GH	D		
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz			F	FF	G	F	KL	F		
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		ABC	ABC	ABC	ABC	ABC	ABC	ABC		
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 50¢										
QT EPA 508/638/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: GSP Date/Time: 7/26 1903 Rev 21 05/23/2016  
 A = Actual / C = Corrected (S:\WP\Doc\Work\PerTest\A9\_DOCS\FORMS\IANRECrev 20)



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924515-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-5-072619 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-5-072619 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924515-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-11-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 11:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924515-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-11-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 12:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924515-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-11-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 12:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924515-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-11-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 13:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924515-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-26-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 14:35 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-26-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924515-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-26-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 15:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-26-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924515-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> EB-5-072619 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/26/2019 18:15 <b>Sampling Date:</b> 07/26/2019 15:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-5-072619 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-01	<b>Client Sample Name:</b> NASA/JPL, TB-5-072619, 7/26/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-01	<b>Client Sample Name:</b> NASA/JPL, TB-5-072619, 7/26/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-01	<b>Client Sample Name:</b> NASA/JPL, TB-5-072619, 7/26/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.9	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 00:58	MGC	MS-V5	1	B052355

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-01	<b>Client Sample Name:</b> NASA/JPL, TB-5-072619, 7/26/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 00:58	MGC	MS-V5	1	B052355

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-02	<b>Client Sample Name:</b> NASA/JPL, MW-11-4, 7/26/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-02	<b>Client Sample Name:</b> NASA/JPL, MW-11-4, 7/26/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.16</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.30</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-02	<b>Client Sample Name:</b> NASA/JPL, MW-11-4, 7/26/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 19:46	MGC	MS-V5	1	B052355

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-02	<b>Client Sample Name:</b> NASA/JPL, MW-11-4, 7/26/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 19:46	MGC	MS-V5	1	B052355

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Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-02	<b>Client Sample Name:</b> NASA/JPL, MW-11-4, 7/26/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/07/19 14:00	08/07/19 17:10	SAV	IC6	1	B053080

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-03	<b>Client Sample Name:</b> NASA/JPL, MW-11-3, 7/26/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-03	<b>Client Sample Name:</b> NASA/JPL, MW-11-3, 7/26/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.35</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.23</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-03	<b>Client Sample Name:</b> NASA/JPL, MW-11-3, 7/26/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 20:10	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-03	<b>Client Sample Name:</b> NASA/JPL, MW-11-3, 7/26/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 20:10	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-03	<b>Client Sample Name:</b> NASA/JPL, MW-11-3, 7/26/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/07/19 14:00	08/07/19 17:25	SAV	IC6	1	B053080

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924515-03	<b>Client Sample Name:</b> NASA/JPL, MW-11-3, 7/26/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>4.0</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 18:00	07/26/19 21:14		CMM	IC-4	1	B052211
2	EPA-200.8	07/29/19 12:15	07/29/19 23:11		ARD	PE-EL4	1	B052253

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-04	<b>Client Sample Name:</b> NASA/JPL, MW-11-2, 7/26/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924515-04      **Client Sample Name:** NASA/JPL, MW-11-2, 7/26/2019 12:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-04	<b>Client Sample Name:</b> NASA/JPL, MW-11-2, 7/26/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 20:34	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-04	<b>Client Sample Name:</b> NASA/JPL, MW-11-2, 7/26/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 20:34	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-04	<b>Client Sample Name:</b> NASA/JPL, MW-11-2, 7/26/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/07/19 14:00	08/07/19 18:11	SAV	IC6	1	B053080

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924515-04	<b>Client Sample Name:</b> NASA/JPL, MW-11-2, 7/26/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 18:00	07/26/19 21:24		CMM	IC-4	1	B052211
2	EPA-200.8	07/29/19 12:15	07/29/19 23:13		ARD	PE-EL4	1	B052253

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-05	<b>Client Sample Name:</b> NASA/JPL, MW-11-1, 7/26/2019 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-05	<b>Client Sample Name:</b> NASA/JPL, MW-11-1, 7/26/2019 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-05	<b>Client Sample Name:</b> NASA/JPL, MW-11-1, 7/26/2019 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 06:34	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-05	<b>Client Sample Name:</b> NASA/JPL, MW-11-1, 7/26/2019 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 06:34	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-05	<b>Client Sample Name:</b> NASA/JPL, MW-11-1, 7/26/2019 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	29	mg/L	0.50	0.15	EPA-300.0	0.40		1
Nitrate as N	2.4	mg/L	0.10	0.042	EPA-300.0	ND		1
Sulfate	48	mg/L	1.0	0.20	EPA-300.0	ND		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
Perchlorate	1.2	ug/L	4.0	0.76	EPA-314.0	ND	J	3
ortho-Phosphate as P	ND	mg/L	0.050	0.017	EPA-365.1	ND		4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-300.0	07/26/19 18:00	07/26/19 21:29	CMM	IC5	1	B052216
2	EPA-353.2	07/27/19 08:05	07/27/19 08:05	CMM	KONE-1	1	B052387
3	EPA-314.0	08/07/19 14:00	08/07/19 18:27	SAV	IC6	1	B053080
4	EPA-365.1	07/26/19 21:26	07/26/19 21:34	CMM	SC-1	1	B052416

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924515-05	<b>Client Sample Name:</b> NASA/JPL, MW-11-1, 7/26/2019 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000071	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 18:00	07/26/19 21:33		TMS	IC-4	1	B052211
2	EPA-200.8	07/29/19 12:15	07/29/19 23:16		ARD	PE-EL4	1	B052253

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-06	<b>Client Sample Name:</b> NASA/JPL, MW-26-2, 7/26/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>2.1</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>cis-1,2-Dichloroethene</b>	<b>0.34</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.27</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-06	<b>Client Sample Name:</b> NASA/JPL, MW-26-2, 7/26/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>2.2</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.28</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-06	<b>Client Sample Name:</b> NASA/JPL, MW-26-2, 7/26/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.2	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 01:22	MGC	MS-V5	1	B052355

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-06	<b>Client Sample Name:</b> NASA/JPL, MW-26-2, 7/26/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 01:22	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-06	<b>Client Sample Name:</b> NASA/JPL, MW-26-2, 7/26/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.9	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/07/19 14:00	08/07/19 18:42	SAV	IC6	1	B053080

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924515-06	<b>Client Sample Name:</b> NASA/JPL, MW-26-2, 7/26/2019 2:35:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00094	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	2.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/26/19 18:00	07/26/19 20:36		CMM	IC-4	1	B052211
2	EPA-200.8	07/29/19 12:15	07/29/19 23:18		ARD	PE-EL4	1	B052253

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-07	<b>Client Sample Name:</b> NASA/JPL, MW-26-1, 7/26/2019 3:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.65</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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3761 Attucks Drive
Powell, OH 43065

Reported: 08/13/2019 17:59
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924515-07) and Client Sample Name (NASA/JPL, MW-26-1, 7/26/2019 3:10:00PM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical compounds and their analysis results.

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-07	<b>Client Sample Name:</b> NASA/JPL, MW-26-1, 7/26/2019 3:10:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 19:22	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-07	<b>Client Sample Name:</b> NASA/JPL, MW-26-1, 7/26/2019 3:10:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/30/19 19:22	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-07	<b>Client Sample Name:</b> NASA/JPL, MW-26-1, 7/26/2019 3:10:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.1	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/07/19 14:00	08/07/19 18:57	SAV	IC6	1	B053080

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924515-07	<b>Client Sample Name:</b> NASA/JPL, MW-26-1, 7/26/2019 3:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00050	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/09/19 12:00	08/09/19 13:48		TMS	IC-4	1	B053250
2	EPA-200.8	07/29/19 12:15	07/29/19 22:50		ARD	PE-EL4	1	B052253

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924515-08 Client Sample Name: NASA/JPL, EB-5-072619, 7/26/2019 3:20:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-08	<b>Client Sample Name:</b> NASA/JPL, EB-5-072619, 7/26/2019 3:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924515-08	<b>Client Sample Name:</b> NASA/JPL, EB-5-072619, 7/26/2019 3:20:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.0	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 01:46	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924515-08	<b>Client Sample Name:</b> NASA/JPL, EB-5-072619, 7/26/2019 3:20:00PM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:41	07/31/19 01:46	MGC	MS-V5	1	B052355

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924515-08	<b>Client Sample Name:</b> NASA/JPL, EB-5-072619, 7/26/2019 3:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/07/19 14:00	08/07/19 19:59	SAV	IC6	1	B053080

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924515-08	<b>Client Sample Name:</b> NASA/JPL, EB-5-072619, 7/26/2019 3:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.5</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	07/26/19 18:00	07/26/19 22:12	TMS	IC-4	1	B052211
2	EPA-200.8	07/29/19 12:15	07/29/19 23:20	ARD	PE-EL4	1	B052253

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Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052355</b>						
Benzene	B052355-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052355-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052355-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052355-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052355-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052355-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052355-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052355-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052355-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052355-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052355-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052355-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052355-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052355-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052355-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052355-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052355-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052355-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052355-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052355-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052355-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052355-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052355-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052355-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052355-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052355-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052355-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052355-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052355-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052355-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052355-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052355-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052355-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052355-BLK1	ND	ug/L	0.50	0.14	

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**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052355</b>						
trans-1,3-Dichloropropene	B052355-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052355-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052355-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052355-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052355-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052355-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052355-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052355-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052355-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052355-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052355-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052355-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethane	B052355-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052355-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052355-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052355-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052355-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052355-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052355-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052355-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052355-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052355-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052355-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052355-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052355-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052355-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052355-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052355-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052355-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052355-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052355-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052355-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052355-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052355-BLK1	ND	ug/L	4.0	1.3	

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**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052355</b>						
Ethyl t-butyl ether	B052355-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052355-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052355-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052355-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052355-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052355-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052355-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052355-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052355-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052355-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052355-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052355-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052355-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052355-BLK1</b>	<b>102</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052355-BLK1</b>	<b>102</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052355-BLK1</b>	<b>101</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052355</b>										
Benzene	B052355-BS1	LCS	23.720	25.000	ug/L	94.9		70 - 130		
Bromodichloromethane	B052355-BS1	LCS	24.650	25.000	ug/L	98.6		70 - 130		
Chlorobenzene	B052355-BS1	LCS	24.740	25.000	ug/L	99.0		70 - 130		
Chloroethane	B052355-BS1	LCS	27.250	25.000	ug/L	109		70 - 130		
1,4-Dichlorobenzene	B052355-BS1	LCS	24.240	25.000	ug/L	97.0		70 - 130		
1,1-Dichloroethane	B052355-BS1	LCS	26.200	25.000	ug/L	105		70 - 130		
1,1-Dichloroethene	B052355-BS1	LCS	26.260	25.000	ug/L	105		70 - 130		
Toluene	B052355-BS1	LCS	23.340	25.000	ug/L	93.4		70 - 130		
Trichloroethene	B052355-BS1	LCS	25.660	25.000	ug/L	103		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052355-BS1	LCS	10.530	10.000	ug/L	105		75 - 125		
Toluene-d8 (Surrogate)	B052355-BS1	LCS	10.320	10.000	ug/L	103		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052355-BS1	LCS	10.310	10.000	ug/L	103		80 - 120		

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Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052355</b>		Used client sample: Y - Description: MW-26-1, 07/26/2019 15:10								
Benzene	MS	1924515-07	ND	23.830	25.000	ug/L		95.3		70 - 130
	MSD	1924515-07	ND	23.350	25.000	ug/L	2.0	93.4	20	70 - 130
Bromodichloromethane	MS	1924515-07	ND	23.920	25.000	ug/L		95.7		70 - 130
	MSD	1924515-07	ND	23.270	25.000	ug/L	2.8	93.1	20	70 - 130
Chlorobenzene	MS	1924515-07	ND	25.640	25.000	ug/L		103		70 - 130
	MSD	1924515-07	ND	24.960	25.000	ug/L	2.7	99.8	20	70 - 130
Chloroethane	MS	1924515-07	ND	26.350	25.000	ug/L		105		70 - 130
	MSD	1924515-07	ND	26.200	25.000	ug/L	0.6	105	20	70 - 130
1,4-Dichlorobenzene	MS	1924515-07	ND	24.620	25.000	ug/L		98.5		70 - 130
	MSD	1924515-07	ND	23.760	25.000	ug/L	3.6	95.0	20	70 - 130
1,1-Dichloroethane	MS	1924515-07	ND	26.140	25.000	ug/L		105		70 - 130
	MSD	1924515-07	ND	24.740	25.000	ug/L	5.5	99.0	20	70 - 130
1,1-Dichloroethene	MS	1924515-07	ND	25.560	25.000	ug/L		102		70 - 130
	MSD	1924515-07	ND	24.580	25.000	ug/L	3.9	98.3	20	70 - 130
Toluene	MS	1924515-07	ND	22.810	25.000	ug/L		91.2		70 - 130
	MSD	1924515-07	ND	22.720	25.000	ug/L	0.4	90.9	20	70 - 130
Trichloroethene	MS	1924515-07	0.28000	24.200	25.000	ug/L		95.7		70 - 130
	MSD	1924515-07	0.28000	23.690	25.000	ug/L	2.1	93.6	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924515-07	ND	10.210	10.000	ug/L		102		75 - 125
	MSD	1924515-07	ND	9.6800	10.000	ug/L	5.3	96.8		75 - 125
Toluene-d8 (Surrogate)	MS	1924515-07	ND	10.070	10.000	ug/L		101		80 - 120
	MSD	1924515-07	ND	9.7900	10.000	ug/L	2.8	97.9		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924515-07	ND	10.280	10.000	ug/L		103		80 - 120
	MSD	1924515-07	ND	9.7300	10.000	ug/L	5.5	97.3		80 - 120

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052355</b>						
Chloroacetonitrile	B052355-BLK1	0	ug/L			
1-Chlorobutane	B052355-BLK1	0	ug/L			
1,1-Dichloropropanone	B052355-BLK1	0	ug/L			
Methyl acrylate	B052355-BLK1	0	ug/L			
Nitrobenzene	B052355-BLK1	0	ug/L			
2-Nitropropane	B052355-BLK1	0	ug/L			

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052216</b>						
Chloride	B052216-BLK1	0.39600	mg/L	0.50	0.15	J
Nitrate as N	B052216-BLK1	ND	mg/L	0.10	0.042	
Sulfate	B052216-BLK1	ND	mg/L	1.0	0.20	
<b>QC Batch ID: B052387</b>						
Nitrite as N	B052387-BLK1	ND	mg/L	0.050	0.010	
<b>QC Batch ID: B052416</b>						
ortho-Phosphate as P	B052416-BLK1	ND	mg/L	0.050	0.017	
<b>QC Batch ID: B053080</b>						
Perchlorate	B053080-BLK1	ND	ug/L	4.0	0.76	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Water Analysis (General Chemistry)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052216</b>										
Chloride	B052216-BS1	LCS	50.623	50.000	mg/L	101		90 - 110		
Nitrate as N	B052216-BS1	LCS	5.0580	5.0000	mg/L	101		90 - 110		
Sulfate	B052216-BS1	LCS	100.06	100.00	mg/L	100		90 - 110		
<b>QC Batch ID: B052387</b>										
Nitrite as N	B052387-BS1	LCS	0.52921	0.50000	mg/L	106		90 - 110		
<b>QC Batch ID: B052416</b>										
ortho-Phosphate as P	B052416-BS1	LCS	0.50750	0.50000	mg/L	102		90 - 110		
<b>QC Batch ID: B053080</b>										
Perchlorate	B053080-BS1	LCS	10.991	10.000	ug/L	110		85 - 115		

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/13/2019 17:59  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B052216</b>		Used client sample: N								
Chloride	DUP	1924523-02	12.284	12.191		mg/L	0.8		10	
	MS	1924523-02	12.284	65.798	50.505	mg/L		106		80 - 120
	MSD	1924523-02	12.284	65.653	50.505	mg/L	0.2	106	10	80 - 120
Nitrate as N	DUP	1924523-02	ND	ND		mg/L			10	
	MS	1924523-02	ND	5.0535	5.0505	mg/L		100		80 - 120
	MSD	1924523-02	ND	5.0889	5.0505	mg/L	0.7	101	10	80 - 120
Sulfate	DUP	1924523-02	ND	ND		mg/L			10	
	MS	1924523-02	ND	100.63	101.01	mg/L		99.6		80 - 120
	MSD	1924523-02	ND	100.65	101.01	mg/L	0.0	99.6	10	80 - 120
<b>QC Batch ID: B052387</b>		Used client sample: Y - Description: MW-11-1, 07/26/2019 13:15								
Nitrite as N	DUP	1924515-05	ND	0.010092		mg/L			10	J
	MS	1924515-05	ND	0.55291	0.52632	mg/L		105		90 - 110
	MSD	1924515-05	ND	0.54852	0.52632	mg/L	0.8	104	10	90 - 110
<b>QC Batch ID: B052416</b>		Used client sample: Y - Description: MW-11-1, 07/26/2019 13:15								
ortho-Phosphate as P	DUP	1924515-05	ND	ND		mg/L			10	
	MS	1924515-05	ND	0.56937	0.52632	mg/L		108		90 - 110
	MSD	1924515-05	ND	0.57137	0.52632	mg/L	0.4	109	10	90 - 110
<b>QC Batch ID: B053080</b>		Used client sample: Y - Description: MW-26-1, 07/26/2019 15:10								
Perchlorate	DUP	1924515-07	3.1242	3.1169		ug/L	0.2		15	J
	MS	1924515-07	3.1242	12.217	10.101	ug/L		90.0		80 - 120
	MSD	1924515-07	3.1242	11.703	10.101	ug/L	4.3	84.9	15	80 - 120

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052211</b>						
Hexavalent Chromium	B052211-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052253</b>						
Total Recoverable Chromium	B052253-BLK1	ND	ug/L	3.0	0.50	
<b>QC Batch ID: B053250</b>						
Hexavalent Chromium	B053250-BLK1	ND	mg/L	0.00020	0.000032	

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Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052211</b>										
Hexavalent Chromium	B052211-BS1	LCS	0.020541	0.020000	mg/L	103		90 - 110		
<b>QC Batch ID: B052253</b>										
Total Recoverable Chromium	B052253-BS1	LCS	41.723	40.000	ug/L	104		85 - 115		
<b>QC Batch ID: B053250</b>										
Hexavalent Chromium	B053250-BS1	LCS	0.019765	0.020000	mg/L	98.8		90 - 110		

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B052211</b>		Used client sample: Y - Description: MW-26-2, 07/26/2019 14:35								
Hexavalent Chromium	DUP	1924515-06	0.00094300	0.00092800		mg/L	1.6		10	
	MS	1924515-06	0.00094300	0.022233	0.020202	mg/L		105	90 - 110	
	MSD	1924515-06	0.00094300	0.021853	0.020202	mg/L	1.7	104	10	90 - 110
<b>QC Batch ID: B052253</b>		Used client sample: Y - Description: MW-26-1, 07/26/2019 15:10								
Total Recoverable Chromium	DUP	1924515-07	ND	ND		ug/L			20	
	MS	1924515-07	ND	39.904	40.000	ug/L		99.8	70 - 130	
	MSD	1924515-07	ND	39.696	40.000	ug/L	0.5	99.2	20	70 - 130
<b>QC Batch ID: B053250</b>		Used client sample: Y - Description: MW-26-1, 07/26/2019 15:10								
Hexavalent Chromium	DUP	924515-07RE	0.00049700	0.00051900		mg/L	4.3		10	
	MS	924515-07RE	0.00049700	0.020434	0.020202	mg/L		98.7	90 - 110	
	MSD	924515-07RE	0.00049700	0.020238	0.020202	mg/L	1.0	97.7	10	90 - 110

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/13/2019 17:59  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit



Date of Report: 08/14/2019

David Conner

Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Client Project: 3Q19  
BCL Project: JPL- GW Monitoring Wells  
BCL Work Order: 1924666  
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/29/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody Form



Page 1 of 1

**Required Fields**  
 Report To: Tidelwater, Inc.  
 Client: Tidelwater, Inc.  
 Attn: David Conner  
 Street Address: 3761 Allucks Drive  
 City: Powell State: OH Zip: 43065  
 Phone: (626) 298-5715 Fax: (614) 792-2897  
 Email Address: david.conner@tidel2o.net  
 Submission #: \_\_\_\_\_

**Project Description:** JPL-GW Monitoring  
**Project Code:** 3Q19  
**Sampler (s):** Blaine Tech

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-6-072919	07/29/19	0700	W
-2	MW-4-3	0815	0815	W
-3	MW-4-2	0850	0850	W
-4	MW-4-1	0930	0930	W
-5	MW-12-5	1015	1015	W
-6	MW-12-4	1045	1045	W
-7	MW-12-3	1115	1115	W
-8	MW-12-2	1200	1200	W
-9	MW-12-1	1230	1230	W
-10	EB-6-072919	1245	1245	W
-11	SB-2-072919	1255	1255	W

**Analysis Requested**  
 Orthophosphate 365.1  
 Cl, NO3, NO2, SO4  
 Hexavalent Cr6 -218.6 (mg/L)  
 Perchlorate  
 TRM: Cr  
 VOCs EPA 524.2  
 TRM: Cr

**Matrix Types:** S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other

**Turnaround # of working days:**  24 Hr Rush  48 Hr Rush  3-5 Day Rush  Normal (10 - Days)

**Lab TAT Approval:** \_\_\_\_\_

**Notes:**  
 CHICKY DISTRIBUTION  
 SUB-OUT  
 Level IV  
 SHORT HOLDING TIME  
 Cr-6 NO2 NO3 OP SS  
 SO Cl2 BOU MBAS COT

**Billing:**  
 Client: Tidelwater  
 Attn: David Conner  
 Address: 3761 Allucks Drive  
 City: Powell State: OH Zip: 43065  
 Are there any tests with holding times less than or equal to 48 hours?  
 Yes  No  
 \*Standard Turnaround = 10

**Cost Center:**  
 1. Requisitioned By: \_\_\_\_\_ Date: 07/29/19 Time: 1345  
 2. Requisitioned By: \_\_\_\_\_ Date: 7-29-19 Time: 1805  
 3. Requisitioned By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Comments:**  
 PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)  
 90% Level III and 10% Level IV data validation required; Level IV Notated on C of C  
 NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327-4911 Fax: (661) 327-1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 2

Submission #: 19-24666

SHIPPING INFORMATION: Fed Ex, UPS, Ontrac, Hand Delivery, BC Lab Field Service, Other. SHIPPING CONTAINER: Ice Chest, None, Box, Other. FREE LIQUID: YES, NO, W/S.

Refrigerant: Ice, Blue Ice, None, Other. Comments:

Custody Seals: Ice Chest, Containers, None. Comments:

All samples received? Yes, No. All samples containers intact? Yes, No. Description(s) match COC? Yes, No.

COC Received: YES, NO. Emisivity: 0.98. Container: PE. Thermometer ID: 208. Date/Time: 7/29/19. Analyst Init: GR. Temperature: (A) 4.2 °C / (C) 4.9 °C.

Table with columns for Sample Containers and Sample Numbers (1-10). Rows include various sample types like QT PE UNPRES, INORGANIC CHEMICAL METALS, etc. Handwritten entries include 'D', 'E', 'F', and 'A'.

Comments: Sample Numbering Completed By: [Signature] Date/Time: 7-29-19 7:35 Rev 21 05/23/2016 A = Actual / C = Corrected





BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 2

Submission #: 19-24666

SHIPPING INFORMATION: Fed Ex, UPS, Ontrac, Hand Delivery, BC Lab Field Service. SHIPPING CONTAINER: Ice Chest, None, Box, Other. FREE LIQUID: YES, NO, W, S.

Refrigerant: Ice, Blue Ice, None, Other. Comments:

Custody Seals: Ice Chest, Containers, None. Comments:

All samples received? Yes, No. All samples containers intact? Yes, No. Description(s) match COC? Yes, No.

COC Received: YES, NO. Emissivity: 0.08. Container: PE. Thermometer ID: 208. Date/Time: 7/29/19. Analyst Init: RK. Temperature: (A) 4.2 °C / (C) 4.9 °C.

Table with columns: SAMPLE CONTAINERS, SAMPLE NUMBERS (1-10). Rows include: QT PE UNPRES, 4oz / 8oz / 16oz PE UNPRES, 2oz Cr+, QT INORGANIC CHEMICAL METALS, INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz, PT CYANIDE, PT NITROGEN FORMS, PT TOTAL SULFIDE, 2oz. NITRATE / NITRITE, PT TOTAL ORGANIC CARBON, PT CHEMICAL OXYGEN DEMAND, PIA PHENOLICS, 40ml VOA VIAL TRAVEL BLANK, 40ml VOA VIAL, QT EPA 1664, PT ODOR, RADIOLOGICAL, BACTERIOLOGICAL, 40 ml VOA VIAL- 504, QT EPA 508/608/8080, QT EPA 515.1/8150, QT EPA 525, QT EPA 525 TRAVEL BLANK, 40ml EPA 547, 40ml EPA 531.1, 8oz EPA 548, QT EPA 549, QT EPA 8015M, QT EPA 8270, 8oz / 16oz / 32oz AMBER, 8oz / 16oz / 32oz JAR, SOIL SLEEVE, PCB VIAL, PLASTIC BAG, TEDLAR BAG, FERROUS IRON, ENCORE, SMART KIT, SUMMA CANISTER.

Comments: Sample Numbering Completed By: [Signature] Date/Time: 7-29-19 [Signature] Rev 21 05/23/2016 [Signature]

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924666-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-6-072919 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-6-072919 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

<b>1924666-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-4-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 08:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-4-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1924666-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-4-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 08:50 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-4-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924666-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-4-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 09:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-4-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924666-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-12-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 10:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-12-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924666-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-12-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 10:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-12-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924666-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-12-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 11:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-12-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924666-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-12-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 12:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-12-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924666-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-12-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/29/2019 18:05 <b>Sampling Date:</b> 07/29/2019 12:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-12-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1924666-10</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/29/2019 18:05
	<b>Project Number:</b> NASA/JPL	<b>Sampling Date:</b> 07/29/2019 12:45
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> EB-6-072919	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): EB-6-072919
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

<b>1924666-11</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/29/2019 18:05
	<b>Project Number:</b> NASA/JPL	<b>Sampling Date:</b> 07/29/2019 12:55
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> SB-2-072919	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): SB-2-072919
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

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Powell, OH 43065

Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-01	<b>Client Sample Name:</b> NASA/JPL, TB-6-072919, 7/29/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-01	<b>Client Sample Name:</b> NASA/JPL, TB-6-072919, 7/29/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-01	<b>Client Sample Name:</b> NASA/JPL, TB-6-072919, 7/29/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	97.4	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 02:10	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-01	<b>Client Sample Name:</b> NASA/JPL, TB-6-072919, 7/29/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 02:10	MGC	MS-V5	1	B052354

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-02	<b>Client Sample Name:</b> NASA/JPL, MW-4-3, 7/29/2019 8:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/14/2019 18:21
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924666-02) and Client Sample Name (NASA/JPL, MW-4-3, 7/29/2019 8:15:00AM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quads, Run #. Lists various chemical compounds and their detection results.

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-02	<b>Client Sample Name:</b> NASA/JPL, MW-4-3, 7/29/2019 8:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 02:34	MGC	MS-V5	1	B052354

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-02	<b>Client Sample Name:</b> NASA/JPL, MW-4-3, 7/29/2019 8:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 02:34	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-02	<b>Client Sample Name:</b> NASA/JPL, MW-4-3, 7/29/2019 8:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 20:12	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-02	<b>Client Sample Name:</b> NASA/JPL, MW-4-3, 7/29/2019 8:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>53</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>0.55</b>	<b>Z1</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 11:37		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:33		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-03	<b>Client Sample Name:</b> NASA/JPL, MW-4-2, 7/29/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.75</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-03	<b>Client Sample Name:</b> NASA/JPL, MW-4-2, 7/29/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.46</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>1.2</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-03	<b>Client Sample Name:</b> NASA/JPL, MW-4-2, 7/29/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 02:58	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-03	<b>Client Sample Name:</b> NASA/JPL, MW-4-2, 7/29/2019 8:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 02:58	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-03	<b>Client Sample Name:</b> NASA/JPL, MW-4-2, 7/29/2019 8:50:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	34	ug/L	8.0	1.5	EPA-314.0	ND	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 09:50	SAV	IC6	2	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-03	<b>Client Sample Name:</b> NASA/JPL, MW-4-2, 7/29/2019 8:50:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0011	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>2.2</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>0.55</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 11:47		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:06		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-04	<b>Client Sample Name:</b> NASA/JPL, MW-4-1, 7/29/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-04	<b>Client Sample Name:</b> NASA/JPL, MW-4-1, 7/29/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924666-04      **Client Sample Name:** NASA/JPL, MW-4-1, 7/29/2019 9:30:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 03:22	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-04	<b>Client Sample Name:</b> NASA/JPL, MW-4-1, 7/29/2019 9:30:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 03:22	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-04	<b>Client Sample Name:</b> NASA/JPL, MW-4-1, 7/29/2019 9:30:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 21:29	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-04	<b>Client Sample Name:</b> NASA/JPL, MW-4-1, 7/29/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00012	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
<b>Total Recoverable Chromium</b>	<b>1.1</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>0.55</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 11:56		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:36		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1924666-05) and Client Sample Name (NASA/JPL, MW-12-5, 7/29/2019 10:15:00AM, Blaine Tech)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quads, Run #. Lists various organic compounds and their detection results.

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-05	<b>Client Sample Name:</b> NASA/JPL, MW-12-5, 7/29/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.15</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-05	<b>Client Sample Name:</b> NASA/JPL, MW-12-5, 7/29/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 03:45	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-05	<b>Client Sample Name:</b> NASA/JPL, MW-12-5, 7/29/2019 10:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 03:45	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-05	<b>Client Sample Name:</b> NASA/JPL, MW-12-5, 7/29/2019 10:15:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.2	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 10:05	SAV	IC6	1	B053428

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-06	<b>Client Sample Name:</b> NASA/JPL, MW-12-4, 7/29/2019 10:45:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
<b>Carbon tetrachloride</b>	<b>0.41</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.17</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.41</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1924666-06	Client Sample Name:	NASA/JPL, MW-12-4, 7/29/2019 10:45:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1	
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1	
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1	
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1	
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1	
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1	
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1	
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1	
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1	
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1	
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1	
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1	
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1	
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1	
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1	
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1	
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1	

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-06	<b>Client Sample Name:</b> NASA/JPL, MW-12-4, 7/29/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 04:10	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-06	<b>Client Sample Name:</b> NASA/JPL, MW-12-4, 7/29/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 04:10	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-06	<b>Client Sample Name:</b> NASA/JPL, MW-12-4, 7/29/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.6	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 10:21	SAV	IC6	1	B053428

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-07	<b>Client Sample Name:</b> NASA/JPL, MW-12-3, 7/29/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
<b>Carbon tetrachloride</b>	<b>2.2</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.17</b>	<b>EPA-524.2</b>	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.94</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924666-07		Client Sample Name: NASA/JPL, MW-12-3, 7/29/2019 11:15:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.31</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-07	<b>Client Sample Name:</b> NASA/JPL, MW-12-3, 7/29/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 04:34	MGC	MS-V5	1	B052354

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-07	<b>Client Sample Name:</b> NASA/JPL, MW-12-3, 7/29/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 04:34	MGC	MS-V5	1	B052354

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-07	<b>Client Sample Name:</b> NASA/JPL, MW-12-3, 7/29/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	4.9	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 22:46	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-07	<b>Client Sample Name:</b> NASA/JPL, MW-12-3, 7/29/2019 11:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00030	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.2</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>0.83</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 12:54		SAV	IC-4	1	B052352
2	EPA-200.8	07/31/19 09:00	07/31/19 12:09		ARD	PE-EL3	1	B052440

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924666-08 Client Sample Name: NASA/JPL, MW-12-2, 7/29/2019 12:00:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	0.23	ug/L	0.50	0.11	EPA-524.2	ND	J	1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-08	<b>Client Sample Name:</b> NASA/JPL, MW-12-2, 7/29/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
<b>Ethylbenzene</b>	<b>0.22</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	J	1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.51</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>1.8</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
<b>Vinyl chloride</b>	<b>0.42</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.18</b>	<b>EPA-524.2</b>	ND	J	1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
<b>Acrylonitrile</b>	<b>16</b>	<b>ug/L</b>	<b>5.0</b>	<b>1.5</b>	<b>EPA-524.2</b>	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-08	<b>Client Sample Name:</b> NASA/JPL, MW-12-2, 7/29/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 04:58	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-08	<b>Client Sample Name:</b> NASA/JPL, MW-12-2, 7/29/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 04:58	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-08	<b>Client Sample Name:</b> NASA/JPL, MW-12-2, 7/29/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 23:01	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-08	<b>Client Sample Name:</b> NASA/JPL, MW-12-2, 7/29/2019 12:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>2.2</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	0.55	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 12:06		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:39		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-09	<b>Client Sample Name:</b> NASA/JPL, MW-12-1, 7/29/2019 12:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-09	<b>Client Sample Name:</b> NASA/JPL, MW-12-1, 7/29/2019 12:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-09	<b>Client Sample Name:</b> NASA/JPL, MW-12-1, 7/29/2019 12:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 05:22	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-09	<b>Client Sample Name:</b> NASA/JPL, MW-12-1, 7/29/2019 12:30:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 05:22	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-09	<b>Client Sample Name:</b> NASA/JPL, MW-12-1, 7/29/2019 12:30:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 23:16	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-09	<b>Client Sample Name:</b> NASA/JPL, MW-12-1, 7/29/2019 12:30:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00052	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.1</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>0.55</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 13:32		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:43		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924666-10 Client Sample Name: NASA/JPL, EB-6-072919, 7/29/2019 12:45:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/14/2019 18:21
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924666-10 Client Sample Name: NASA/JPL, EB-6-072919, 7/29/2019 12:45:00PM, Blaine Tech

Table with 9 columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical compounds and their analysis results.

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-10	<b>Client Sample Name:</b> NASA/JPL, EB-6-072919, 7/29/2019 12:45:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 05:46	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-10	<b>Client Sample Name:</b> NASA/JPL, EB-6-072919, 7/29/2019 12:45:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 05:46	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-10	<b>Client Sample Name:</b> NASA/JPL, EB-6-072919, 7/29/2019 12:45:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 23:32	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-10	<b>Client Sample Name:</b> NASA/JPL, EB-6-072919, 7/29/2019 12:45:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000049	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.55		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 13:42		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:46		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-11	<b>Client Sample Name:</b> NASA/JPL, SB-2-072919, 7/29/2019 12:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-11	<b>Client Sample Name:</b> NASA/JPL, SB-2-072919, 7/29/2019 12:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924666-11	<b>Client Sample Name:</b> NASA/JPL, SB-2-072919, 7/29/2019 12:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 06:10	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924666-11	<b>Client Sample Name:</b> NASA/JPL, SB-2-072919, 7/29/2019 12:55:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	07/30/19 09:40	07/31/19 06:10	MGC	MS-V5	1	B052354

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924666-11	<b>Client Sample Name:</b> NASA/JPL, SB-2-072919, 7/29/2019 12:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/12/19 23:47	CMM	IC6	1	B053428

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**Reported:** 08/14/2019 18:21  
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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924666-11	<b>Client Sample Name:</b> NASA/JPL, SB-2-072919, 7/29/2019 12:55:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>0.56</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	0.55	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 08:00	07/30/19 13:51		SAV	IC-4	1	B052352
2	EPA-200.8	07/30/19 11:30	07/31/19 00:49		ARD	PE-EL3	1	B052369

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
Benzene	B052354-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052354-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052354-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052354-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052354-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052354-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052354-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052354-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052354-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052354-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052354-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052354-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052354-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052354-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052354-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052354-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052354-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052354-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052354-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052354-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052354-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052354-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052354-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052354-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052354-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052354-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052354-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052354-BLK1	ND	ug/L	0.50	0.14	

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Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
trans-1,3-Dichloropropene	B052354-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052354-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052354-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052354-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052354-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052354-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052354-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052354-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052354-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052354-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052354-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052354-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052354-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052354-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052354-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052354-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052354-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052354-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052354-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052354-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052354-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052354-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052354-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052354-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052354-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052354-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052354-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052354-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052354-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052354-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052354-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052354-BLK1	ND	ug/L	4.0	1.3	

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**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
Ethyl t-butyl ether	B052354-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052354-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052354-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052354-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052354-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052354-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052354-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052354-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052354-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052354-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052354-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052354-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052354-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052354-BLK1</b>	<b>91.5</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052354-BLK1</b>	<b>100</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052354-BLK1</b>	<b>99.8</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
<b>QC Batch ID: B052354</b>											
Benzene	B052354-BS1	LCS	27.420	25.000	ug/L	110		70 - 130			
Bromodichloromethane	B052354-BS1	LCS	26.760	25.000	ug/L	107		70 - 130			
Chlorobenzene	B052354-BS1	LCS	28.180	25.000	ug/L	113		70 - 130			
Chloroethane	B052354-BS1	LCS	31.430	25.000	ug/L	126		70 - 130			
1,4-Dichlorobenzene	B052354-BS1	LCS	28.510	25.000	ug/L	114		70 - 130			
1,1-Dichloroethane	B052354-BS1	LCS	29.530	25.000	ug/L	118		70 - 130			
1,1-Dichloroethene	B052354-BS1	LCS	29.130	25.000	ug/L	117		70 - 130			
Toluene	B052354-BS1	LCS	26.060	25.000	ug/L	104		70 - 130			
Trichloroethene	B052354-BS1	LCS	27.980	25.000	ug/L	112		70 - 130			
1,2-Dichloroethane-d4 (Surrogate)	B052354-BS1	LCS	9.5500	10.000	ug/L	95.5		75 - 125			
Toluene-d8 (Surrogate)	B052354-BS1	LCS	9.8500	10.000	ug/L	98.5		80 - 120			
4-Bromofluorobenzene (Surrogate)	B052354-BS1	LCS	10.080	10.000	ug/L	101		80 - 120			

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Reported: 08/14/2019 18:21
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Quals. Includes QC Batch ID: B052354 and Used client sample: N.

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**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052354</b>						
Chloroacetonitrile	B052354-BLK1	0	ug/L			
1-Chlorobutane	B052354-BLK1	0	ug/L			
1,1-Dichloropropanone	B052354-BLK1	0	ug/L			
Methyl acrylate	B052354-BLK1	0	ug/L			
Nitrobenzene	B052354-BLK1	0	ug/L			
2-Nitropropane	B052354-BLK1	0	ug/L			

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B053428</b>						
Perchlorate	B053428-BLK1	ND	ug/L	4.0	0.76	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B053428</b>										
Perchlorate	B053428-BS1	LCS	11.499	10.000	ug/L	115		85	115	

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B053428</b>		Used client sample: Y - Description: MW-4-3, 07/29/2019 08:15								
Perchlorate	DUP	1924666-02	ND	ND		ug/L			15	
	MS	1924666-02	ND	10.703	10.101	ug/L		106		80 - 120
	MSD	1924666-02	ND	11.006	10.101	ug/L	2.8	109	15	80 - 120

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Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052352</b>						
Hexavalent Chromium	B052352-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052369</b>						
Total Recoverable Chromium	B052369-BLK1	0.55300	ug/L	3.0	0.50	J
<b>QC Batch ID: B052440</b>						
Total Recoverable Chromium	B052440-BLK1	0.82800	ug/L	3.0	0.50	J

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052352</b>										
Hexavalent Chromium	B052352-BS1	LCS	0.018897	0.020000	mg/L	94.5		90 - 110		
<b>QC Batch ID: B052369</b>										
Total Recoverable Chromium	B052369-BS1	LCS	41.721	40.000	ug/L	104		85 - 115		
<b>QC Batch ID: B052440</b>										
Total Recoverable Chromium	B052440-BS1	LCS	42.001	40.000	ug/L	105		85 - 115		

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Powell, OH 43065

Reported: 08/14/2019 18:21  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052352</b>		Used client sample: Y - Description: MW-12-3, 07/29/2019 11:15								
Hexavalent Chromium	DUP	1924666-07	0.00030000	0.00029800		mg/L	0.7		10	
	MS	1924666-07	0.00030000	0.020171	0.020202	mg/L		98.4		90 - 110
	MSD	1924666-07	0.00030000	0.020670	0.020202	mg/L	2.4	101	10	90 - 110
<b>QC Batch ID: B052369</b>		Used client sample: Y - Description: MW-4-2, 07/29/2019 08:50								
Total Recoverable Chromium	DUP	1924666-03	2.1990	2.2500		ug/L	2.3		20	J
	MS	1924666-03	2.1990	40.344	40.000	ug/L		95.4		70 - 130
	MSD	1924666-03	2.1990	38.945	40.000	ug/L	3.5	91.9	20	70 - 130
<b>QC Batch ID: B052440</b>		Used client sample: N								
Total Recoverable Chromium	DUP	1924727-01	1.3560	0.97800		ug/L	32.4		20	J,A02
	MS	1924727-01	1.3560	42.108	40.000	ug/L		102		70 - 130
	MSD	1924727-01	1.3560	42.229	40.000	ug/L	0.3	102	20	70 - 130

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/14/2019 18:21  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A02 The difference between duplicate readings is less than the quantitation limit.
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- Z1 Sample has redish brown solids.



Date of Report: 08/15/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1924789

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/30/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody Form



Page  1  of  1

**\*Required Fields**

Report To: Tidelwater, Inc.  
Client: Tidelwater, Inc.  
Attn: David Conner  
Street Address: 3761 Altucks Drive  
City: Powell State: OH Zip: 43065  
Phone: 628 | 298 - 5715 Fax: 614 | 792 - 2897  
Email Address: david.conner@lidesh2o.net  
Submission #: 19-24789

Project Description: JPL-GW Monitoring  
Project Code: 3019  
Sampler (s): Blaine Tech

Billing:  
Client: Tidelwater  
Attn: David Conner  
Address: 3761 Altucks Drive  
City: Powell State: OH Zip: 43065  
Are there any tests with holding times?  
less than or equal to 48 hours?  
 Yes  No  
\*Standard Turnaround = 10

**Analysis Requested**

Orthophosphate 365.1  
Cl, NO3, NO2, SO4  
Hexavalent Cr-6-218.6 (mg/L)  
Perchlorate  
TRM: Cr  
VOCs EPA 524.2

Sample #	Sample Description	Date	Time	Matrix*
-1	TB7-073019	07/30/19	0700	W
-2	MW-21-5	0830	0930	W
-3	MW-21-4	1015	1015	W
-4	MW-21-3	1045	1045	W
-5	DUP-3-3819	1055	1055	W
-6	MW-21-2	1145	1145	W
-7	DUP-6-3219	1155	1155	W
-8	EB-7-073019	1210	1210	W
-9	MW-21-1	1400	1400	W

Notes: Level IV, Level IV, CR-9 NO3 HOLDING TIME, CR-9 NO3 NO2 OP SS, CR-9 NO3 MBAS GOT, CR-9 DUO DISTRIBUTION, SUB OUT

**Matrix Types:** S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other

Turnaround # of working days:  24 Hr Rush  48 Hr Rush  3-5 Day Rush  Normal (10 - Days)

Lab TAT Approval: \_\_\_\_\_ \*Additional Charges May Apply

**Cost Center:**

1. Requisitioned By: \_\_\_\_\_ Date: 07/30/19 Time: 1415  
2. Requisitioned By: \_\_\_\_\_ Date: 7/30/19 Time: 1455  
3. Requisitioned By: \_\_\_\_\_ Date: 7/30/19 Time: 1455

**Comments:**

PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSTD)  
90% Level III and 10% Level IV data validation required: Level IV Notated on C of C  
NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (inform CC)

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327-4911 Fax: (661) 327-1918 www.bclabs.com





BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 19-24789

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals:  Containers:  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/30/1935

Temperature: (A) 4.6 °C / (C) 5.3 °C Analyst Init: ENR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNFRES		D	D	D	D	D	D	D	D	D
4oz / 8oz / 16oz PE UNFRES										
2oz Cr <sup>4</sup>		E	E	E	E	E	E	E	E	E
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		F	F	F	F	F	F	F	F	F
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC	ABC
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/505/5080										
QT EPA 515.16150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 545										
QT EPA 549										
QT EPA 801SM										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: ENR Date/Time: 7-30-19 2001 Rev 21 05/23/2016

A = Actual / C = Corrected

(S:\NTP\Doc\New\Perfec\BLAR\_DOC\FORMS\ISAMREC\rev 201



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924789-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-7-073019 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-7-073019 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

<b>1924789-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-21-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 09:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924789-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-21-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 10:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924789-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-21-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 10:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924789-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> DUP-5-3Q19 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 10:55 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-5-3Q19 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1924789-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-21-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 11:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924789-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> DUP-6-3Q19 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 11:55 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-6-3Q19 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1924789-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> EB-7-073019 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 12:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-7-073019 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924789-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-21-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/30/2019 19:35 <b>Sampling Date:</b> 07/30/2019 14:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-01	<b>Client Sample Name:</b> NASA/JPL, TB-7-073019, 7/30/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924789-01 Client Sample Name: NASA/JPL, TB-7-073019, 7/30/2019 7:00:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-01	<b>Client Sample Name:</b> NASA/JPL, TB-7-073019, 7/30/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.6	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 17:13	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-01	<b>Client Sample Name:</b> NASA/JPL, TB-7-073019, 7/30/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 17:13	MGC	MS-V5	1	B052527

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-02	<b>Client Sample Name:</b> NASA/JPL, MW-21-5, 7/30/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	0.14	ug/L	0.50	0.11	EPA-524.2	ND	J	1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>3.0</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-02	<b>Client Sample Name:</b> NASA/JPL, MW-21-5, 7/30/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
<b>Ethylbenzene</b>	<b>0.33</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	J	1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>1.7</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>1.5</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.66</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
<b>Vinyl chloride</b>	<b>0.38</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.18</b>	<b>EPA-524.2</b>	ND	J	1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
<b>Acrylonitrile</b>	<b>7.3</b>	<b>ug/L</b>	<b>5.0</b>	<b>1.5</b>	<b>EPA-524.2</b>	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-02	<b>Client Sample Name:</b> NASA/JPL, MW-21-5, 7/30/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 17:37	MGC	MS-V5	1	B052527

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-02	<b>Client Sample Name:</b> NASA/JPL, MW-21-5, 7/30/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 17:37	MGC	MS-V5	1	B052527

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-02	<b>Client Sample Name:</b> NASA/JPL, MW-21-5, 7/30/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.8	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/14/19 23:30	08/15/19 10:05	SAV	IC6	1	B053698

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-02	<b>Client Sample Name:</b> NASA/JPL, MW-21-5, 7/30/2019 9:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.8</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 22:31		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 14:38		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-03	<b>Client Sample Name:</b> NASA/JPL, MW-21-4, 7/30/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>4.2</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.17</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>cis-1,2-Dichloroethene</b>	<b>0.35</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.27</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-03	<b>Client Sample Name:</b> NASA/JPL, MW-21-4, 7/30/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>2.0</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.65</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-03	<b>Client Sample Name:</b> NASA/JPL, MW-21-4, 7/30/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 18:01	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-03	<b>Client Sample Name:</b> NASA/JPL, MW-21-4, 7/30/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 18:01	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-03	<b>Client Sample Name:</b> NASA/JPL, MW-21-4, 7/30/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.5	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 00:18	CMM	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-03	<b>Client Sample Name:</b> NASA/JPL, MW-21-4, 7/30/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0013	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	11	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 22:41		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:09		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924789-04 Client Sample Name: NASA/JPL, MW-21-3, 7/30/2019 10:45:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.44</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.17</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-04	<b>Client Sample Name:</b> NASA/JPL, MW-21-3, 7/30/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.39</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
<b>Styrene</b>	<b>0.32</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.12</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>1.3</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924789-04      **Client Sample Name:** NASA/JPL, MW-21-3, 7/30/2019 10:45:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 18:26	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-04	<b>Client Sample Name:</b> NASA/JPL, MW-21-3, 7/30/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 18:26	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-04	<b>Client Sample Name:</b> NASA/JPL, MW-21-3, 7/30/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.9	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 00:33	SAV	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-04	<b>Client Sample Name:</b> NASA/JPL, MW-21-3, 7/30/2019 10:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000083	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	1.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 22:51		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:12		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924789-05 Client Sample Name: NASA/JPL, DUP-5-3Q19, 7/30/2019 10:55:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.61</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.25</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924789-05      **Client Sample Name:** NASA/JPL, DUP-5-3Q19, 7/30/2019 10:55:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.15</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>1.8</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>1.9</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-05	<b>Client Sample Name:</b> NASA/JPL, DUP-5-3Q19, 7/30/2019 10:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	103	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 18:50	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-05	<b>Client Sample Name:</b> NASA/JPL, DUP-5-3Q19, 7/30/2019 10:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 18:50	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-05	<b>Client Sample Name:</b> NASA/JPL, DUP-5-3Q19, 7/30/2019 10:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.3	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 01:19	SAV	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-05	<b>Client Sample Name:</b> NASA/JPL, DUP-5-3Q19, 7/30/2019 10:55:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00013	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	1.2	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 23:00		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:15		AS1	PE-EL3	1	B052677

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-06	<b>Client Sample Name:</b> NASA/JPL, MW-21-2, 7/30/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.28</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-06	<b>Client Sample Name:</b> NASA/JPL, MW-21-2, 7/30/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.16</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.85</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-06	<b>Client Sample Name:</b> NASA/JPL, MW-21-2, 7/30/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 19:14	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-06	<b>Client Sample Name:</b> NASA/JPL, MW-21-2, 7/30/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 19:14	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-06	<b>Client Sample Name:</b> NASA/JPL, MW-21-2, 7/30/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.9	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 01:35	SAV	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-06	<b>Client Sample Name:</b> NASA/JPL, MW-21-2, 7/30/2019 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000076	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
<b>Total Recoverable Chromium</b>	<b>1.4</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 23:10		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:19		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-07	<b>Client Sample Name:</b> NASA/JPL, DUP-6-3Q19, 7/30/2019 11:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.45</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924789-07		Client Sample Name: NASA/JPL, DUP-6-3Q19, 7/30/2019 11:55:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Methyl t-butyl ether</b>	<b>0.14</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>1.6</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.31</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-07	<b>Client Sample Name:</b> NASA/JPL, DUP-6-3Q19, 7/30/2019 11:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 19:38	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-07	<b>Client Sample Name:</b> NASA/JPL, DUP-6-3Q19, 7/30/2019 11:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 19:38	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-07	<b>Client Sample Name:</b> NASA/JPL, DUP-6-3Q19, 7/30/2019 11:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	2.2	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 01:50	SAV	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-07	<b>Client Sample Name:</b> NASA/JPL, DUP-6-3Q19, 7/30/2019 11:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00024	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.0</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 23:19		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:29		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-08	<b>Client Sample Name:</b> NASA/JPL, EB-7-073019, 7/30/2019 12:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-08	<b>Client Sample Name:</b> NASA/JPL, EB-7-073019, 7/30/2019 12:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-08	<b>Client Sample Name:</b> NASA/JPL, EB-7-073019, 7/30/2019 12:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 20:02	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-08	<b>Client Sample Name:</b> NASA/JPL, EB-7-073019, 7/30/2019 12:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 20:02	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-08	<b>Client Sample Name:</b> NASA/JPL, EB-7-073019, 7/30/2019 12:10:00PM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 02:05	SAV	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-08	<b>Client Sample Name:</b> NASA/JPL, EB-7-073019, 7/30/2019 12:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.2</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 23:29		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:32		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-09	<b>Client Sample Name:</b> NASA/JPL, MW-21-1, 7/30/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>1.4</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-09	<b>Client Sample Name:</b> NASA/JPL, MW-21-1, 7/30/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.37</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.55</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924789-09	<b>Client Sample Name:</b> NASA/JPL, MW-21-1, 7/30/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 20:26	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924789-09	<b>Client Sample Name:</b> NASA/JPL, MW-21-1, 7/30/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 20:26	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924789-09	<b>Client Sample Name:</b> NASA/JPL, MW-21-1, 7/30/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	7.5	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/12/19 18:00	08/13/19 09:04	SAV	IC6	1	B053428

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924789-09	<b>Client Sample Name:</b> NASA/JPL, MW-21-1, 7/30/2019 2:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0013	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>2.3</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	07/30/19 19:00	07/30/19 23:39		KEB	IC-4	1	B052452
2	EPA-200.8	08/02/19 09:20	08/02/19 15:35		AS1	PE-EL3	1	B052677

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052527</b>						
Benzene	B052527-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052527-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052527-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052527-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052527-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052527-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052527-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052527-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052527-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052527-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052527-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052527-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052527-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052527-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052527-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052527-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052527-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052527-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052527-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052527-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052527-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052527-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052527-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052527-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052527-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052527-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052527-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052527-BLK1	ND	ug/L	0.50	0.14	

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052527</b>						
trans-1,3-Dichloropropene	B052527-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052527-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052527-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052527-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052527-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052527-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052527-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052527-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052527-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052527-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052527-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052527-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052527-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052527-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052527-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052527-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052527-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052527-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052527-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052527-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052527-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052527-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052527-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052527-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052527-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052527-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052527-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052527-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052527-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052527-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052527-BLK1	ND	ug/L	4.0	1.3	

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052527</b>						
Ethyl t-butyl ether	B052527-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052527-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052527-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052527-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052527-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052527-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052527-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052527-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052527-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052527-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052527-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052527-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052527-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052527-BLK1</b>	<b>92.9</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052527-BLK1</b>	<b>99.3</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052527-BLK1</b>	<b>94.8</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052527</b>										
Benzene	B052527-BS1	LCS	23.590	25.000	ug/L	94.4		70 - 130		
Bromodichloromethane	B052527-BS1	LCS	24.220	25.000	ug/L	96.9		70 - 130		
Chlorobenzene	B052527-BS1	LCS	24.890	25.000	ug/L	99.6		70 - 130		
Chloroethane	B052527-BS1	LCS	27.120	25.000	ug/L	108		70 - 130		
1,4-Dichlorobenzene	B052527-BS1	LCS	24.590	25.000	ug/L	98.4		70 - 130		
1,1-Dichloroethane	B052527-BS1	LCS	25.950	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B052527-BS1	LCS	25.600	25.000	ug/L	102		70 - 130		
Toluene	B052527-BS1	LCS	23.310	25.000	ug/L	93.2		70 - 130		
Trichloroethene	B052527-BS1	LCS	24.300	25.000	ug/L	97.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052527-BS1	LCS	10.150	10.000	ug/L	102		75 - 125		
Toluene-d8 (Surrogate)	B052527-BS1	LCS	10.350	10.000	ug/L	104		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052527-BS1	LCS	10.360	10.000	ug/L	104		80 - 120		

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052527</b>		Used client sample: N								
Benzene	MS	1924989-02	ND	23.700	25.000	ug/L		94.8		70 - 130
	MSD	1924989-02	ND	24.090	25.000	ug/L	1.6	96.4	20	70 - 130
Bromodichloromethane	MS	1924989-02	ND	22.690	25.000	ug/L		90.8		70 - 130
	MSD	1924989-02	ND	23.420	25.000	ug/L	3.2	93.7	20	70 - 130
Chlorobenzene	MS	1924989-02	ND	23.940	25.000	ug/L		95.8		70 - 130
	MSD	1924989-02	ND	24.710	25.000	ug/L	3.2	98.8	20	70 - 130
Chloroethane	MS	1924989-02	ND	26.800	25.000	ug/L		107		70 - 130
	MSD	1924989-02	ND	26.700	25.000	ug/L	0.4	107	20	70 - 130
1,4-Dichlorobenzene	MS	1924989-02	ND	22.790	25.000	ug/L		91.2		70 - 130
	MSD	1924989-02	ND	23.720	25.000	ug/L	4.0	94.9	20	70 - 130
1,1-Dichloroethane	MS	1924989-02	ND	24.980	25.000	ug/L		99.9		70 - 130
	MSD	1924989-02	ND	25.180	25.000	ug/L	0.8	101	20	70 - 130
1,1-Dichloroethene	MS	1924989-02	ND	23.590	25.000	ug/L		94.4		70 - 130
	MSD	1924989-02	ND	23.780	25.000	ug/L	0.8	95.1	20	70 - 130
Toluene	MS	1924989-02	ND	22.670	25.000	ug/L		90.7		70 - 130
	MSD	1924989-02	ND	23.300	25.000	ug/L	2.7	93.2	20	70 - 130
Trichloroethene	MS	1924989-02	ND	23.860	25.000	ug/L		95.4		70 - 130
	MSD	1924989-02	ND	23.900	25.000	ug/L	0.2	95.6	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924989-02	ND	9.5200	10.000	ug/L		95.2		75 - 125
	MSD	1924989-02	ND	9.2900	10.000	ug/L	2.4	92.9		75 - 125
Toluene-d8 (Surrogate)	MS	1924989-02	ND	9.8400	10.000	ug/L		98.4		80 - 120
	MSD	1924989-02	ND	10.060	10.000	ug/L	2.2	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924989-02	ND	9.6400	10.000	ug/L		96.4		80 - 120
	MSD	1924989-02	ND	9.9500	10.000	ug/L	3.2	99.5		80 - 120

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052527</b>						
Chloroacetonitrile	B052527-BLK1	0	ug/L			
1-Chlorobutane	B052527-BLK1	0	ug/L			
1,1-Dichloropropanone	B052527-BLK1	0	ug/L			
Methyl acrylate	B052527-BLK1	0	ug/L			
Nitrobenzene	B052527-BLK1	0	ug/L			
2-Nitropropane	B052527-BLK1	0	ug/L			

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B053428</b>						
Perchlorate	B053428-BLK1	ND	ug/L	4.0	0.76	
<b>QC Batch ID: B053698</b>						
Perchlorate	B053698-BLK1	ND	ug/L	4.0	0.76	

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B053428</b>										
Perchlorate	B053428-BS1	LCS	11.499	10.000	ug/L	115		85	115	
<b>QC Batch ID: B053698</b>										
Perchlorate	B053698-BS1	LCS	11.381	10.000	ug/L	114		85	115	

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: B053428</b>		Used client sample: N								
Perchlorate	DUP	1924666-02	ND	ND		ug/L			15	
	MS	1924666-02	ND	10.703	10.101	ug/L		106	80 - 120	
	MSD	1924666-02	ND	11.006	10.101	ug/L	2.8	109	15	80 - 120
<b>QC Batch ID: B053698</b>		Used client sample: N								
Perchlorate	DUP	1924989-04	3.6883	3.7315		ug/L	1.2		15	J
	MS	1924989-04	3.6883	14.956	10.101	ug/L		112	80 - 120	
	MSD	1924989-04	3.6883	14.543	10.101	ug/L	2.8	107	15	80 - 120

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052452</b>						
Hexavalent Chromium	B052452-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052677</b>						
Total Recoverable Chromium	B052677-BLK1	ND	ug/L	3.0	0.50	

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**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
<b>QC Batch ID: B052452</b>											
Hexavalent Chromium	B052452-BS1	LCS	0.018508	0.020000	mg/L	92.5		90 - 110			
<b>QC Batch ID: B052677</b>											
Total Recoverable Chromium	B052677-BS1	LCS	42.459	40.000	ug/L	106		85 - 115			

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052452</b>		Used client sample: N								
Hexavalent Chromium	DUP	1924763-01	ND	ND		mg/L			10	
	MS	1924763-01	ND	0.19168	0.20202	mg/L		94.9		90 - 110
	MSD	1924763-01	ND	0.19155	0.20202	mg/L	0.1	94.8	10	90 - 110
<b>QC Batch ID: B052677</b>		Used client sample: Y - Description: MW-21-5, 07/30/2019 09:30								
Total Recoverable Chromium	DUP	1924789-02	1.8480	1.9080		ug/L	3.2		20	J
	MS	1924789-02	1.8480	40.556	40.000	ug/L		96.8		70 - 130
	MSD	1924789-02	1.8480	42.201	40.000	ug/L	4.0	101	20	70 - 130

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit



Date of Report: 08/15/2019

David Conner

Tidewater Inc.

3761 Attucks Drive  
Powell, OH 43065

Client Project: 3Q19  
BCL Project: JPL- GW Monitoring Wells  
BCL Work Order: 1924989  
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 7/31/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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### Notes

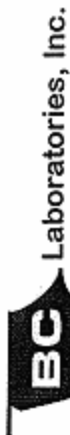
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Chain of Custody Form



Project Description: JPL-GW Monitoring  
 Project Code: 3019  
 Sampler [s]: Blaine Tech

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-8-078119	07/31/19	0700	W
-2	MW-13		0751	W
-3	MW-5		0905	W
-4	MW-6		1005	W
-5	MW-15		1155	W
-6	DUP-7-3619		1205	W

Analysis Requested:  
 VOCs EPA 524.2 [X]  
 TRM-C [X]  
 Perchlorate [X]  
 Hexavalent Cr6 -218.6 (mg/L) [X]  
 Cl, NO3, NO2, SO4 [X]  
 Orthophosphate 365.1 [X]

Matrix Types: S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other  
 Turnaround # of working days: 24 Hr Rush [ ] 48 Hr Rush [ ] 3-5 Day Rush [ ] Normal (10 - Days) [X]  
 Lab TAT Approval: \_\_\_\_\_ \*Additional Charges May Apply

Client: Tidewater, Inc. Attn: David Conner  
 Street Address: 3761 Altucks Drive City: Powell State: OH Zip: 43065  
 Phone: 628 1298 - 5715 Fax: 614 792 - 2897  
 Email: david.conner@ildah2o.net

Billing: Client: Tidewater Attn: David Conner  
 Address: 3761 Altucks Drive City: Powell State: OH Zip: 43065  
 Are there any tests with holding times less than or equal to 48 hours? [X] Yes [ ] No  
 \*Standard Turnaround = 10

Notes: MS / MSD  
 Level IV  
 MS / MSD

CHK BY: DISTRIBUTION  
 [Signature] SUB OUT [ ]

Global ID: \_\_\_\_\_

Cost Center: 1. Requisitioned By: [Signature] Date: 07/31/19 Time: 1330  
 2. Requisitioned By: [Signature] Date: 7-31-19 Time: 1330  
 3. Requisitioned By: [Signature] Date: 7-31-19 Time: 1530

Comments: PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD) 90% Level III and 10% Level IV data validation required; Level IV Notated on C of C  
 NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 19-24989

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals:  Seals  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PE Thermometer ID: 208 Date/Time: 7/31/855

Temperature: (A) 1.2 °C / (C) 1.9 °C Analyst Init: EWR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNFRES		GH	D	GH						
4oz / 8oz / 16oz PE UNFRES		JK	E	IO	A	A				
2oz Cr <sup>+</sup>		KL	F	KL	B	B				
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PTA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A	60131								
40ml VOA VIAL		ABC	A2F							
QT EPA 1661	096									
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/08/5080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLERVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: EWR Date/Time: 7-31-14 2007 Rev 21 05/23/2016

A = Actual / C = Corrected

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924989-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-8-073119 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/31/2019 18:55 <b>Sampling Date:</b> 07/31/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-8-073119 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

<b>1924989-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-13 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/31/2019 18:55 <b>Sampling Date:</b> 07/31/2019 07:51 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-13 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1924989-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-5 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 07/31/2019 18:55 <b>Sampling Date:</b> 07/31/2019 09:05 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1924989-04</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/31/2019 18:55
	<b>Project Number:</b> NASA/JPL	<b>Sampling Date:</b> 07/31/2019 10:05
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> MW-6	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-6
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

<b>1924989-05</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/31/2019 18:55
	<b>Project Number:</b> NASA/JPL	<b>Sampling Date:</b> 07/31/2019 11:55
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> MW-15	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-15
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

<b>1924989-06</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 07/31/2019 18:55
	<b>Project Number:</b> NASA/JPL	<b>Sampling Date:</b> 07/31/2019 12:05
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> Dup-7-3Q19	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): Dup-7-3Q19
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-01	<b>Client Sample Name:</b> NASA/JPL, TB-8-073119, 7/31/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-01	<b>Client Sample Name:</b> NASA/JPL, TB-8-073119, 7/31/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-01	<b>Client Sample Name:</b> NASA/JPL, TB-8-073119, 7/31/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	95.4	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 13:12	MGC	MS-V5	1	B052527

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924989-01	<b>Client Sample Name:</b> NASA/JPL, TB-8-073119, 7/31/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 13:12	MGC	MS-V5	1	B052527

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-02	<b>Client Sample Name:</b> NASA/JPL, MW-13, 7/31/2019 7:51:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.79</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-02	<b>Client Sample Name:</b> NASA/JPL, MW-13, 7/31/2019 7:51:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
<b>Trichlorofluoromethane</b>	<b>3.6</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1924989-02      **Client Sample Name:** NASA/JPL, MW-13, 7/31/2019 7:51:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	97.2	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 13:36	MGC	MS-V5	1	B052527

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924989-02	<b>Client Sample Name:</b> NASA/JPL, MW-13, 7/31/2019 7:51:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 13:36	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924989-02	<b>Client Sample Name:</b> NASA/JPL, MW-13, 7/31/2019 7:51:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	39	mg/L	0.50	0.15	EPA-300.0	ND		1
Nitrate as N	4.7	mg/L	0.10	0.042	EPA-300.0	ND		1
Sulfate	55	mg/L	1.0	0.20	EPA-300.0	ND		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
Perchlorate	29	ug/L	20	3.8	EPA-314.0	ND	A07	3
ortho-Phosphate as P	0.049	mg/L	0.050	0.017	EPA-365.1	ND	J	4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-300.0	07/31/19 23:00	08/01/19 05:14	SAV	IC1	1	B052560
2	EPA-353.2	08/01/19 09:53	08/01/19 09:58	MC1	KONE-1	1	B052644
3	EPA-314.0	08/14/19 23:30	08/15/19 12:38	SAV	IC6	5	B053697
4	EPA-365.1	08/01/19 08:00	08/01/19 08:32	MC1	SC-1	1	B052656

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924989-02	<b>Client Sample Name:</b> NASA/JPL, MW-13, 7/31/2019 7:51:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0031	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>8.5</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>		<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/01/19 10:00	08/01/19 11:59		SAV	IC-4	1	B052571
2	EPA-200.8	08/07/19 12:00	08/07/19 20:08		ARD	PE-EL3	1	B053024

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-03	<b>Client Sample Name:</b> NASA/JPL, MW-5, 7/31/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1924989-03		Client Sample Name: NASA/JPL, MW-5, 7/31/2019 9:05:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-03	<b>Client Sample Name:</b> NASA/JPL, MW-5, 7/31/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 14:01	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924989-03	<b>Client Sample Name:</b> NASA/JPL, MW-5, 7/31/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 12:00	08/01/19 14:01	MGC	MS-V5	1	B052527

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924989-03	<b>Client Sample Name:</b> NASA/JPL, MW-5, 7/31/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/14/19 23:30	08/15/19 05:13	SAV	IC6	1	B053697

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924989-03	<b>Client Sample Name:</b> NASA/JPL, MW-5, 7/31/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00015	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	0.78	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/01/19 10:00	08/01/19 12:57		SAV	IC-4	1	B052571
2	EPA-200.8	08/07/19 12:00	08/07/19 20:12		ARD	PE-EL3	1	B053024

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-04	<b>Client Sample Name:</b> NASA/JPL, MW-6, 7/31/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.62</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.16</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>trans-1,2-Dichloroethene</b>	<b>0.24</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.17</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-04	<b>Client Sample Name:</b> NASA/JPL, MW-6, 7/31/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.76</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>3.2</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1924989-04	<b>Client Sample Name:</b> NASA/JPL, MW-6, 7/31/2019 10:05:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	95.3	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 13:10	08/01/19 16:49	MGC	MS-V5	1	B052529

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1924989-04	<b>Client Sample Name:</b> NASA/JPL, MW-6, 7/31/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/01/19 13:10	08/01/19 16:49	MGC	MS-V5	1	B052529

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1924989-04	<b>Client Sample Name:</b> NASA/JPL, MW-6, 7/31/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.7	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/14/19 23:30	08/15/19 03:41	SAV	IC6	1	B053698

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924989-04	<b>Client Sample Name:</b> NASA/JPL, MW-6, 7/31/2019 10:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0015	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>9.9</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/01/19 10:00	08/01/19 13:26		SAV	IC-4	1	B052572
2	EPA-200.8	08/07/19 12:00	08/07/19 20:15		ARD	PE-EL3	1	B053024

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924989-05	<b>Client Sample Name:</b> NASA/JPL, MW-15, 7/31/2019 11:55:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00045	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>2.6</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/01/19 10:00	08/01/19 14:04		SAV	IC-4	1	B052572
2	EPA-200.8	08/07/19 12:00	08/07/19 20:18		ARD	PE-EL3	1	B053024

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**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1924989-06	<b>Client Sample Name:</b> NASA/JPL, Dup-7-3Q19, 7/31/2019 12:05:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00046	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	1.9	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/01/19 10:00	08/01/19 14:14		SAV	IC-4	1	B052572
2	EPA-200.8	08/07/19 12:00	08/07/19 20:22		ARD	PE-EL3	1	B053024

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052527</b>						
Benzene	B052527-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052527-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052527-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052527-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052527-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052527-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052527-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052527-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052527-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052527-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052527-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052527-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052527-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052527-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052527-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052527-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052527-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052527-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052527-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052527-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052527-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052527-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052527-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052527-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052527-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052527-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052527-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052527-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052527-BLK1	ND	ug/L	0.50	0.14	

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Reported: 08/15/2019 21:31
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Table with 7 columns: Constituent, QC Sample ID, MB Result, Units, PQL, MDL, Lab Quals. Includes a QC Batch ID: B052527 and a list of 30 chemical constituents with their respective results and limits.

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
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**QC Batch ID: B052527**

Ethyl t-butyl ether	B052527-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052527-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052527-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052527-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052527-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052527-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052527-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052527-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052527-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052527-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052527-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052527-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052527-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052527-BLK1</b>	<b>92.9</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052527-BLK1</b>	<b>99.3</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052527-BLK1</b>	<b>94.8</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

**QC Batch ID: B052529**

Benzene	B052529-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052529-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052529-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052529-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052529-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052529-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052529-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052529-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052529-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052529-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052529-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052529-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052529-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052529-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052529-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052529-BLK1	ND	ug/L	0.50	0.093	

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Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052529</b>						
Dibromochloromethane	B052529-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052529-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052529-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052529-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052529-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052529-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052529-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052529-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052529-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052529-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052529-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052529-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052529-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052529-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052529-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052529-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052529-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052529-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B052529-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052529-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052529-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052529-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052529-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052529-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052529-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052529-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052529-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052529-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052529-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052529-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052529-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052529-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052529-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052529-BLK1	ND	ug/L	0.50	0.15	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 08/15/2019 21:31
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Table with 7 columns: Constituent, QC Sample ID, MB Result, Units, PQL, MDL, Lab Quals. Includes a QC Batch ID: B052529 and a list of 30 chemical constituents with their respective results and quality control values.

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B052527</b>										
Benzene	B052527-BS1	LCS	23.590	25.000	ug/L	94.4		70 - 130		
Bromodichloromethane	B052527-BS1	LCS	24.220	25.000	ug/L	96.9		70 - 130		
Chlorobenzene	B052527-BS1	LCS	24.890	25.000	ug/L	99.6		70 - 130		
Chloroethane	B052527-BS1	LCS	27.120	25.000	ug/L	108		70 - 130		
1,4-Dichlorobenzene	B052527-BS1	LCS	24.590	25.000	ug/L	98.4		70 - 130		
1,1-Dichloroethane	B052527-BS1	LCS	25.950	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B052527-BS1	LCS	25.600	25.000	ug/L	102		70 - 130		
Toluene	B052527-BS1	LCS	23.310	25.000	ug/L	93.2		70 - 130		
Trichloroethene	B052527-BS1	LCS	24.300	25.000	ug/L	97.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052527-BS1	LCS	10.150	10.000	ug/L	102		75 - 125		
Toluene-d8 (Surrogate)	B052527-BS1	LCS	10.350	10.000	ug/L	104		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052527-BS1	LCS	10.360	10.000	ug/L	104		80 - 120		

<b>QC Batch ID: B052529</b>										
Benzene	B052529-BS1	LCS	24.350	25.000	ug/L	97.4		70 - 130		
Bromodichloromethane	B052529-BS1	LCS	25.070	25.000	ug/L	100		70 - 130		
Chlorobenzene	B052529-BS1	LCS	24.620	25.000	ug/L	98.5		70 - 130		
Chloroethane	B052529-BS1	LCS	27.660	25.000	ug/L	111		70 - 130		
1,4-Dichlorobenzene	B052529-BS1	LCS	23.700	25.000	ug/L	94.8		70 - 130		
1,1-Dichloroethane	B052529-BS1	LCS	27.260	25.000	ug/L	109		70 - 130		
1,1-Dichloroethene	B052529-BS1	LCS	26.810	25.000	ug/L	107		70 - 130		
Toluene	B052529-BS1	LCS	23.500	25.000	ug/L	94.0		70 - 130		
Trichloroethene	B052529-BS1	LCS	25.330	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052529-BS1	LCS	10.620	10.000	ug/L	106		75 - 125		
Toluene-d8 (Surrogate)	B052529-BS1	LCS	10.070	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052529-BS1	LCS	10.010	10.000	ug/L	100		80 - 120		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 08/15/2019 21:31
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Percent Recovery, Lab Qualls. Includes QC Batch ID: B052527 and Used client sample: Y - Description: MW-13, 07/31/2019 07:51.

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Percent Recovery, Lab Qualls. Includes QC Batch ID: B052529 and Used client sample: Y - Description: MW-6, 07/31/2019 10:05.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052529</b>		Used client sample: Y - Description: MW-6, 07/31/2019 10:05								
1,1-Dichloroethene	MS	1924989-04	ND	24.500	25.000	ug/L		98.0		70 - 130
	MSD	1924989-04	ND	24.770	25.000	ug/L	1.1	99.1	20	70 - 130
Toluene	MS	1924989-04	ND	22.400	25.000	ug/L		89.6		70 - 130
	MSD	1924989-04	ND	22.500	25.000	ug/L	0.4	90.0	20	70 - 130
Trichloroethene	MS	1924989-04	3.1600	26.140	25.000	ug/L		91.9		70 - 130
	MSD	1924989-04	3.1600	25.640	25.000	ug/L	1.9	89.9	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1924989-04	ND	9.7400	10.000	ug/L		97.4		75 - 125
	MSD	1924989-04	ND	9.8900	10.000	ug/L	1.5	98.9		75 - 125
Toluene-d8 (Surrogate)	MS	1924989-04	ND	10.270	10.000	ug/L		103		80 - 120
	MSD	1924989-04	ND	9.8800	10.000	ug/L	3.9	98.8		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1924989-04	ND	9.9900	10.000	ug/L		99.9		80 - 120
	MSD	1924989-04	ND	9.7100	10.000	ug/L	2.8	97.1		80 - 120

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
-------------	--------------	-----------	-------	-----	-----	-----------

**QC Batch ID: B052527**

Chloroacetonitrile	B052527-BLK1	0	ug/L			
1-Chlorobutane	B052527-BLK1	0	ug/L			
1,1-Dichloropropanone	B052527-BLK1	0	ug/L			
Methyl acrylate	B052527-BLK1	0	ug/L			
Nitrobenzene	B052527-BLK1	0	ug/L			
2-Nitropropane	B052527-BLK1	0	ug/L			

**QC Batch ID: B052529**

Chloroacetonitrile	B052529-BLK1	0	ug/L			
1-Chlorobutane	B052529-BLK1	0	ug/L			
1,1-Dichloropropanone	B052529-BLK1	0	ug/L			
Methyl acrylate	B052529-BLK1	0	ug/L			
Nitrobenzene	B052529-BLK1	0	ug/L			
2-Nitropropane	B052529-BLK1	0	ug/L			

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052560</b>						
Chloride	B052560-BLK1	ND	mg/L	0.50	0.15	
Nitrate as N	B052560-BLK1	ND	mg/L	0.10	0.042	
Sulfate	B052560-BLK1	ND	mg/L	1.0	0.20	
<b>QC Batch ID: B052644</b>						
Nitrite as N	B052644-BLK1	ND	mg/L	0.050	0.010	
<b>QC Batch ID: B052656</b>						
ortho-Phosphate as P	B052656-BLK1	ND	mg/L	0.050	0.017	
<b>QC Batch ID: B053697</b>						
Perchlorate	B053697-BLK1	ND	ug/L	4.0	0.76	
<b>QC Batch ID: B053698</b>						
Perchlorate	B053698-BLK1	ND	ug/L	4.0	0.76	

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Water Analysis (General Chemistry)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B052560</b>										
Chloride	B052560-BS1	LCS	52.379	50.000	mg/L	105		90 - 110		
Nitrate as N	B052560-BS1	LCS	5.2190	5.0000	mg/L	104		90 - 110		
Sulfate	B052560-BS1	LCS	103.48	100.00	mg/L	103		90 - 110		
<b>QC Batch ID: B052644</b>										
Nitrite as N	B052644-BS1	LCS	0.53976	0.50000	mg/L	108		90 - 110		
<b>QC Batch ID: B052656</b>										
ortho-Phosphate as P	B052656-BS1	LCS	0.52230	0.50000	mg/L	104		90 - 110		
<b>QC Batch ID: B053697</b>										
Perchlorate	B053697-BS1	LCS	11.213	10.000	ug/L	112		85 - 115		
<b>QC Batch ID: B053698</b>										
Perchlorate	B053698-BS1	LCS	11.381	10.000	ug/L	114		85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 08/15/2019 21:31
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits (RPD, Percent Recovery), Lab Quals. Includes QC Batch IDs B052560, B052644, B052656, B053697, and B053698.

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052571</b>						
Hexavalent Chromium	B052571-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B052572</b>						
Hexavalent Chromium	B052572-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B053024</b>						
Total Recoverable Chromium	B053024-BLK1	ND	ug/L	3.0	0.50	

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052571</b>										
Hexavalent Chromium	B052571-BS1	LCS	0.018218	0.020000	mg/L	91.1		90 - 110		
<b>QC Batch ID: B052572</b>										
Hexavalent Chromium	B052572-BS1	LCS	0.019212	0.020000	mg/L	96.1		90 - 110		
<b>QC Batch ID: B053024</b>										
Total Recoverable Chromium	B053024-BS1	LCS	42.268	40.000	ug/L	106		85 - 115		

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/15/2019 21:31  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052571</b>		Used client sample: Y - Description: MW-13, 07/31/2019 07:51								
Hexavalent Chromium	DUP	1924989-02	0.0030830	0.0031200		mg/L	1.2		10	
	MS	1924989-02	0.0030830	0.022057	0.020202	mg/L		93.9		90 - 110
	MSD	1924989-02	0.0030830	0.022692	0.020202	mg/L	2.8	97.1	10	90 - 110
<b>QC Batch ID: B052572</b>		Used client sample: Y - Description: MW-6, 07/31/2019 10:05								
Hexavalent Chromium	DUP	1924989-04	0.0015020	0.0015020		mg/L	0		10	
	MS	1924989-04	0.0015020	0.021599	0.020202	mg/L		99.5		90 - 110
	MSD	1924989-04	0.0015020	0.022008	0.020202	mg/L	1.9	102	10	90 - 110
<b>QC Batch ID: B053024</b>		Used client sample: N								
Total Recoverable Chromium	DUP	1924809-01	0.70400	0.72800		ug/L	3.4		20	J
	MS	1924809-01	0.70400	37.128	40.000	ug/L		91.1		70 - 130
	MSD	1924809-01	0.70400	40.583	40.000	ug/L	8.9	99.7	20	70 - 130

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/15/2019 21:31  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.

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Date of Report: 08/16/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1925133

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 8/1/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody Form



Page 1 of 1

**Required Fields**

Report To: Tidewater, Inc.  
 Client: David Conner  
 Attn: David Conner  
 Street Address: 3761 Allucks Drive  
 City: Powell State: OH Zip: 43065  
 Phone: 626 1288 - 5715 Fax: 614 752-2897  
 Email Address: david.conner@ildh2o.net  
 Submission #: 19-25133

Project Description: JPL-GW Monitoring  
 Project Code: 3Q19  
 Sampler (s): Blaine Tech

Analysis Requested:  
 Orthophosphate 365.1  
 CI, NO3, NO2, SO4  
 Hexavalent Cr6 -2186 (mg/L)  
 Perchlorate  
 TRM: Cr  
 VOCs EPA 524.2

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-9-080119	08/01/19	0700	W
-2	MW-10	0745		W
-3	MW-16	0905		W
-4	MW-2	1015		W
-5	MIN-3	1240		W

Notes: MSB/MSD  
 SHORT HOLDING TIME  
 CR-3 NO3 NO2 OP SS  
 DO Cl- BOD MBAS OGT  
 CHK BY DISTRIBUTION  
 (Signature) SUB OUT

Matrix Types: S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other  
 Turnaround # of working days: 24 Hr Rush 48 Hr Rush 3-5 Day Rush Normal (10 - Days)  
 Lab TAT Approval: \*Additional Charges May Apply

Cost Center:  
 1. Released By: Date: 08/01/19 Time: 1405  
 2. Replenished By: Date: 08-1-19 Time: 2:30p  
 3. Replenished By: Date: 8/1/19 Time: 1655

Global ID: 8119 1688

Comments:  
 PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)  
 90% Level III and 10% Level IV data validation required; Level IV Notated on C of C  
 NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 1

Submission #: 19-25133

**SHIPPING INFORMATION**  
 Fed Ex  UPS  Ontrac  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

**SHIPPING CONTAINER**  
 Ice Chest  None  Box   
 Other  (Specify) \_\_\_\_\_

**FREE LIQUID**  
 YES  NO   
 W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals:  Containers  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.08 Container: PE Thermometer ID: 208 Date/Time: 8/1/16 5:58  
 Temperature: (A) 1.3 °C / (C) 2.0 °C Analyst Init: ENR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	GH	D	D					
4oz / 8oz / 16oz PE UNPRES			F	E	E					
2oz Cr <sup>4</sup>		E	JK	F	F					
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		F	LM	G	G					
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PTA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		ABE	A7F	ABC	ABC					
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 50808/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8170										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TRODLAR BAG										
FEROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: SWR Date/Time: 8-1-19 1831 Rev 21 06/23/2016  
 A = Actual / C = Corrected [S:\WPDoc\WordPerfect\LAB\_DOCS\FORMS\ISAWRECrev 20]



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1925133-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-9-080119 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/01/2019 16:55 <b>Sampling Date:</b> 08/01/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-9-080119 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1925133-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-10 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/01/2019 16:55 <b>Sampling Date:</b> 08/01/2019 07:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-10 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1925133-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-16 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/01/2019 16:55 <b>Sampling Date:</b> 08/01/2019 09:05 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-16 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1925133-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-7 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/01/2019 16:55 <b>Sampling Date:</b> 08/01/2019 10:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-7 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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<b>1925133-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-8 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/01/2019 16:55 <b>Sampling Date:</b> 08/01/2019 12:40 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-8 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-01	<b>Client Sample Name:</b> NASA/JPL, TB-9-080119, 8/1/2019 7:00:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-01	<b>Client Sample Name:</b> NASA/JPL, TB-9-080119, 8/1/2019 7:00:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-01	<b>Client Sample Name:</b> NASA/JPL, TB-9-080119, 8/1/2019 7:00:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	85.9	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 16:07	MGC	MS-V5	1	B052729

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925133-01	<b>Client Sample Name:</b> NASA/JPL, TB-9-080119, 8/1/2019 7:00:00AM, Blaine Tech
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 16:07	MGC	MS-V5	1	B052729

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Powell, OH 43065

Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1925133-02 Client Sample Name: NASA/JPL, MW-10, 8/1/2019 7:45:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-02	<b>Client Sample Name:</b> NASA/JPL, MW-10, 8/1/2019 7:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-02	<b>Client Sample Name:</b> NASA/JPL, MW-10, 8/1/2019 7:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	88.8	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 16:31	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925133-02	<b>Client Sample Name:</b> NASA/JPL, MW-10, 8/1/2019 7:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 16:31	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925133-02	<b>Client Sample Name:</b> NASA/JPL, MW-10, 8/1/2019 7:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/15/19 22:00	08/16/19 04:08	SAV	IC6	1	B053761

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925133-02	<b>Client Sample Name:</b> NASA/JPL, MW-10, 8/1/2019 7:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0010	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	7.8	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/05/19 17:00	08/05/19 23:42		SAV	IC-4	1	B052837
2	EPA-200.8	08/12/19 11:30	08/12/19 20:54		ARD	PE-EL3	1	B053332

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Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-03	<b>Client Sample Name:</b> NASA/JPL, MW-16, 8/1/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>Bromodichloromethane</b>	<b>0.75</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.20</b>	<b>EPA-524.2</b>	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>5.6</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1925133-03      **Client Sample Name:** NASA/JPL, MW-16, 8/1/2019 9:05:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-03	<b>Client Sample Name:</b> NASA/JPL, MW-16, 8/1/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.7	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 13:43	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925133-03	<b>Client Sample Name:</b> NASA/JPL, MW-16, 8/1/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 13:43	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925133-03	<b>Client Sample Name:</b> NASA/JPL, MW-16, 8/1/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	71	mg/L	0.50	0.15	EPA-300.0	ND		1
Nitrate as N	2.9	mg/L	0.10	0.042	EPA-300.0	ND		1
Sulfate	50	mg/L	1.0	0.20	EPA-300.0	ND		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
Perchlorate	2.9	ug/L	4.0	0.76	EPA-314.0	ND	J	3
ortho-Phosphate as P	0.27	mg/L	0.050	0.017	EPA-365.1	ND		4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-300.0	08/01/19 17:00	08/01/19 19:38	KEB	IC8	1	B052681
2	EPA-353.2	08/02/19 08:50	08/02/19 08:56	MC1	KONE-1	1	B052889
3	EPA-314.0	08/15/19 22:00	08/16/19 00:36	SAV	IC6	1	B053761
4	EPA-365.1	08/02/19 07:01	08/02/19 07:10	MC1	SC-1	1	B052912

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925133-03	<b>Client Sample Name:</b> NASA/JPL, MW-16, 8/1/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0011	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	40	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	08/05/19 17:00	08/05/19 23:52	SAV	IC-4	1	B052837
2	EPA-200.8	08/12/19 11:30	08/12/19 20:57	ARD	PE-EL3	1	B053332

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Powell, OH 43065

Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1925133-04 Client Sample Name: NASA/JPL, MW-7, 8/1/2019 10:15:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
<b>Bromodichloromethane</b>	<b>1.5</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.20</b>	<b>EPA-524.2</b>	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>4.4</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-04	<b>Client Sample Name:</b> NASA/JPL, MW-7, 8/1/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1925133-04      **Client Sample Name:** NASA/JPL, MW-7, 8/1/2019 10:15:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	88.3	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 16:56	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925133-04	<b>Client Sample Name:</b> NASA/JPL, MW-7, 8/1/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 16:56	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925133-04	<b>Client Sample Name:</b> NASA/JPL, MW-7, 8/1/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	75	mg/L	0.50	0.15	EPA-300.0	ND		1
Nitrate as N	1.4	mg/L	0.10	0.042	EPA-300.0	ND		1
Sulfate	50	mg/L	1.0	0.20	EPA-300.0	ND		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
Perchlorate	4.3	ug/L	4.0	0.76	EPA-314.0	ND		3
ortho-Phosphate as P	0.017	mg/L	0.050	0.017	EPA-365.1	ND	J	4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-300.0	08/01/19 17:00	08/02/19 00:46	SAV	IC8	1	B052681
2	EPA-353.2	08/02/19 08:50	08/02/19 08:56	MC1	KONE-1	1	B052889
3	EPA-314.0	08/15/19 22:00	08/16/19 04:23	SAV	IC6	1	B053761
4	EPA-365.1	08/02/19 07:01	08/02/19 07:13	MC1	SC-1	1	B052912

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925133-04	<b>Client Sample Name:</b> NASA/JPL, MW-7, 8/1/2019 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0016	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	25	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/05/19 17:00	08/06/19 00:30		SAV	IC-4	1	B052837
2	EPA-200.8	08/12/19 11:30	08/12/19 21:08		ARD	PE-EL3	1	B053332

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Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1925133-05 Client Sample Name: NASA/JPL, MW-8, 8/1/2019 12:40:00PM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-05	<b>Client Sample Name:</b> NASA/JPL, MW-8, 8/1/2019 12:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925133-05	<b>Client Sample Name:</b> NASA/JPL, MW-8, 8/1/2019 12:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.6	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 17:20	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925133-05	<b>Client Sample Name:</b> NASA/JPL, MW-8, 8/1/2019 12:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/04/19 07:00	08/04/19 17:20	MGC	MS-V5	1	B052729

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925133-05	<b>Client Sample Name:</b> NASA/JPL, MW-8, 8/1/2019 12:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	7.4	mg/L	0.50	0.15	EPA-300.0	ND		1
Nitrate as N	0.73	mg/L	0.10	0.042	EPA-300.0	ND		1
Sulfate	27	mg/L	1.0	0.20	EPA-300.0	ND		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		3
ortho-Phosphate as P	ND	mg/L	0.050	0.017	EPA-365.1	ND		4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-300.0	08/01/19 17:00	08/02/19 01:06	SAV	IC8	1	B052681
2	EPA-353.2	08/02/19 08:50	08/02/19 08:56	MC1	KONE-1	1	B052889
3	EPA-314.0	08/15/19 22:00	08/16/19 04:38	SAV	IC6	1	B053761
4	EPA-365.1	08/02/19 07:01	08/02/19 07:14	MC1	SC-1	1	B052912

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**Reported:** 08/16/2019 20:39  
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**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925133-05	<b>Client Sample Name:</b> NASA/JPL, MW-8, 8/1/2019 12:40:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00019	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
<b>Total Recoverable Chromium</b>	<b>3.4</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	ND		<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/05/19 17:00	08/06/19 00:40		SAV	IC-4	1	B052837
2	EPA-200.8	08/12/19 11:30	08/12/19 21:12		ARD	PE-EL3	1	B053332

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Reported: 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052729</b>						
Benzene	B052729-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052729-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052729-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052729-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052729-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052729-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052729-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052729-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052729-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052729-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052729-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052729-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052729-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052729-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052729-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052729-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052729-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052729-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052729-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052729-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052729-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052729-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052729-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052729-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052729-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052729-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052729-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052729-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052729-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052729-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052729-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052729-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052729-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052729-BLK1	ND	ug/L	0.50	0.14	

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Reported: 08/16/2019 20:39  
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Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052729</b>						
trans-1,3-Dichloropropene	B052729-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052729-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052729-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052729-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052729-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052729-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052729-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052729-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052729-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052729-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052729-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052729-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052729-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052729-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052729-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052729-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052729-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052729-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052729-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052729-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052729-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052729-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052729-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052729-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052729-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052729-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052729-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052729-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052729-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052729-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052729-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052729-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052729-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052729-BLK1	ND	ug/L	4.0	1.3	

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**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052729</b>						
Ethyl t-butyl ether	B052729-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052729-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052729-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052729-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052729-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052729-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052729-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052729-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052729-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052729-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052729-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052729-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052729-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052729-BLK1</b>	<b>88.6</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052729-BLK1</b>	<b>100</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052729-BLK1</b>	<b>95.0</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052729</b>										
Benzene	B052729-BS1	LCS	26.330	25.000	ug/L	105		70 - 130		
Bromodichloromethane	B052729-BS1	LCS	22.740	25.000	ug/L	91.0		70 - 130		
Chlorobenzene	B052729-BS1	LCS	26.250	25.000	ug/L	105		70 - 130		
Chloroethane	B052729-BS1	LCS	30.300	25.000	ug/L	121		70 - 130		
1,4-Dichlorobenzene	B052729-BS1	LCS	25.300	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	B052729-BS1	LCS	26.650	25.000	ug/L	107		70 - 130		
1,1-Dichloroethene	B052729-BS1	LCS	25.950	25.000	ug/L	104		70 - 130		
Toluene	B052729-BS1	LCS	23.940	25.000	ug/L	95.8		70 - 130		
Trichloroethene	B052729-BS1	LCS	24.980	25.000	ug/L	99.9		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052729-BS1	LCS	9.0100	10.000	ug/L	90.1		75 - 125		
Toluene-d8 (Surrogate)	B052729-BS1	LCS	10.100	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052729-BS1	LCS	9.8600	10.000	ug/L	98.6		80 - 120		

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Project Number: 3Q19  
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### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery		Lab
								RPD	Percent Recovery	
<b>QC Batch ID: B052729</b>										
Used client sample: Y - Description: MW-16, 08/01/2019 09:05										
Benzene	MS	1925133-03	ND	25.360	25.000	ug/L		101		70 - 130
	MSD	1925133-03	ND	25.400	25.000	ug/L	0.2	102	20	70 - 130
Bromodichloromethane	MS	1925133-03	0.75000	23.460	25.000	ug/L		90.8		70 - 130
	MSD	1925133-03	0.75000	22.770	25.000	ug/L	3.0	88.1	20	70 - 130
Chlorobenzene	MS	1925133-03	ND	25.360	25.000	ug/L		101		70 - 130
	MSD	1925133-03	ND	25.740	25.000	ug/L	1.5	103	20	70 - 130
Chloroethane	MS	1925133-03	ND	29.010	25.000	ug/L		116		70 - 130
	MSD	1925133-03	ND	28.860	25.000	ug/L	0.5	115	20	70 - 130
1,4-Dichlorobenzene	MS	1925133-03	ND	23.820	25.000	ug/L		95.3		70 - 130
	MSD	1925133-03	ND	24.200	25.000	ug/L	1.6	96.8	20	70 - 130
1,1-Dichloroethane	MS	1925133-03	ND	25.860	25.000	ug/L		103		70 - 130
	MSD	1925133-03	ND	25.310	25.000	ug/L	2.1	101	20	70 - 130
1,1-Dichloroethene	MS	1925133-03	ND	24.490	25.000	ug/L		98.0		70 - 130
	MSD	1925133-03	ND	24.330	25.000	ug/L	0.7	97.3	20	70 - 130
Toluene	MS	1925133-03	ND	23.700	25.000	ug/L		94.8		70 - 130
	MSD	1925133-03	ND	23.530	25.000	ug/L	0.7	94.1	20	70 - 130
Trichloroethene	MS	1925133-03	ND	24.420	25.000	ug/L		97.7		70 - 130
	MSD	1925133-03	ND	24.370	25.000	ug/L	0.2	97.5	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1925133-03	ND	8.6100	10.000	ug/L		86.1		75 - 125
	MSD	1925133-03	ND	8.2200	10.000	ug/L	4.6	82.2		75 - 125
Toluene-d8 (Surrogate)	MS	1925133-03	ND	10.210	10.000	ug/L		102		80 - 120
	MSD	1925133-03	ND	10.110	10.000	ug/L	1.0	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1925133-03	ND	9.2700	10.000	ug/L		92.7		80 - 120
	MSD	1925133-03	ND	9.3900	10.000	ug/L	1.3	93.9		80 - 120

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052729</b>						
Chloroacetonitrile	B052729-BLK1	0	ug/L			
1-Chlorobutane	B052729-BLK1	0	ug/L			
1,1-Dichloropropanone	B052729-BLK1	0	ug/L			
Methyl acrylate	B052729-BLK1	0	ug/L			
Nitrobenzene	B052729-BLK1	0	ug/L			
2-Nitropropane	B052729-BLK1	0	ug/L			

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052681</b>						
Chloride	B052681-BLK1	ND	mg/L	0.50	0.15	
Nitrate as N	B052681-BLK1	ND	mg/L	0.10	0.042	
Sulfate	B052681-BLK1	ND	mg/L	1.0	0.20	
<b>QC Batch ID: B052889</b>						
Nitrite as N	B052889-BLK1	ND	mg/L	0.050	0.010	
<b>QC Batch ID: B052912</b>						
ortho-Phosphate as P	B052912-BLK1	ND	mg/L	0.050	0.017	
<b>QC Batch ID: B053761</b>						
Perchlorate	B053761-BLK1	ND	ug/L	4.0	0.76	

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052681</b>										
Chloride	B052681-BS1	LCS	52.262	50.000	mg/L	105		90 - 110		
Nitrate as N	B052681-BS1	LCS	5.1850	5.0000	mg/L	104		90 - 110		
Sulfate	B052681-BS1	LCS	102.67	100.00	mg/L	103		90 - 110		
<b>QC Batch ID: B052889</b>										
Nitrite as N	B052889-BS1	LCS	0.51899	0.50000	mg/L	104		90 - 110		
<b>QC Batch ID: B052912</b>										
ortho-Phosphate as P	B052912-BS1	LCS	0.52620	0.50000	mg/L	105		90 - 110		
<b>QC Batch ID: B053761</b>										
Perchlorate	B053761-BS1	LCS	10.591	10.000	ug/L	106		85 - 115		

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Powell, OH 43065

Reported: 08/16/2019 20:39
Project: JPL- GW Monitoring Wells
Project Number: 3Q19
Project Manager: David Conner

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Quals. Includes QC Batch IDs B052681, B052889, B052912, and B053761.

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052837</b>						
Hexavalent Chromium	B052837-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B053332</b>						
Total Recoverable Chromium	B053332-BLK1	ND	ug/L	3.0	0.50	

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052837</b>										
Hexavalent Chromium	B052837-BS1	LCS	0.018333	0.020000	mg/L	91.7		90 - 110		
<b>QC Batch ID: B053332</b>										
Total Recoverable Chromium	B053332-BS1	LCS	38.768	40.000	ug/L	96.9		85 - 115		

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Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052837</b>		Used client sample: Y - Description: MW-16, 08/01/2019 09:05								
Hexavalent Chromium	DUP	1925133-03	0.0010900	0.0010840		mg/L	0.6		10	
	MS	1925133-03	0.0010900	0.019620	0.020202	mg/L		91.7		90 - 110
	MSD	1925133-03	0.0010900	0.020233	0.020202	mg/L	3.1	94.8	10	90 - 110
<b>QC Batch ID: B053332</b>		Used client sample: N								
Total Recoverable Chromium	DUP	1925096-01	0.82100	1.0610		ug/L	25.5		20	J,A02
	MS	1925096-01	0.82100	39.757	40.000	ug/L		97.3		70 - 130
	MSD	1925096-01	0.82100	41.823	40.000	ug/L	5.1	103	20	70 - 130

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/16/2019 20:39  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A02 The difference between duplicate readings is less than the quantitation limit.



Date of Report: 08/21/2019

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 3Q19

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1925507

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 8/5/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda  
Client Service Rep

Stuart Buttram  
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody Form

Page 1 of 1



19-25507

Report To: Tidewater, Inc. Client: David Conner  
 Address: 3761 Attucks Drive City: Powell State: OH Zip: 43065  
 Phone: 626 | 298 - 5715 Fax: 614 | 792 - 2897  
 Email: david.conner@tidelco.net

Project Description: JPL-GW Monitoring  
 Project Code: 3Q19  
 Sampler(s): Blaine Tech

Sample #	Sample Description	Date	Time	Matrix*
-1	TP-10-080519	08/01/19	0700	W
-2	MW-23-4	08/05	0830	W
-3	MW-23-7	0905	0905	W
-4	MW-23-2	1010	1010	W
-5	MW-23-1	1110	1110	W
-6	EB-8-080519	1120	1120	W
-7	SB-2-080519	1130	1130	W

Analysis Requested:  
 Hexavalent Cr6 -21.6 (mg/L)   
 Chlorophosphate 365.1   
 Cl, NO3, NO2, SO4   
 Perchlorate   
 TRM: Cr   
 VOCs EPA 524.2

Matrix Types: S = Soil SL = Sludge DW = Drinking Water WW = Wastewater GW = Groundwater L = Liquid M = Miscellaneous O = Other  
 Turnaround # of working days: 24 Hr Rush  48 Hr Rush  3-5 Day Rush  Normal (10 - Days)  
 Lab TAT Approval: \_\_\_\_\_ \* Additional Charges May Apply

Notes:  
 NO SHORT HOLDING TIME  
 DO Cl2 BOD MBAS COT  
 CHK BY: [Signature] DISTRIBUTION  
 SUB OUT

Billing:  
 Client: Tidewater  
 Attn: David Conner  
 Address: 3761 Attucks Drive  
 City: Powell State: OH Zip: 43065  
 Are there any tests with holding times less than or equal to 48 hours?  
 Yes  No  
 \*Standard Turnaround = 10

Global ID: \_\_\_\_\_  
 1. Relinquished By: [Signature] Date: 08/03/19 Time: 1235  
 2. Relinquished By: [Signature] Date: 8-5-19 Time: 1810  
 3. Relinquished By: [Signature] Date: 8-5-19 Time: 1810

Comments:  
 PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)  
 90% Level III and 10% Level IV data validation required; Level IV Notated on C of C  
 NOTE: ALL ANALYSIS - REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

BC Laboratories, Inc. 4100 Atlas Court - Bakersfield CA 93308 (661) 327 - 4911 Fax: (661) 327 - 1918 www.bclabs.com

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 1

Submission #: 19-25507

SHIPPING INFORMATION: Fed Ex  UPS  Ontrac  Hand Delivery  BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER: Ice Chest  None  Box  Other  (Specify) \_\_\_\_\_

FREE LIQUID: YES  NO  W / S

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals:  None  Comments: \_\_\_\_\_

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received: YES  NO  Emissivity: 0.98 Container: PEAK Thermometer ID: 708 Date/Time: 8/5/18  
 Temperature: (A) 2.4 °C / (C) 3.1 °C Analyst Init: GJK

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES			D	D	D	D	D			
4oz / 8oz / 16oz PE UNPRES										
2oz Cr <sup>4</sup>		A	E	E	E	E	E			
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		B	F	F	F	F	F			
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml YQA VIAL TRAVEL BLANK	A		ABC	ABC	ABC	ABC	ABC			
40ml YQA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 513/509/5080										
QT EPA 515.18150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: \_\_\_\_\_

Sample Numbering Completed By: GJK Date/Time: 8-5-18 1848 Rev 21 05/23/2016

A = Actual / C = Corrected



Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1925507-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> TB-10-080519 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/05/2019 18:10 <b>Sampling Date:</b> 08/05/2019 07:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Trip Blank Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-10-080519 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

<b>1925507-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-23-4 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/05/2019 18:10 <b>Sampling Date:</b> 08/05/2019 08:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1925507-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-23-3 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/05/2019 18:10 <b>Sampling Date:</b> 08/05/2019 09:05 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

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Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1925507-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-23-2 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/05/2019 18:10 <b>Sampling Date:</b> 08/05/2019 10:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1925507-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-23-1 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/05/2019 18:10 <b>Sampling Date:</b> 08/05/2019 11:10 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

<b>1925507-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> NASA/JPL <b>Sampling Location:</b> --- <b>Sampling Point:</b> EB-8-080519 <b>Sampled By:</b> Blaine Tech of BTST	<b>Receive Date:</b> 08/05/2019 18:10 <b>Sampling Date:</b> 08/05/2019 11:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-8-080519 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1925507-07</b>	<b>COC Number:</b> ---	<b>Receive Date:</b> 08/05/2019 18:10
	<b>Project Number:</b> NASA/JPL	<b>Sampling Date:</b> 08/05/2019 11:30
	<b>Sampling Location:</b> ---	<b>Sample Depth:</b> ---
	<b>Sampling Point:</b> SB-3-080519	<b>Lab Matrix:</b> Water
	<b>Sampled By:</b> Blaine Tech of BTST	<b>Sample Type:</b> Water
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): SB-3-080519
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-01	<b>Client Sample Name:</b> NASA/JPL, TB-10-080519, 8/5/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1925507-01		Client Sample Name: NASA/JPL, TB-10-080519, 8/5/2019 7:00:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-01	<b>Client Sample Name:</b> NASA/JPL, TB-10-080519, 8/5/2019 7:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	93.3	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 15:29	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925507-01	<b>Client Sample Name:</b> NASA/JPL, TB-10-080519, 8/5/2019 7:00:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 15:29	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925507-02	<b>Client Sample Name:</b> NASA/JPL, MW-23-4, 8/5/2019 8:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0029	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	3.2	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/06/19 10:00	08/06/19 12:38		SAV	IC-4	1	B052923
2	EPA-200.8	08/13/19 13:15	08/13/19 18:05		AS1	PE-EL2	1	B053480

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**Reported:** 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-03	<b>Client Sample Name:</b> NASA/JPL, MW-23-3, 8/5/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-03	<b>Client Sample Name:</b> NASA/JPL, MW-23-3, 8/5/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Powell, OH 43065

Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1925507-03 Client Sample Name: NASA/JPL, MW-23-3, 8/5/2019 9:05:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	94.7	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 13:04	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925507-03	<b>Client Sample Name:</b> NASA/JPL, MW-23-3, 8/5/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 13:04	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925507-03	<b>Client Sample Name:</b> NASA/JPL, MW-23-3, 8/5/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	3.1	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/19/19 11:00	08/19/19 15:46	CMM	IC6	1	B054050

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3761 Attucks Drive  
Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925507-03	<b>Client Sample Name:</b> NASA/JPL, MW-23-3, 8/5/2019 9:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0027	mg/L	0.00020	0.000032	EPA-218.6	ND		1
Total Recoverable Chromium	3.1	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	08/06/19 10:00	08/06/19 13:17	SAV	IC-4	1	B052923
2	EPA-200.8	08/13/19 13:15	08/13/19 18:07	AS1	PE-EL2	1	B053480

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-04	<b>Client Sample Name:</b> NASA/JPL, MW-23-2, 8/5/2019 10:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Chloroform</b>	<b>0.65</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.14</b>	<b>EPA-524.2</b>	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
<b>1,1-Dichloroethane</b>	<b>0.22</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.15</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

**BCL Sample ID:** 1925507-04      **Client Sample Name:** NASA/JPL, MW-23-2, 8/5/2019 10:10:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
<b>Tetrachloroethene</b>	<b>0.48</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.23</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>3.0</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-04	<b>Client Sample Name:</b> NASA/JPL, MW-23-2, 8/5/2019 10:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	98.0	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	93.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 15:53	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925507-04	<b>Client Sample Name:</b> NASA/JPL, MW-23-2, 8/5/2019 10:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 15:53	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925507-04	<b>Client Sample Name:</b> NASA/JPL, MW-23-2, 8/5/2019 10:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	4.0	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/19/19 11:00	08/19/19 16:48	CMM	IC6	1	B054050

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925507-04	<b>Client Sample Name:</b> NASA/JPL, MW-23-2, 8/5/2019 10:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00090	mg/L	0.00020	0.000032	EPA-218.6	ND		1
<b>Total Recoverable Chromium</b>	<b>1.1</b>	<b>ug/L</b>	<b>3.0</b>	<b>0.50</b>	<b>EPA-200.8</b>	<b>ND</b>	<b>J</b>	<b>2</b>

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/06/19 10:00	08/06/19 13:26		SAV	IC-4	1	B052923
2	EPA-200.8	08/13/19 13:15	08/13/19 18:13		AS1	PE-EL2	1	B053480

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-05	<b>Client Sample Name:</b> NASA/JPL, MW-23-1, 8/5/2019 11:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-05	<b>Client Sample Name:</b> NASA/JPL, MW-23-1, 8/5/2019 11:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
<b>Trichloroethene</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.19</b>	<b>EPA-524.2</b>	ND	<b>J</b>	1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Tidewater Inc.  
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Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-05	<b>Client Sample Name:</b> NASA/JPL, MW-23-1, 8/5/2019 11:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	95.5	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	98.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 16:17	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925507-05	<b>Client Sample Name:</b> NASA/JPL, MW-23-1, 8/5/2019 11:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 16:17	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925507-05	<b>Client Sample Name:</b> NASA/JPL, MW-23-1, 8/5/2019 11:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	1.7	ug/L	4.0	0.76	EPA-314.0	ND	J	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/19/19 11:00	08/19/19 17:34	CMM	IC6	1	B054050

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925507-05	<b>Client Sample Name:</b> NASA/JPL, MW-23-1, 8/5/2019 11:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00015	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	0.72	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/06/19 10:00	08/06/19 13:36		SAV	IC-4	1	B052923
2	EPA-200.8	08/13/19 13:15	08/13/19 18:15		AS1	PE-EL2	1	B053480

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-06	<b>Client Sample Name:</b> NASA/JPL, EB-8-080519, 8/5/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-06	<b>Client Sample Name:</b> NASA/JPL, EB-8-080519, 8/5/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-06	<b>Client Sample Name:</b> NASA/JPL, EB-8-080519, 8/5/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	101	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 16:41	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925507-06	<b>Client Sample Name:</b> NASA/JPL, EB-8-080519, 8/5/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 16:41	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925507-06	<b>Client Sample Name:</b> NASA/JPL, EB-8-080519, 8/5/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/19/19 11:00	08/19/19 17:49	CMM	IC6	1	B054050

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925507-06	<b>Client Sample Name:</b> NASA/JPL, EB-8-080519, 8/5/2019 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000033	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-218.6	08/06/19 10:00	08/06/19 13:46		SAV	IC-4	1	B052923
2	EPA-200.8	08/13/19 13:15	08/13/19 18:17		AS1	PE-EL2	1	B053480

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-07	<b>Client Sample Name:</b> NASA/JPL, SB-3-080519, 8/5/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
Bromobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Bromochloromethane	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
Bromodichloromethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Bromoform	ND	ug/L	0.50	0.46	EPA-524.2	ND		1
Bromomethane	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
n-Butylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
sec-Butylbenzene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
tert-Butylbenzene	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Carbon tetrachloride	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chlorobenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Chloroform	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Chloromethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Chlorotoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
4-Chlorotoluene	ND	ug/L	0.50	0.093	EPA-524.2	ND		1
Dibromochloromethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0	0.89	EPA-524.2	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.22	EPA-524.2	ND		1
Dibromomethane	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
1,2-Dichlorobenzene	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,3-Dichlorobenzene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
1,4-Dichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Dichlorodifluoromethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1-Dichloroethane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,1-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
cis-1,2-Dichloroethene	ND	ug/L	0.50	0.27	EPA-524.2	ND		1
trans-1,2-Dichloroethene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2-Dichloropropane	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,3-Dichloropropane	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
2,2-Dichloropropane	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Tidewater Inc.  
3761 Attucks Drive  
Powell, OH 43065

Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

<b>BCL Sample ID:</b> 1925507-07	<b>Client Sample Name:</b> NASA/JPL, SB-3-080519, 8/5/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
trans-1,3-Dichloropropene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
Ethylbenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
Hexachlorobutadiene	ND	ug/L	0.50	0.20	EPA-524.2	ND		1
Isopropylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
p-Isopropyltoluene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Methylene chloride	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Naphthalene	ND	ug/L	0.50	0.16	EPA-524.2	ND		1
n-Propylbenzene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
Styrene	ND	ug/L	0.50	0.12	EPA-524.2	ND		1
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
Tetrachloroethene	ND	ug/L	0.50	0.23	EPA-524.2	ND		1
Toluene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,2,3-Trichlorobenzene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	0.50	0.15	EPA-524.2	ND		1
1,1,1-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
1,1,2-Trichloroethane	ND	ug/L	0.50	0.21	EPA-524.2	ND		1
Trichloroethene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
Trichlorofluoromethane	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
1,2,3-Trichloropropane	ND	ug/L	1.0	0.78	EPA-524.2	ND		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
1,2,4-Trimethylbenzene	ND	ug/L	0.50	0.17	EPA-524.2	ND		1
1,3,5-Trimethylbenzene	ND	ug/L	0.50	0.14	EPA-524.2	ND		1
Vinyl chloride	ND	ug/L	0.50	0.18	EPA-524.2	ND		1
Acetone	ND	ug/L	10	6.6	EPA-524.2	ND		1
Acrylonitrile	ND	ug/L	5.0	1.5	EPA-524.2	ND		1
Allyl chloride	ND	ug/L	5.0	0.47	EPA-524.2	ND		1
t-Amyl Methyl ether	ND	ug/L	0.50	0.19	EPA-524.2	ND		1
t-Butyl alcohol	ND	ug/L	10	9.4	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	1.0	0.48	EPA-524.2	ND		1
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	1.8	EPA-524.2	ND		1

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1925507-07 Client Sample Name: NASA/JPL, SB-3-080519, 8/5/2019 11:30:00AM, Blaine Tech

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Diethyl ether	ND	ug/L	2.0	0.33	EPA-524.2	ND		1
Ethyl methacrylate	ND	ug/L	4.0	1.3	EPA-524.2	ND		1
Ethyl t-butyl ether	ND	ug/L	0.50	0.32	EPA-524.2	ND		1
Hexachloroethane	ND	ug/L	0.50	0.11	EPA-524.2	ND		1
2-Hexanone	ND	ug/L	10	5.0	EPA-524.2	ND		1
Methacrylonitrile	ND	ug/L	10	2.3	EPA-524.2	ND		1
Methyl ethyl ketone	ND	ug/L	10	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND		1
Methyl isobutyl ketone	ND	ug/L	10	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 17:05	MGC	MS-V5	1	B052877

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Volatile Organic Analysis (EPA Method 524.2) TICs

<b>BCL Sample ID:</b> 1925507-07	<b>Client Sample Name:</b> NASA/JPL, SB-3-080519, 8/5/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloroacetonitrile	0	ug/L			EPA-524.2	0		1
1-Chlorobutane	0	ug/L			EPA-524.2	0		1
1,1-Dichloropropanone	0	ug/L			EPA-524.2	0		1
Methyl acrylate	0	ug/L			EPA-524.2	0		1
Nitrobenzene	0	ug/L			EPA-524.2	0		1
2-Nitropropane	0	ug/L			EPA-524.2	0		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-524.2	08/06/19 09:39	08/06/19 17:05	MGC	MS-V5	1	B052877

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Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Water Analysis (General Chemistry)

<b>BCL Sample ID:</b> 1925507-07	<b>Client Sample Name:</b> NASA/JPL, SB-3-080519, 8/5/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Perchlorate	ND	ug/L	4.0	0.76	EPA-314.0	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-314.0	08/19/19 11:00	08/19/19 18:04	CMM	IC6	1	B054050

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

### Metals Analysis

<b>BCL Sample ID:</b> 1925507-07	<b>Client Sample Name:</b> NASA/JPL, SB-3-080519, 8/5/2019 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.000041	mg/L	0.00020	0.000032	EPA-218.6	ND	J	1
Total Recoverable Chromium	0.62	ug/L	3.0	0.50	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-218.6	08/06/19 10:00	08/06/19 14:14	SAV	IC-4	1	B052923
2	EPA-200.8	08/16/19 09:00	08/16/19 19:18	AS1	PE-EL3	1	B053827

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Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052877</b>						
Benzene	B052877-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B052877-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B052877-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B052877-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B052877-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B052877-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B052877-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B052877-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B052877-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B052877-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B052877-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B052877-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B052877-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B052877-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B052877-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B052877-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B052877-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B052877-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B052877-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B052877-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B052877-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B052877-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B052877-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B052877-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B052877-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B052877-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B052877-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B052877-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B052877-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B052877-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B052877-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B052877-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B052877-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B052877-BLK1	ND	ug/L	0.50	0.14	

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**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052877</b>						
trans-1,3-Dichloropropene	B052877-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B052877-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B052877-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B052877-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B052877-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B052877-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B052877-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B052877-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B052877-BLK1	ND	ug/L	0.50	0.12	
Styrene	B052877-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B052877-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B052877-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B052877-BLK1	ND	ug/L	0.50	0.23	
Toluene	B052877-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B052877-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B052877-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B052877-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B052877-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B052877-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B052877-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B052877-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B052877-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B052877-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B052877-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B052877-BLK1	ND	ug/L	0.50	0.18	
Acetone	B052877-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B052877-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B052877-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B052877-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B052877-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B052877-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B052877-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B052877-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B052877-BLK1	ND	ug/L	4.0	1.3	

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Powell, OH 43065

**Reported:** 08/21/2019 16:58  
**Project:** JPL- GW Monitoring Wells  
**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052877</b>						
Ethyl t-butyl ether	B052877-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B052877-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B052877-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B052877-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B052877-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B052877-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B052877-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B052877-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B052877-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B052877-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B052877-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B052877-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B052877-BLK1	ND	ug/L	0.50	0.13	
<b>1,2-Dichloroethane-d4 (Surrogate)</b>	<b>B052877-BLK1</b>	<b>94.8</b>	<b>%</b>	<b>75 - 125 (LCL - UCL)</b>		
<b>Toluene-d8 (Surrogate)</b>	<b>B052877-BLK1</b>	<b>102</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		
<b>4-Bromofluorobenzene (Surrogate)</b>	<b>B052877-BLK1</b>	<b>95.1</b>	<b>%</b>	<b>80 - 120 (LCL - UCL)</b>		

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**Project Number:** 3Q19  
**Project Manager:** David Conner

## Volatile Organic Analysis (EPA Method 524.2)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052877</b>										
Benzene	B052877-BS1	LCS	24.780	25.000	ug/L	99.1		70 - 130		
Bromodichloromethane	B052877-BS1	LCS	22.990	25.000	ug/L	92.0		70 - 130		
Chlorobenzene	B052877-BS1	LCS	23.290	25.000	ug/L	93.2		70 - 130		
Chloroethane	B052877-BS1	LCS	28.960	25.000	ug/L	116		70 - 130		
1,4-Dichlorobenzene	B052877-BS1	LCS	22.900	25.000	ug/L	91.6		70 - 130		
1,1-Dichloroethane	B052877-BS1	LCS	25.950	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B052877-BS1	LCS	25.580	25.000	ug/L	102		70 - 130		
Toluene	B052877-BS1	LCS	22.280	25.000	ug/L	89.1		70 - 130		
Trichloroethene	B052877-BS1	LCS	23.170	25.000	ug/L	92.7		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B052877-BS1	LCS	10.080	10.000	ug/L	101		75 - 125		
Toluene-d8 (Surrogate)	B052877-BS1	LCS	10.170	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B052877-BS1	LCS	9.4500	10.000	ug/L	94.5		80 - 120		

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3761 Attucks Drive  
Powell, OH 43065

Reported: 08/21/2019 16:58  
Project: JPL- GW Monitoring Wells  
Project Number: 3Q19  
Project Manager: David Conner

### Volatile Organic Analysis (EPA Method 524.2)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052877</b>		Used client sample: Y - Description: MW-23-3, 08/05/2019 09:05								
Benzene	MS	1925507-03	ND	25.770	25.000	ug/L		103		70 - 130
	MSD	1925507-03	ND	25.210	25.000	ug/L	2.2	101	20	70 - 130
Bromodichloromethane	MS	1925507-03	ND	23.010	25.000	ug/L		92.0		70 - 130
	MSD	1925507-03	ND	22.980	25.000	ug/L	0.1	91.9	20	70 - 130
Chlorobenzene	MS	1925507-03	ND	24.310	25.000	ug/L		97.2		70 - 130
	MSD	1925507-03	ND	24.280	25.000	ug/L	0.1	97.1	20	70 - 130
Chloroethane	MS	1925507-03	ND	30.040	25.000	ug/L		120		70 - 130
	MSD	1925507-03	ND	29.360	25.000	ug/L	2.3	117	20	70 - 130
1,4-Dichlorobenzene	MS	1925507-03	ND	23.780	25.000	ug/L		95.1		70 - 130
	MSD	1925507-03	ND	23.690	25.000	ug/L	0.4	94.8	20	70 - 130
1,1-Dichloroethane	MS	1925507-03	ND	26.720	25.000	ug/L		107		70 - 130
	MSD	1925507-03	ND	25.880	25.000	ug/L	3.2	104	20	70 - 130
1,1-Dichloroethene	MS	1925507-03	ND	25.910	25.000	ug/L		104		70 - 130
	MSD	1925507-03	ND	25.150	25.000	ug/L	3.0	101	20	70 - 130
Toluene	MS	1925507-03	ND	23.060	25.000	ug/L		92.2		70 - 130
	MSD	1925507-03	ND	22.940	25.000	ug/L	0.5	91.8	20	70 - 130
Trichloroethene	MS	1925507-03	ND	24.060	25.000	ug/L		96.2		70 - 130
	MSD	1925507-03	ND	23.920	25.000	ug/L	0.6	95.7	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1925507-03	ND	9.8300	10.000	ug/L		98.3		75 - 125
	MSD	1925507-03	ND	9.2600	10.000	ug/L	6.0	92.6		75 - 125
Toluene-d8 (Surrogate)	MS	1925507-03	ND	10.030	10.000	ug/L		100		80 - 120
	MSD	1925507-03	ND	10.080	10.000	ug/L	0.5	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1925507-03	ND	9.3700	10.000	ug/L		93.7		80 - 120
	MSD	1925507-03	ND	9.7100	10.000	ug/L	3.6	97.1		80 - 120

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## Volatile Organic Analysis (EPA Method 524.2) TICs

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052877</b>						
Chloroacetonitrile	B052877-BLK1	0	ug/L			
1-Chlorobutane	B052877-BLK1	0	ug/L			
1,1-Dichloropropanone	B052877-BLK1	0	ug/L			
Methyl acrylate	B052877-BLK1	0	ug/L			
Nitrobenzene	B052877-BLK1	0	ug/L			
2-Nitropropane	B052877-BLK1	0	ug/L			

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## Water Analysis (General Chemistry)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B054050</b>						
Perchlorate	B054050-BLK1	ND	ug/L	4.0	0.76	

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**Project Manager:** David Conner

### Water Analysis (General Chemistry)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B054050</b>										
Perchlorate	B054050-BS1	LCS	11.253	10.000	ug/L	113		85 - 115		

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### Water Analysis (General Chemistry)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: B054050</b>		Used client sample: Y - Description: MW-23-3, 08/05/2019 09:05								
Perchlorate	DUP	1925507-03	3.1203	3.0435		ug/L	2.5		15	J
	MS	1925507-03	3.1203	14.180	10.101	ug/L		109	80 - 120	
	MSD	1925507-03	3.1203	14.220	10.101	ug/L	0.3	110	15 80 - 120	

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### Metals Analysis

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: B052923</b>						
Hexavalent Chromium	B052923-BLK1	ND	mg/L	0.00020	0.000032	
<b>QC Batch ID: B053480</b>						
Total Recoverable Chromium	B053480-BLK1	ND	ug/L	3.0	0.50	
<b>QC Batch ID: B053827</b>						
Total Recoverable Chromium	B053827-BLK1	ND	ug/L	3.0	0.50	

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### Metals Analysis

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052923</b>										
Hexavalent Chromium	B052923-BS1	LCS	0.018912	0.020000	mg/L	94.6		90 - 110		
<b>QC Batch ID: B053480</b>										
Total Recoverable Chromium	B053480-BS1	LCS	41.934	40.000	ug/L	105		85 - 115		
<b>QC Batch ID: B053827</b>										
Total Recoverable Chromium	B053827-BS1	LCS	41.411	40.000	ug/L	104		85 - 115		

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### Metals Analysis

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: B052923</b>		Used client sample: Y - Description: MW-23-4, 08/05/2019 08:30								
Hexavalent Chromium	DUP	1925507-02	0.0029090	0.0029420		mg/L	1.1		10	
	MS	1925507-02	0.0029090	0.022234	0.020202	mg/L		95.7		90 - 110
	MSD	1925507-02	0.0029090	0.022505	0.020202	mg/L	1.2	97.0	10	90 - 110
<b>QC Batch ID: B053480</b>		Used client sample: N								
Total Recoverable Chromium	DUP	1925325-23	10.435	9.8840		ug/L	5.4		20	
	MS	1925325-23	10.435	49.567	40.000	ug/L		97.8		70 - 130
	MSD	1925325-23	10.435	47.085	40.000	ug/L	5.1	91.6	20	70 - 130
<b>QC Batch ID: B053827</b>		Used client sample: Y - Description: SB-3-080519, 08/05/2019 11:30								
Total Recoverable Chromium	DUP	1925507-07	0.61800	0.60300		ug/L	2.5		20	J
	MS	1925507-07	0.61800	41.043	40.000	ug/L		101		70 - 130
	MSD	1925507-07	0.61800	40.947	40.000	ug/L	0.2	101	20	70 - 130

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**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit