

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

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



Date of Report: 05/22/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 2Q18

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1812598

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/18/2018. 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

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Report To: Tidewater, Inc.
Client: Tidewater
Attn: David Conner
Street Address: 3761 Attucks Drive
City: Powell **State:** OH **Zip:** 43065
Phone: 628 1298 - 5715 **Fax:** 614 792 - 2897
Email Address: david.conner@tiddco.com
Submission #: 18-12598

Project Description: JPL-GW Monitoring
Project Code: 2018
Sampler (s): Blaine Tech
Think Hazy

Analysis Requested:
 VOCs EPA 524.2
 TRM: Cr, Pb, As, Ca, Mg, K
 Na, Fe
 Hexavalent Cr 6 - 7196 (mg/L)
 Cl, NO3, NO2, SO4, Perch.
 CO3, HCO3, Alk., TDS, pH
 Orthophosphate 365.1
 1,4 Dioxane 8270SIM
 NDMA 1625M

Matrix: W L S
 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

Sample #	Sample Description	Date	Time	Matrix*	Notes
1	TB-1-041818	04/18/18	0700	GW	DISCONTINUED
2	MW-23-5		0730	GW	
3	MW-23-4		0805	GW	
4	MW-23-3		0830	GW	
5	MW-23-2		0900	GW	
6	MW-23-1		0935	GW	
7	SB-1-041818		0945	GW	
8	EB-1-041818		0950	GW	
9	MW-24-5		1120	GW	
10	MW-24-4		1045	GW	
11	MW-24-3		1145	GW	

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

Short Holding Time: CR NO3 OP SS
 DPV/Cl2 BOD MBAS COT

Global ID: _____
Cost Center:
 1. Relinquished By: _____ Date: 4/18/18 Time: 1540
 2. Relinquished By: *David Conner* Date: 4-18-18 Time: 4:39
 3. Relinquished By: *David Conner* Date: 4/18/18 Time: 8:14

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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Chain of Custody Form

Page 2 of 2

Required Fields

Report To: Client: Tidewater, 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@tideh2o.net
 Submission #: 18-12598

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech
 Tina Hosen

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 = 30

Analysis Requested

Sample #	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr, Pb, As, Ca, Mg, K	Na, Fe	Hexavalent Cr 6 - 7196 (mg/L)	Cl, NO3, NO2, SO4, Perch.	CO3, HCO3, Alk, TDS, pH	Orthophosphate 365.1	1,4 Dioxane 8270SIM	NDMA 1625M
20	04/18/18	1730	GW	X	X	X	X	X	X	X	X	X
23	04/18/18	1315	GW	X	X	X	X	X	X	X	X	X
Notes: MS/MSD												

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)

Global ID:

Cost Center:
 1. Requisitioned By: [Signature] Date: 04/18/18 Time: 1540
 2. Requisitioned By: [Signature] Date: 4/18/18 Time: 1330
 3. Requisitioned By: [Signature] Date: 4/18/18 Time: 1815

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 1 Of 2	
Submission #: <u>18-12598</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 checked="" type="checkbox"/> S
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments: _____					
Custody Seals: Containers: 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: <input checked="" type="checkbox"/>		Thermometer ID: <u>206</u> Date/Time: <u>4/18/18 1815</u>	
		Temperature: (A) <u>1.1</u> °C (IC) <u>0.8</u> °C		Analyst Init: <u>[Signature]</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 ⁴		B	D	I	G	J	D	I		
QT INORGANIC CHEMICAL METALS INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		E	E	E	G	E	E	E		
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		ABL	ABL	ABL	A>F	ABL	ABL	ABL		
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/808										
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 3015M										
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: _____ Date/Time: 4/18 2025
 Sample Numbering Completed By: [Signature] Rev 21 05/23/2016



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 2

Submission #: 18-12598

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: VE Thermometer ID: 206 Date/Time: 11/18/15

Temperature: (A) 2.7 °C (C) 2.7 °C Analyst Init: ESZ

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶⁺										
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 508/509/5080										
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 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBKR										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: _____ Date/Time: 11/18 2015 Rev 21 05/23/2016

Sample Numbering Completed By: GH

A = Actual / C = Corrected



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812598-01	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: TB-1-041818 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-1-041818 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-02	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-23-5 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 07:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-03	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-23-4 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 08:05 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812598-04	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-23-3 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 08:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-05	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-23-2 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 09:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1812598-06	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-23-1 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 09:35 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-23-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812598-07	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: SB-1-041818 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 09:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): SB-1-041818 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-08	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: EB-1-041818 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 09:50 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-1-041818 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-09	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-24-5 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 11:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-24-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812598-10	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-24-4 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 10:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-24-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-11	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-24-3 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 11:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-24-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1812598-12	COC Number: --- Project Number: JPL/GW Sampling Location: --- Sampling Point: MW-24-2 Sampled By: Blaine Tech	Receive Date: 04/18/2018 18:15 Sampling Date: 04/18/2018 12:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-24-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812598-13	COC Number:	---	Receive Date:	04/18/2018 18:15
	Project Number:	JPL/GW	Sampling Date:	04/18/2018 13:15
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	MW-24-1	Lab Matrix:	Water
	Sampled By:	Blaine Tech	Sample Type:	Groundwater
			Delivery Work Order:	
			Global ID:	0000000000
			Location ID (FieldPoint):	MW-24-1
			Matrix:	W
			Sample QC Type (SACode):	CS
		Cooler ID:		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-01 Client Sample Name: JPL/GW, TB-1-041818, 4/18/2018 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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-01	Client Sample Name: JPL/GW, TB-1-041818, 4/18/2018 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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-01	Client Sample Name: JPL/GW, TB-1-041818, 4/18/2018 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)	98.4	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.0	%	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	04/26/18 07:00	04/26/18 21:15	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-01	Client Sample Name: JPL/GW, TB-1-041818, 4/18/2018 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	04/26/18 07:00	04/26/18 21:15	MGC	MS-V5	1	B012017

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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-02	Client Sample Name: JPL/GW, MW-23-5, 4/18/2018 7:30:00AM, 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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-02	Client Sample Name: JPL/GW, MW-23-5, 4/18/2018 7:30:00AM, 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	0.34	ug/L	0.50	0.12	EPA-524.2	ND	J	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-02	Client Sample Name: JPL/GW, MW-23-5, 4/18/2018 7:30:00AM, 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)	96.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.1	%	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	04/26/18 07:00	04/26/18 21:37	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-02	Client Sample Name: JPL/GW, MW-23-5, 4/18/2018 7:30:00AM, 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	04/26/18 07:00	04/26/18 21:37	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-02		Client Sample Name: JPL/GW, MW-23-5, 4/18/2018 7:30:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	4.2	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	0.35	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	83	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.6	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	89	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	49	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	150	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	9.1	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	0.71	mg/L	1.0	0.13	EPA-300.0	ND	J	3
pH	9.72	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	270	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18 16:55		JRG	PE-OP2	1	B012762
2	SM-2320B	04/26/18 07:30	04/26/18 08:30		MEV	MET-1	1	B010224
3	EPA-300.0	04/19/18 01:00	04/19/18 15:18		EMW	IC1	1	B011500
4	EPA-150.1	04/26/18 07:30	04/26/18 08:30		MEV	MET-1	1	B010224
5	EPA-160.1	04/24/18 15:30	04/24/18 15:30		CAD	MANUAL	2	B011716
6	EPA-353.2	04/19/18 09:58	04/19/18 10:22		JNC	KONE-1	1	B011333
7	EPA-314.0	05/04/18 22:00	05/05/18 01:17		EMW	IC6	1	B012882

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-02	Client Sample Name: JPL/GW, MW-23-5, 4/18/2018 7:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.7	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	0.77	ug/L	3.0	0.50	EPA-200.8	0.70	J	3
Total Recoverable Iron	80	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	0.20	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:41	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:03	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:31	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:23	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-03	Client Sample Name: JPL/GW, MW-23-4, 4/18/2018 8:05:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-03	Client Sample Name: JPL/GW, MW-23-4, 4/18/2018 8:05:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-03	Client Sample Name: JPL/GW, MW-23-4, 4/18/2018 8:05:00AM, 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)	97.1	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	97.6	%	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	04/26/18 07:00	04/26/18 22:00	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-03	Client Sample Name: JPL/GW, MW-23-4, 4/18/2018 8:05:00AM, 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	04/26/18 07:00	04/26/18 22:00	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-03		Client Sample Name: JPL/GW, MW-23-4, 4/18/2018 8:05:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	35	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	12	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	30	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.9	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	170	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	140	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	13	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	4.7	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	9.8	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.19	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	260	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.4	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18 17:08		JRG	PE-OP2	1	B012762
2	SM-2320B	04/26/18 07:30	04/26/18 08:36		MEV	MET-1	1	B010224
3	EPA-300.0	04/19/18 01:00	04/19/18 15:39		SAV	IC1	1	B011500
4	EPA-150.1	04/26/18 07:30	04/26/18 08:36		MEV	MET-1	1	B010224
5	EPA-160.1	04/24/18 15:30	04/24/18 15:30		CAD	MANUAL	2	B011716
6	EPA-353.2	04/19/18 09:58	04/19/18 10:22		JNC	KONE-1	1	B011333
7	EPA-314.0	05/04/18 22:00	05/06/18 13:26		EMW	IC6	1	B012882

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-03	Client Sample Name: JPL/GW, MW-23-4, 4/18/2018 8:05:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0039	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	3.0	ug/L	3.0	0.50	EPA-200.8	0.70		3
Total Recoverable Iron	210	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:42	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:17	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:35	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:31	JRG	PE-OP2	1	B012431

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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-04	Client Sample Name: JPL/GW, MW-23-3, 4/18/2018 8:30:00AM, 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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-04	Client Sample Name: JPL/GW, MW-23-3, 4/18/2018 8:30:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-04	Client Sample Name: JPL/GW, MW-23-3, 4/18/2018 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)	95.3	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	96.7	%	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	04/26/18 07:00	04/26/18 22:23	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-04	Client Sample Name: JPL/GW, MW-23-3, 4/18/2018 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	04/26/18 07:00	04/26/18 22:23	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-04		Client Sample Name: JPL/GW, MW-23-3, 4/18/2018 8:30:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	54	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	18	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	32	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	170	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	140	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	39	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	9.6	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	32	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.78	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	370	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	2.2	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18 17:11		JRG	PE-OP2	1	B012762
2	SM-2320B	04/26/18 07:30	04/26/18 08:42		MEV	MET-1	1	B010224
3	EPA-300.0	04/19/18 01:00	04/19/18 16:00		SAV	IC1	1	B011500
4	EPA-150.1	04/26/18 07:30	04/26/18 08:42		MEV	MET-1	1	B010224
5	EPA-160.1	04/24/18 15:30	04/24/18 15:30		CAD	MANUAL	2	B011716
6	EPA-353.2	04/19/18 09:58	04/19/18 10:28		JNC	KONE-1	1	B011333
7	EPA-314.0	05/04/18 22:00	05/05/18 02:19		EMW	IC6	1	B012882

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-04	Client Sample Name: JPL/GW, MW-23-3, 4/18/2018 8:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0032	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	3.2	ug/L	3.0	0.50	EPA-200.8	0.70		3
Total Recoverable Iron	56	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:42	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:21	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:38	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:34	JRG	PE-OP2	1	B012431

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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-05	Client Sample Name: JPL/GW, MW-23-2, 4/18/2018 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
Chloroform	0.42	ug/L	0.50	0.14	EPA-524.2	ND	J	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	0.16	ug/L	0.50	0.15	EPA-524.2	ND	J	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-05	Client Sample Name: JPL/GW, MW-23-2, 4/18/2018 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	0.40	ug/L	0.50	0.23	EPA-524.2	ND	J	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	1.1	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-05	Client Sample Name: JPL/GW, MW-23-2, 4/18/2018 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)	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)	97.0	%	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	04/26/18 07:00	04/26/18 16:17	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-05	Client Sample Name: JPL/GW, MW-23-2, 4/18/2018 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	04/26/18 07:00	04/26/18 16:17	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-05		Client Sample Name: JPL/GW, MW-23-2, 4/18/2018 9:00:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	140	mg/L	0.10	0.014	EPA-200.7	0.048		1
Total Recoverable Magnesium	52	mg/L	0.050	0.019	EPA-200.7	0.022		1
Total Recoverable Sodium	43	mg/L	0.50	0.051	EPA-200.7	0.098		1
Total Recoverable Potassium	3.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	290	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	240	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	110	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	13	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	170	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.80	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	740	mg/L	50	50	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	3.5	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/01/18 08:30	05/01/18 20:07	JRG	PE-OP2	1	B012431	
2	SM-2320B	04/26/18 07:30	04/26/18 08:19	MEV	MET-1	2	B010224	
3	EPA-300.0	04/19/18 01:00	04/19/18 16:21	SAV	IC1	1	B011500	
4	EPA-150.1	04/26/18 07:30	04/26/18 08:19	MEV	MET-1	1	B010224	
5	EPA-160.1	04/24/18 15:30	04/24/18 15:30	CAD	MANUAL	5	B011716	
6	EPA-353.2	04/19/18 09:58	04/19/18 10:22	JNC	KONE-1	1	B011333	
7	EPA-314.0	05/04/18 22:00	05/05/18 02:34	EMW	IC6	1	B012882	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-05	Client Sample Name: JPL/GW, MW-23-2, 4/18/2018 9:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00075	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.1	ug/L	3.0	0.50	EPA-200.8	0.70	J	3
Total Recoverable Iron	95	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:41	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 17:43	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 15:57	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:07	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-06	Client Sample Name: JPL/GW, MW-23-1, 4/18/2018 9:35:00AM, 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	0.41	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-06	Client Sample Name: JPL/GW, MW-23-1, 4/18/2018 9:35:00AM, 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	0.26	ug/L	0.50	0.23	EPA-524.2	ND	J	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	1.8	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-06	Client Sample Name: JPL/GW, MW-23-1, 4/18/2018 9:35:00AM, 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)	98.8	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.9	%	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	04/26/18 07:00	04/26/18 22:46	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-06	Client Sample Name: JPL/GW, MW-23-1, 4/18/2018 9:35:00AM, 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	04/26/18 07:00	04/26/18 22:46	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-06		Client Sample Name: JPL/GW, MW-23-1, 4/18/2018 9:35:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	170	mg/L	0.10	0.014	EPA-200.7	0.048		1
Total Recoverable Magnesium	58	mg/L	0.050	0.019	EPA-200.7	0.022		1
Total Recoverable Sodium	38	mg/L	0.50	0.051	EPA-200.7	0.098		2
Total Recoverable Potassium	3.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	310	mg/L	10	10	SM-2320B	ND	A07	3
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	3
Total Alkalinity as CaCO3	250	mg/L	8.2	8.2	SM-2320B	ND	A07	3
Chloride	130	mg/L	0.50	0.077	EPA-300.0	ND		4
Nitrate as N	13	mg/L	0.10	0.021	EPA-300.0	ND		4
Sulfate	200	mg/L	1.0	0.13	EPA-300.0	ND		4
pH	7.65	pH Units	0.05	0.05	EPA-150.1		S05	5
Total Dissolved Solids @ 180 C	880	mg/L	50	50	EPA-160.1	ND		6
Nitrite as N	0.033	mg/L	0.050	0.010	EPA-353.2	ND	J	7
Perchlorate	3.4	ug/L	4.0	0.58	EPA-314.0	ND	J	8

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/01/18 08:30	05/01/18 20:37		JRG	PE-OP2	1	B012431
2	EPA-200.7	05/01/18 08:30	05/02/18 12:49		JRG	PE-OP2	1	B012431
3	SM-2320B	04/26/18 07:30	04/26/18 08:48		MEV	MET-1	2	B010224
4	EPA-300.0	04/19/18 01:00	04/19/18 17:46		SAV	IC1	1	B011500
5	EPA-150.1	04/26/18 07:30	04/26/18 08:48		MEV	MET-1	1	B010224
6	EPA-160.1	04/24/18 15:30	04/24/18 15:30		CAD	MANUAL	5	B011716
7	EPA-353.2	04/19/18 09:58	04/19/18 10:28		JNC	KONE-1	1	B011333
8	EPA-314.0	05/04/18 22:00	05/06/18 13:41		EMW	IC6	1	B012882

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-06	Client Sample Name: JPL/GW, MW-23-1, 4/18/2018 9:35:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.95	ug/L	3.0	0.50	EPA-200.8	0.70	J	3
Total Recoverable Iron	200	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:42	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:24	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:42	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:37	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-07	Client Sample Name: JPL/GW, SB-1-041818, 4/18/2018 9:45:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-07	Client Sample Name: JPL/GW, SB-1-041818, 4/18/2018 9:45:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-07	Client Sample Name: JPL/GW, SB-1-041818, 4/18/2018 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)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.4	%	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	04/26/18 07:00	04/26/18 23:09	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-07	Client Sample Name: JPL/GW, SB-1-041818, 4/18/2018 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	04/26/18 07:00	04/26/18 23:09	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-8 detailing sample preparation and analysis parameters.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-07	Client Sample Name: JPL/GW, SB-1-041818, 4/18/2018 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	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.91	ug/L	3.0	0.50	EPA-200.8	0.70	J	3
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:45	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:28	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:45	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:39	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1812598-08	Client Sample Name:	JPL/GW, EB-1-041818, 4/18/2018 9:50:00AM, 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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-08	Client Sample Name: JPL/GW, EB-1-041818, 4/18/2018 9:50:00AM, 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
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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-08	Client Sample Name: JPL/GW, EB-1-041818, 4/18/2018 9:50:00AM, 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)	99.0	%	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	04/26/18 07:00	04/26/18 23:33	MGC	MS-V5	1	B012017

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-08	Client Sample Name: JPL/GW, EB-1-041818, 4/18/2018 9:50:00AM, 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	04/26/18 07:00	04/26/18 23:33	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 8 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-8 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-08	Client Sample Name: JPL/GW, EB-1-041818, 4/18/2018 9:50:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.73	ug/L	3.0	0.50	EPA-200.8	0.70	J	3
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:45	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:31	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:49	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:42	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-09	Client Sample Name: JPL/GW, MW-24-5, 4/18/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-09	Client Sample Name: JPL/GW, MW-24-5, 4/18/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-09	Client Sample Name: JPL/GW, MW-24-5, 4/18/2018 11:20:00AM, 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)	98.6	%	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	04/26/18 07:00	04/26/18 23:56	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-09	Client Sample Name: JPL/GW, MW-24-5, 4/18/2018 11:20:00AM, 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	04/26/18 07:00	04/26/18 23:56	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 8 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows correspond to runs 1 through 8.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-09	Client Sample Name: JPL/GW, MW-24-5, 4/18/2018 11:20:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0029	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.7	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	3.9	ug/L	3.0	0.50	EPA-200.8	0.70		3
Total Recoverable Iron	480	ug/L	50	30	EPA-200.7	ND		4
Total Recoverable Lead	0.17	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:45	JNC	KONE-1	1	B011364
2	EPA-200.8	04/24/18 08:30	04/24/18 18:34	MH1	PE-EL3	1	B011748
3	EPA-200.8	04/24/18 08:30	04/27/18 16:52	MH1	PE-EL2	1	B011748
4	EPA-200.7	05/01/18 08:30	05/01/18 20:45	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-10	Client Sample Name: JPL/GW, MW-24-4, 4/18/2018 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
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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-10	Client Sample Name: JPL/GW, MW-24-4, 4/18/2018 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	0.22	ug/L	0.50	0.12	EPA-524.2	ND	J	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-10	Client Sample Name: JPL/GW, MW-24-4, 4/18/2018 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)	100	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.3	%	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	04/26/18 07:00	04/27/18 00:19	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-10	Client Sample Name: JPL/GW, MW-24-4, 4/18/2018 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	04/26/18 07:00	04/27/18 00:19	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-10		Client Sample Name: JPL/GW, MW-24-4, 4/18/2018 10:45:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	5.8	mg/L	0.10	0.014	EPA-200.7	0.048		1
Total Recoverable Magnesium	4.2	mg/L	0.050	0.019	EPA-200.7	0.022		1
Total Recoverable Sodium	31	mg/L	0.50	0.051	EPA-200.7	0.098		2
Total Recoverable Potassium	1.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	38	mg/L	5.0	5.0	SM-2320B	ND		3
Carbonate	15	mg/L	2.5	2.5	SM-2320B	ND		3
Total Alkalinity as CaCO3	57	mg/L	4.1	4.1	SM-2320B	ND		3
Chloride	23	mg/L	0.50	0.077	EPA-300.0	ND		4
Nitrate as N	0.095	mg/L	0.10	0.021	EPA-300.0	ND	J	4
Sulfate	5.2	mg/L	1.0	0.13	EPA-300.0	ND		4
pH	9.38	pH Units	0.05	0.05	EPA-150.1		S05	5
Total Dissolved Solids @ 180 C	130	mg/L	10	10	EPA-160.1	ND		6
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		7
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		8

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/01/18 08:30	05/01/18 20:47		JRG	PE-OP2	1	B012431
2	EPA-200.7	05/01/18 08:30	05/02/18 13:00		JRG	PE-OP2	1	B012431
3	SM-2320B	04/26/18 07:30	04/26/18 09:11		MEV	MET-1	1	B010224
4	EPA-300.0	04/19/18 01:00	04/19/18 19:52		SAV	IC1	1	B011500
5	EPA-150.1	04/26/18 07:30	04/26/18 09:11		MEV	MET-1	1	B010224
6	EPA-160.1	04/24/18 15:30	04/24/18 15:30		CAD	MANUAL	1	B011716
7	EPA-353.2	04/19/18 09:58	04/19/18 10:28		JNC	KONE-1	1	B011333
8	EPA-314.0	05/04/18 22:00	05/05/18 13:26		EMW	IC6	1	B012882

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-10	Client Sample Name: JPL/GW, MW-24-4, 4/18/2018 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	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.1	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	0.75	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	130	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:45	JNC	KONE-1	1	B011364
2	EPA-200.8	04/26/18 08:00	04/26/18 23:38	ARD	PE-EL2	1	B012012
3	EPA-200.7	05/01/18 08:30	05/01/18 20:47	JRG	PE-OP2	1	B012431

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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-11	Client Sample Name: JPL/GW, MW-24-3, 4/18/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-11		Client Sample Name: JPL/GW, MW-24-3, 4/18/2018 11:45:00AM, 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	0.91	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-11	Client Sample Name: JPL/GW, MW-24-3, 4/18/2018 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)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.8	%	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	04/26/18 13:50	04/27/18 00:42	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-11	Client Sample Name: JPL/GW, MW-24-3, 4/18/2018 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	04/26/18 13:50	04/27/18 00:42	MGC	MS-V5	1	B012018

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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-11		Client Sample Name: JPL/GW, MW-24-3, 4/18/2018 11:45:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	14	mg/L	0.10	0.014	EPA-200.7	0.048		1
Total Recoverable Magnesium	10	mg/L	0.050	0.019	EPA-200.7	0.022		1
Total Recoverable Sodium	45	mg/L	0.50	0.051	EPA-200.7	0.098		2
Total Recoverable Potassium	2.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	140	mg/L	5.0	5.0	SM-2320B	ND		3
Carbonate	6.2	mg/L	2.5	2.5	SM-2320B	ND		3
Total Alkalinity as CaCO3	130	mg/L	4.1	4.1	SM-2320B	ND		3
Chloride	23	mg/L	0.50	0.077	EPA-300.0	ND		4
Nitrate as N	0.10	mg/L	0.10	0.021	EPA-300.0	ND		4
Sulfate	7.5	mg/L	1.0	0.13	EPA-300.0	ND		4
pH	8.55	pH Units	0.05	0.05	EPA-150.1		S05	5
Total Dissolved Solids @ 180 C	230	mg/L	20	20	EPA-160.1	ND		6
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		7
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		8

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/01/18 08:30	05/01/18 20:50		JRG	PE-OP2	1	B012431
2	EPA-200.7	05/01/18 08:30	05/02/18 13:02		JRG	PE-OP2	1	B012431
3	SM-2320B	04/26/18 07:30	04/26/18 09:16		MEV	MET-1	1	B010224
4	EPA-300.0	04/19/18 01:00	04/19/18 20:13		SAV	IC1	1	B011500
5	EPA-150.1	04/26/18 07:30	04/26/18 09:16		MEV	MET-1	1	B010224
6	EPA-160.1	04/24/18 15:30	04/24/18 15:30		CAD	MANUAL	2	B011716
7	EPA-353.2	04/19/18 09:58	04/19/18 10:28		JNC	KONE-1	1	B011333
8	EPA-314.0	05/04/18 22:00	05/05/18 13:41		EMW	IC6	1	B012882

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-11	Client Sample Name: JPL/GW, MW-24-3, 4/18/2018 11:45:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	2.4	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.92	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	130	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 06:41	04/19/18 06:45	JNC	KONE-1	1	B011364
2	EPA-200.8	04/26/18 08:00	04/26/18 23:52	ARD	PE-EL2	1	B012012
3	EPA-200.7	05/01/18 08:30	05/01/18 20:50	JRG	PE-OP2	1	B012431

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-12	Client Sample Name: JPL/GW, MW-24-2, 4/18/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-12		Client Sample Name: JPL/GW, MW-24-2, 4/18/2018 12:30:00PM, 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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-12	Client Sample Name: JPL/GW, MW-24-2, 4/18/2018 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)	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	04/26/18 13:50	04/27/18 03:45	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-12	Client Sample Name: JPL/GW, MW-24-2, 4/18/2018 12:30:00PM, 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	04/26/18 13:50	04/27/18 03:45	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812598-12		Client Sample Name: JPL/GW, MW-24-2, 4/18/2018 12:30:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	65	mg/L	0.10	0.014	EPA-200.7	0.078		1
Total Recoverable Magnesium	21	mg/L	0.050	0.019	EPA-200.7	0.020		1
Total Recoverable Sodium	47	mg/L	0.50	0.051	EPA-200.7	ND		2
Total Recoverable Potassium	3.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	240	mg/L	5.0	5.0	SM-2320B	ND		3
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		3
Total Alkalinity as CaCO3	200	mg/L	4.1	4.1	SM-2320B	ND		3
Chloride	66	mg/L	0.50	0.077	EPA-300.0	ND		4
Nitrate as N	2.4	mg/L	0.10	0.021	EPA-300.0	ND		4
Sulfate	44	mg/L	1.0	0.13	EPA-300.0	ND		4
pH	7.98	pH Units	0.05	0.05	EPA-150.1		S05	5
Total Dissolved Solids @ 180 C	430	mg/L	20	20	EPA-160.1	ND		6
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		7
Perchlorate	3.7	ug/L	4.0	0.58	EPA-314.0	ND	J	8

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/01/18 08:30	05/01/18	21:06	JRG	PE-OP2	1	B012433
2	EPA-200.7	05/01/18 08:30	05/02/18	13:19	JRG	PE-OP2	1	B012433
3	SM-2320B	04/26/18 07:30	04/26/18	09:40	MEV	MET-1	1	B010225
4	EPA-300.0	04/19/18 01:00	04/19/18	21:16	SAV	IC1	1	B011501
5	EPA-150.1	04/26/18 07:30	04/26/18	09:40	MEV	MET-1	1	B010225
6	EPA-160.1	04/24/18 15:30	04/24/18	15:30	CAD	MANUAL	2	B011717
7	EPA-353.2	04/19/18 09:58	04/19/18	10:28	JNC	KONE-1	1	B011337
8	EPA-314.0	05/04/18 22:00	05/05/18	13:57	EMW	IC6	1	B012883

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-12	Client Sample Name: JPL/GW, MW-24-2, 4/18/2018 12:30:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0023	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	2.3	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.3	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	40	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/18/18 23:20	04/18/18 23:20	SAV	KONE-1	1	B011369
2	EPA-200.8	04/26/18 08:00	04/26/18 23:17	ARD	PE-EL2	1	B012012
3	EPA-200.7	05/01/18 08:30	05/01/18 21:06	JRG	PE-OP2	1	B012433

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-13	Client Sample Name: JPL/GW, MW-24-1, 4/18/2018 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	2.1	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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-13	Client Sample Name: JPL/GW, MW-24-1, 4/18/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812598-13	Client Sample Name: JPL/GW, MW-24-1, 4/18/2018 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)	98.8	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.6	%	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	04/26/18 13:50	04/27/18 06:03	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812598-13	Client Sample Name: JPL/GW, MW-24-1, 4/18/2018 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	04/26/18 13:50	04/27/18 06:03	MGC	MS-V5	1	B012018

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

BCL Sample ID: 1812598-13	Client Sample Name: JPL/GW, MW-24-1, 4/18/2018 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,4-Dioxane	ND	ug/L	1.0	0.10	EPA-8270D	ND		1
Naphthalene-d8 (Surrogate)	112	%	70 - 130 (LCL - UCL)		EPA-8270D			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270D	04/24/18 14:00	05/04/18 10:45	RSM	MS-B4	1	B012734

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, Perchlorate, and ortho-Phosphate as P.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows correspond to runs 1 through 9.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812598-13	Client Sample Name: JPL/GW, MW-24-1, 4/18/2018 1:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.7	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	680	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/18/18 23:20	04/18/18 23:21	SAV	KONE-1	1	B011369
2	EPA-200.8	04/26/18 08:00	04/26/18 23:56	ARD	PE-EL2	1	B012012
3	EPA-200.7	05/01/18 08:30	05/01/18 21:22	JRG	PE-OP2	1	B012433

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012017						
Benzene	B012017-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012017-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012017-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012017-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012017-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012017-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012017-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012017-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012017-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012017-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012017-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012017-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012017-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012017-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012017-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012017-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012017-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012017-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012017-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012017-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012017-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012017-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012017-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012017-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012017-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012017-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012017-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012017-BLK1	ND	ug/L	0.50	0.14	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012017						
trans-1,3-Dichloropropene	B012017-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012017-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012017-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012017-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012017-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012017-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012017-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012017-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012017-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012017-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012017-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012017-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012017-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012017-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012017-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012017-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012017-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012017-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012017-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012017-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012017-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012017-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012017-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012017-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012017-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012017-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012017-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012017-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012017-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012017-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012017-BLK1	ND	ug/L	4.0	1.3	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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. Contains two sections for QC Batch IDs B012017 and B012018.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012018						
Dibromochloromethane	B012018-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012018-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012018-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012018-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012018-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012018-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012018-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012018-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012018-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012018-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012018-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012018-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012018-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012018-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012018-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B012018-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012018-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012018-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012018-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012018-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012018-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012018-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012018-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012018-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012018-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B012018-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012018-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012018-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.15	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012018						
1,1,1-Trichloroethane	B012018-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012018-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012018-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012018-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012018-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012018-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012018-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012018-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012018-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012018-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012018-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012018-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012018-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012018-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012018-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012018-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012018-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012018-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B012018-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012018-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012018-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012018-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012018-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012018-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012018-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012018-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012018-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012018-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012018-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012018-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012018-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012018-BLK1	98.5	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012018-BLK1	98.6	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012018-BLK1	103	%	80 - 120 (LCL - UCL)		

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012017										
Benzene	B012017-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
Bromodichloromethane	B012017-BS1	LCS	25.880	25.000	ug/L	104		70 - 130		
Chlorobenzene	B012017-BS1	LCS	26.300	25.000	ug/L	105		70 - 130		
Chloroethane	B012017-BS1	LCS	21.810	25.000	ug/L	87.2		70 - 130		
1,4-Dichlorobenzene	B012017-BS1	LCS	25.220	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	B012017-BS1	LCS	25.630	25.000	ug/L	103		70 - 130		
1,1-Dichloroethene	B012017-BS1	LCS	26.630	25.000	ug/L	107		70 - 130		
Toluene	B012017-BS1	LCS	25.620	25.000	ug/L	102		70 - 130		
Trichloroethene	B012017-BS1	LCS	25.310	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012017-BS1	LCS	9.6400	10.000	ug/L	96.4		75 - 125		
Toluene-d8 (Surrogate)	B012017-BS1	LCS	10.190	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012017-BS1	LCS	10.460	10.000	ug/L	105		80 - 120		

QC Batch ID: B012018										
Benzene	B012018-BS1	LCS	25.690	25.000	ug/L	103		70 - 130		
Bromodichloromethane	B012018-BS1	LCS	26.920	25.000	ug/L	108		70 - 130		
Chlorobenzene	B012018-BS1	LCS	25.770	25.000	ug/L	103		70 - 130		
Chloroethane	B012018-BS1	LCS	21.100	25.000	ug/L	84.4		70 - 130		
1,4-Dichlorobenzene	B012018-BS1	LCS	25.870	25.000	ug/L	103		70 - 130		
1,1-Dichloroethane	B012018-BS1	LCS	26.090	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B012018-BS1	LCS	27.020	25.000	ug/L	108		70 - 130		
Toluene	B012018-BS1	LCS	25.430	25.000	ug/L	102		70 - 130		
Trichloroethene	B012018-BS1	LCS	28.290	25.000	ug/L	113		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012018-BS1	LCS	10.070	10.000	ug/L	101		75 - 125		
Toluene-d8 (Surrogate)	B012018-BS1	LCS	10.150	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012018-BS1	LCS	10.310	10.000	ug/L	103		80 - 120		

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012017 and Used client sample: Y - Description: MW-23-2, 04/18/2018 09:00.

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: B012018 and Used client sample: Y - Description: MW-24-2, 04/18/2018 12:30.

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012018		Used client sample: Y - Description: MW-24-2, 04/18/2018 12:30								
1,1-Dichloroethene	MS	1812598-12	ND	26.960	25.000	ug/L		108		70 - 130
	MSD	1812598-12	ND	27.030	25.000	ug/L	0.3	108	20	70 - 130
Toluene	MS	1812598-12	ND	24.910	25.000	ug/L		99.6		70 - 130
	MSD	1812598-12	ND	25.470	25.000	ug/L	2.2	102	20	70 - 130
Trichloroethene	MS	1812598-12	ND	24.360	25.000	ug/L		97.4		70 - 130
	MSD	1812598-12	ND	25.340	25.000	ug/L	3.9	101	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1812598-12	ND	10.520	10.000	ug/L		105		75 - 125
	MSD	1812598-12	ND	9.9800	10.000	ug/L	5.3	99.8		75 - 125
Toluene-d8 (Surrogate)	MS	1812598-12	ND	9.7800	10.000	ug/L		97.8		80 - 120
	MSD	1812598-12	ND	10.000	10.000	ug/L	2.2	100		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1812598-12	ND	10.060	10.000	ug/L		101		80 - 120
	MSD	1812598-12	ND	10.480	10.000	ug/L	4.1	105		80 - 120

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012017						
Chloroacetonitrile	B012017-BLK1	0	ug/L			
1-Chlorobutane	B012017-BLK1	0	ug/L			
1,1-Dichloropropanone	B012017-BLK1	0	ug/L			
Methyl acrylate	B012017-BLK1	0	ug/L			
Nitrobenzene	B012017-BLK1	0	ug/L			
2-Nitropropane	B012017-BLK1	0	ug/L			
QC Batch ID: B012018						
Chloroacetonitrile	B012018-BLK1	0	ug/L			
1-Chlorobutane	B012018-BLK1	0	ug/L			
1,1-Dichloropropanone	B012018-BLK1	0	ug/L			
Methyl acrylate	B012018-BLK1	0	ug/L			
Nitrobenzene	B012018-BLK1	0	ug/L			
2-Nitropropane	B012018-BLK1	0	ug/L			

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012734						
1,4-Dioxane	B012734-BLK1	ND	ug/L	1.0	0.10	
Naphthalene-d8 (Surrogate)	B012734-BLK1	94.7	%	70 - 130 (LCL - UCL)		

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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

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		
QC Batch ID: B012734											
1,4-Dioxane	B012734-BS1	LCS	42.590	50.000	ug/L	85.2		70	130		
Naphthalene-d8 (Surrogate)	B012734-BS1	LCS	42.340	40.000	ug/L	106		70	130		

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent		Lab Quals
								Recovery	RPD	
QC Batch ID: B012734		Used client sample: N								
1,4-Dioxane	MS	1810833-64	ND	41.729	50.000	ug/L		83.5		70 - 130
	MSD	1810833-64	ND	39.824	50.000	ug/L	4.7	79.6	30	70 - 130
Naphthalene-d8 (Surrogate)	MS	1810833-64	ND	38.266	40.000	ug/L		95.7		70 - 130
	MSD	1810833-64	ND	35.692	40.000	ug/L	7.0	89.2		70 - 130

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Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B010224						
Bicarbonate	B010224-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010224-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010224-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010225						
Bicarbonate	B010225-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010225-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010225-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B011333						
Nitrite as N	B011333-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B011337						
Nitrite as N	B011337-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B011357						
ortho-Phosphate as P	B011357-BLK1	ND	mg/L	0.050	0.017	
QC Batch ID: B011500						
Chloride	B011500-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011500-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011500-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011501						
Chloride	B011501-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011501-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011501-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011716						
Total Dissolved Solids @ 180 C	B011716-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B011717						
Total Dissolved Solids @ 180 C	B011717-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012431						
Total Recoverable Calcium	B012431-BLK1	0.048447	mg/L	0.10	0.014	J
Total Recoverable Magnesium	B012431-BLK1	0.021941	mg/L	0.050	0.019	J
Total Recoverable Sodium	B012431-BLK1	0.098016	mg/L	0.50	0.051	J
Total Recoverable Potassium	B012431-BLK1	ND	mg/L	1.0	0.10	

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012433						
Total Recoverable Calcium	B012433-BLK1	0.078455	mg/L	0.10	0.014	J
Total Recoverable Magnesium	B012433-BLK1	0.020452	mg/L	0.050	0.019	J
Total Recoverable Sodium	B012433-BLK2	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B012433-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B012762						
Total Recoverable Calcium	B012762-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B012762-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012762-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B012762-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B012882						
Perchlorate	B012882-BLK1	ND	ug/L	4.0	0.58	
QC Batch ID: B012883						
Perchlorate	B012883-BLK1	ND	ug/L	4.0	0.58	

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Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B010224										
Total Alkalinity as CaCO3	B010224-BS3	LCS	106.19	100.00	mg/L	106		90 - 110		
pH	B010224-BS2	LCS	7.0000	7.0000	pH Units	100		95 - 105		
QC Batch ID: B010225										
Total Alkalinity as CaCO3	B010225-BS3	LCS	99.950	100.00	mg/L	100		90 - 110		
pH	B010225-BS2	LCS	7.0000	7.0000	pH Units	100		95 - 105		
QC Batch ID: B011333										
Nitrite as N	B011333-BS1	LCS	0.49302	0.50000	mg/L	98.6		90 - 110		
QC Batch ID: B011337										
Nitrite as N	B011337-BS1	LCS	0.49511	0.50000	mg/L	99.0		90 - 110		
QC Batch ID: B011357										
ortho-Phosphate as P	B011357-BS1	LCS	0.51020	0.50000	mg/L	102		90 - 110		
QC Batch ID: B011500										
Chloride	B011500-BS1	LCS	52.244	50.000	mg/L	104		90 - 110		
Nitrate as N	B011500-BS1	LCS	5.1850	5.0000	mg/L	104		90 - 110		
Sulfate	B011500-BS1	LCS	103.08	100.00	mg/L	103		90 - 110		
QC Batch ID: B011501										
Chloride	B011501-BS1	LCS	52.782	50.000	mg/L	106		90 - 110		
Nitrate as N	B011501-BS1	LCS	5.2440	5.0000	mg/L	105		90 - 110		
Sulfate	B011501-BS1	LCS	104.65	100.00	mg/L	105		90 - 110		
QC Batch ID: B011716										
Total Dissolved Solids @ 180 C	B011716-BS1	LCS	595.00	586.00	mg/L	102		90 - 110		
QC Batch ID: B011717										
Total Dissolved Solids @ 180 C	B011717-BS1	LCS	625.00	586.00	mg/L	107		90 - 110		
QC Batch ID: B012431										
Total Recoverable Calcium	B012431-BS1	LCS	11.336	10.000	mg/L	113		85 - 115		
Total Recoverable Magnesium	B012431-BS1	LCS	10.960	10.000	mg/L	110		85 - 115		
Total Recoverable Sodium	B012431-BS1	LCS	11.395	10.000	mg/L	114		85 - 115		
Total Recoverable Potassium	B012431-BS1	LCS	10.628	10.000	mg/L	106		85 - 115		
QC Batch ID: B012433										
Total Recoverable Calcium	B012433-BS1	LCS	10.636	10.000	mg/L	106		85 - 115		
Total Recoverable Magnesium	B012433-BS1	LCS	10.676	10.000	mg/L	107		85 - 115		
Total Recoverable Sodium	B012433-BS2	LCS	9.8441	10.000	mg/L	98.4		85 - 115		

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Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012433										
Total Recoverable Potassium	B012433-BS1	LCS	10.066	10.000	mg/L	101		85 - 115		
QC Batch ID: B012762										
Total Recoverable Calcium	B012762-BS1	LCS	11.007	10.000	mg/L	110		85 - 115		
Total Recoverable Magnesium	B012762-BS1	LCS	11.032	10.000	mg/L	110		85 - 115		
Total Recoverable Sodium	B012762-BS1	LCS	10.819	10.000	mg/L	108		85 - 115		
Total Recoverable Potassium	B012762-BS1	LCS	10.536	10.000	mg/L	105		85 - 115		
QC Batch ID: B012882										
Perchlorate	B012882-BS1	LCS	9.3569	10.000	ug/L	93.6		85 - 115		
QC Batch ID: B012883										
Perchlorate	B012883-BS1	LCS	10.203	10.000	ug/L	102		85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Qualls. Includes multiple QC batches (B010224, B010225, B011333, B011337, B011357, B011500, B011501) with detailed data for Bicarbonate, Carbonate, Total Alkalinity, pH, Nitrite, Nitrate, Chloride, and ortho-Phosphate.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Qualls. Includes QC Batch IDs B011501, B011716, B011717, B012431, B012433, and B012762.

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: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012762		Used client sample: N								
Total Recoverable Calcium	DUP	1813054-01	0.023645	0.014217		mg/L	49.8		20	J,A02
	MS	1813054-01	0.023645	11.105	10.000	mg/L		111	75 - 125	
	MSD	1813054-01	0.023645	11.231	10.000	mg/L	1.1	112	20	75 - 125
Total Recoverable Magnesium	DUP	1813054-01	ND	ND		mg/L			20	
	MS	1813054-01	ND	10.938	10.000	mg/L		109	75 - 125	
	MSD	1813054-01	ND	11.187	10.000	mg/L	2.2	112	20	75 - 125
Total Recoverable Sodium	DUP	1813054-01	0.43400	0.45803		mg/L	5.4		20	J
	MS	1813054-01	0.43400	11.426	10.000	mg/L		110	75 - 125	
	MSD	1813054-01	0.43400	11.471	10.000	mg/L	0.4	110	20	75 - 125
Total Recoverable Potassium	DUP	1813054-01	ND	ND		mg/L			20	
	MS	1813054-01	ND	10.598	10.000	mg/L		106	75 - 125	
	MSD	1813054-01	ND	10.723	10.000	mg/L	1.2	107	20	75 - 125
QC Batch ID: B012882		Used client sample: Y - Description: MW-23-2, 04/18/2018 09:00								
Perchlorate	DUP	1812598-05	3.5330	3.4812		ug/L	1.5		15	J
	MS	1812598-05	3.5330	12.230	10.101	ug/L		86.1	80 - 120	
	MSD	1812598-05	3.5330	12.220	10.101	ug/L	0.1	86.0	15	80 - 120
QC Batch ID: B012883		Used client sample: Y - Description: MW-24-2, 04/18/2018 12:30								
Perchlorate	DUP	1812598-12	3.6821	3.7034		ug/L	0.6		15	J
	MS	1812598-12	3.6821	12.085	10.101	ug/L		83.2	80 - 120	
	MSD	1812598-12	3.6821	12.182	10.101	ug/L	0.8	84.2	15	80 - 120

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B011364						
Hexavalent Chromium	B011364-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B011369						
Hexavalent Chromium	B011369-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B011748						
Total Recoverable Arsenic	B011748-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B011748-BLK2	0.69500	ug/L	3.0	0.50	J
Total Recoverable Lead	B011748-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012012						
Total Recoverable Arsenic	B012012-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012012-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012012-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012431						
Total Recoverable Iron	B012431-BLK1	ND	ug/L	50	30	
QC Batch ID: B012433						
Total Recoverable Iron	B012433-BLK1	ND	ug/L	50	30	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B011364										
Hexavalent Chromium	B011364-BS1	LCS	0.050110	0.050000	mg/L	100		85 - 115		
QC Batch ID: B011369										
Hexavalent Chromium	B011369-BS1	LCS	0.052976	0.050000	mg/L	106		85 - 115		
QC Batch ID: B011748										
Total Recoverable Arsenic	B011748-BS1	LCS	104.25	100.00	ug/L	104		85 - 115		
Total Recoverable Chromium	B011748-BS2	LCS	43.798	40.000	ug/L	109		85 - 115		
Total Recoverable Lead	B011748-BS1	LCS	102.75	100.00	ug/L	103		85 - 115		
QC Batch ID: B012012										
Total Recoverable Arsenic	B012012-BS1	LCS	101.41	100.00	ug/L	101		85 - 115		
Total Recoverable Chromium	B012012-BS1	LCS	41.887	40.000	ug/L	105		85 - 115		
Total Recoverable Lead	B012012-BS1	LCS	102.98	100.00	ug/L	103		85 - 115		
QC Batch ID: B012431										
Total Recoverable Iron	B012431-BS1	LCS	1147.4	1000.0	ug/L	115		85 - 115		
QC Batch ID: B012433										
Total Recoverable Iron	B012433-BS1	LCS	1092.0	1000.0	ug/L	109		85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

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 IDs B011364, B011369, B011748, B012012, B012431, and B012433.

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Certificate of Analysis

FINAL REPORT

Work Orders: 8D24009

Project: 1812598

Attn: BC Laboratories
Client: BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308

Report Date: 5/08/2018
Received Date: 4/24/2018
Turnaround Time: Normal
Phones: (661) 327-4911
Fax: (661) 327-1918
P.O. #:
Billing Code:

Dear BC Laboratories,

Enclosed are the results of analyses for samples received 4/24/18 with the Chain-of-Custody document. The samples were received in good condition, at 4.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample:	1812598-13						Sampled: 04/18/18 13:15 by Client
	8D24009-01 (Water)						
Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier	
Method: EPA 1625M N-Nitrosodimethylamine	Batch ID: W&D1522 Instr: GCMS09 ND	Prepared: 04/25/18 12:00 2.0	ng/l	1	Analyst: mld 04/28/18 04:58		

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Certificate of Analysis
FINAL REPORT

Quality Control Results

Nitrosamines by isotopic dilution GC/MS CI Mode

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	RPD	Limit	Qualifier
Batch: W8D1522 - EPA 3535/SPE									
Blank (W8D1522-BLK1)				Prepared: 04/25/18 Analyzed: 04/28/18					
N-Nitrosodimethylamine	ND	2.0	ng/l						
LCS (W8D1522-B51)				Prepared: 04/25/18 Analyzed: 04/30/18					
N-Nitrosodimethylamine	2.25	2.0	ng/l	3.00		75		50-150	
LCS Dup (W8D1522-B5D1)				Prepared: 04/25/18 Analyzed: 04/28/18					
N-Nitrosodimethylamine	2.25	2.0	ng/l	3.00		75		50-150	0.04 50

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WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Notes and Definitions

Item	Definition
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
 An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
 All results are expressed on wet weight basis unless otherwise specified.
 All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Regina Giancola
Project Manager



DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/22/2018 17:08
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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.
- A03 The sample concentration is more than 4 times the spike level.
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- S05 The sample holding time was exceeded.

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Date of Report: 05/24/2018

David Conner

Tidewater Inc.

3761 Attucks Drive
Powell, OH 43065

Client Project: 2nd Qtr 2018

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1812739

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/19/2018. 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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Quality Control Reports

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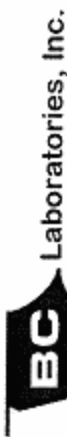
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Chain of Custody Form

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18-12739



*Required Fields

Report To: **Tidewater, Inc.**
 Client: **David Comer**
 Attn: **David Comer**
 Street Address: **3761 Allucks Drive**
 City: **Powell** State: **OH** Zip: **43065**
 Phone: **628 298 5715** Fax: **614 792 2897**
 Email Address: **david.comer@tideh2o.net**
 Submission #: _____

Project Description: **JPL-GW Monitoring**
 Project Code: **2018**
 Sampler(s): **Blaine Tech**
Think Tanks

Client: **Tidewater**
 Attn: **David Comer**
 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 = 30

Sample #	Sample Description	Date	Time	Matrix*	Analysis Requested										Notes
					VOCs EPA 524.2	TRM: Cr, Pb, As, Ca, Mg, K	Na, Fe	Hexavalent Cr6 - 7198 (mg/L)	Cl, NO3, NO2, SO4, Perch.	CO3, HCO3, Alk., TDS, pH	Orthophosphate 365.1	1,4 Dioxane 8270SIM	NDMA 1625M		
-1	TB-2-041918	04/19/18	0700	GW	X	X	X	X	X	X	X	X	X	X	Level IV
-2	MW-4-5	0815	0815	GW	X	X	X	X	X	X	X	X	X	X	
-3	MW-4-4	0900	0815	GW	X	X	X	X	X	X	X	X	X	X	
-4	MW-4-3	0935	0900	GW	X	X	X	X	X	X	X	X	X	X	
-5	MW-4-2	1145	0935	GW	X	X	X	X	X	X	X	X	X	X	
-6	MW-4-1	1315	1145	GW	X	X	X	X	X	X	X	X	X	X	
-7	EB-2-041918	1345	1315	GW	X	X	X	X	X	X	X	X	X	X	
-8	MW-14-5	1430	1345	GW	X	X	X	X	X	X	X	X	X	X	
-9	MW-14-4	1440	1430	GW	X	X	X	X	X	X	X	X	X	X	
-10	DWP-1-2618		1440	GW	X	X	X	X	X	X	X	X	X	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)

Lab TAT Approval: _____ *Additional Charges May Apply

Global ID: _____

1. Received By: _____ Date: 04/19/18 Time: 1500

2. Relinquished By: _____ Date: 4-19-18 Time: 4

3. Relinquished By: _____ Date: 4-19-18 Time: 1805

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)

MBU Site
 CVX RCRA
 Geotracker 5 file (CA Default)
 Geotracker 2 file
 Other (Specify) _____

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 #: 18-12739

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. Emissivity: 0.95. Container: Vials. Thermometer ID: 208. Date/Time: 11/19/10. Analyst Init: [Signature]

Table with columns for Sample Containers and Sample Numbers (1-10). Rows include various sample types like QT PE UNPRES, INORGANIC CHEMICAL METALS, and various EPA vials.

Comments: Sample Numbering Completed By: [Signature] Date/Time: 11/19/10 [Signature] Rev 21 06/23/2016



BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 of 3

Submission #: 18-12739

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: 0.96. Container: PE. Thermometer ID: 208. Date/Time: 4/19/18. Analyst Init: [Signature]. Temperature: (A) 2.7 °C, (C) 2.4 °C

Table with columns for SAMPLE CONTAINERS and SAMPLE NUMBERS (1-10). Rows include various sample types like QT PE UNPRES, INORGANIC CHEMICAL METALS, FT CYANIDE, etc. Handwritten entries include 'E', 'ABC', and 'D'.

Comments: Sample Numbering Completed By: [Signature] Date/Time: 4/19/18. Rev 21 05/23/2016



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812739-01	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: TB-2-041918 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-2-041918 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1812739-02	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-4-5 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 07:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-4-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1812739-03	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-4-4 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 08:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-4-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1812739-04	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-4-3 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 09:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-4-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1812739-05	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-4-2 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 09:35 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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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1812739-06	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-4-1 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 11:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1812739-07	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: EB-2-041918 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 13:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-2-041918 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1812739-08	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-14-5 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 13:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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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1812739-09	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-14-4 Sampled By: Think Hoang of BAT	Receive Date: 04/19/2018 18:05 Sampling Date: 04/19/2018 14:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1812739-10	COC Number: ---	Receive Date: 04/19/2018 18:05
	Project Number: JPL-GW	Sampling Date: 04/19/2018 14:40
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: Dup-1-2Q18	Lab Matrix: Water
	Sampled By: Think Hoang of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): Dup-1-2Q18
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-01	Client Sample Name: JPL-GW, TB-2-041918, 4/19/2018 7:00:00AM, Tinh Hoang
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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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-01 Client Sample Name: JPL-GW, TB-2-041918, 4/19/2018 7:00:00AM, Tinh Hoang

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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-01	Client Sample Name: JPL-GW, TB-2-041918, 4/19/2018 7:00:00AM, Thanh Hoang
----------------------------------	--

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)	97.2	%	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	04/26/18 07:00	04/27/18 06:25	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-01	Client Sample Name: JPL-GW, TB-2-041918, 4/19/2018 7:00:00AM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 06:25	MGC	MS-V5	1	B012017

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-02	Client Sample Name: JPL-GW, MW-4-5, 4/19/2018 7:45:00AM, Tinh Hoang
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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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-02		Client Sample Name: JPL-GW, MW-4-5, 4/19/2018 7:45:00AM, Tinh Hoang						
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	0.24	ug/L	0.50	0.15	EPA-524.2	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
Styrene	0.16	ug/L	0.50	0.12	EPA-524.2	ND	J	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	0.26	ug/L	0.50	0.19	EPA-524.2	ND	J	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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-02	Client Sample Name: JPL-GW, MW-4-5, 4/19/2018 7:45:00AM, Thanh Hoang
----------------------------------	---

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)	96.9	%	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	04/26/18 07:00	04/27/18 06:48	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-02	Client Sample Name: JPL-GW, MW-4-5, 4/19/2018 7:45:00AM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 06:48	MGC	MS-V5	1	B012017

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-02		Client Sample Name: JPL-GW, MW-4-5, 4/19/2018 7:45:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	34	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	26	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	40	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	2.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	230	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	190	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	59	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	0.27	mg/L	1.0	0.13	EPA-300.0	ND	J	3
pH	8.04	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	310	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/02/18 08:00	05/02/18	19:44	JRG	PE-OP2	1	B012528
2	SM-2320B	04/30/18 11:00	04/30/18	14:02	MEV	MET-1	1	B010235
3	EPA-300.0	04/19/18 21:00	04/19/18	23:23	SAV	IC2	1	B011503
4	EPA-150.1	04/30/18 11:00	04/30/18	14:02	MEV	MET-1	1	B010235
5	EPA-160.1	04/25/18 15:30	04/25/18	15:30	CAD	MANUAL	2	B011844
6	EPA-353.2	04/20/18 07:31	04/20/18	07:37	JNC	KONE-1	1	B011476
7	EPA-314.0	05/07/18 11:00	05/07/18	12:45	EMW	IC6	1	B012886

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-02	Client Sample Name: JPL-GW, MW-4-5, 4/19/2018 7:45:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.67	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	3000	ug/L	50	30	EPA-200.7	39		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:23	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 12:26	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 19:44	JRG	PE-OP2	1	B012528

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-03	Client Sample Name: JPL-GW, MW-4-4, 4/19/2018 8:15:00AM, Tinh Hoang
----------------------------------	--

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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-03	Client Sample Name: JPL-GW, MW-4-4, 4/19/2018 8:15:00AM, Tinh Hoang
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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	0.44	ug/L	0.50	0.19	EPA-524.2	ND	J	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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-03	Client Sample Name: JPL-GW, MW-4-4, 4/19/2018 8:15:00AM, Thanh Hoang
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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)	97.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.3	%	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	04/26/18 07:00	04/27/18 07:11	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-03	Client Sample Name: JPL-GW, MW-4-4, 4/19/2018 8:15:00AM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 07:11	MGC	MS-V5	1	B012017

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-03		Client Sample Name: JPL-GW, MW-4-4, 4/19/2018 8:15:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	61	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	33	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	37	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	2.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	260	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	220	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	88	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	30	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.16	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	470	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.4	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	
1	EPA-200.7	05/02/18 08:00	05/02/18 19:28		JRG	PE-OP2	1	B012528	
2	SM-2320B	04/30/18 11:00	04/30/18 14:23		MEV	MET-1	1	B010235	
3	EPA-300.0	04/19/18 21:00	04/19/18 23:43		EMW	IC2	1	B011503	
4	EPA-150.1	04/30/18 11:00	04/30/18 14:23		MEV	MET-1	1	B010235	
5	EPA-160.1	04/25/18 15:30	04/25/18 15:30		CAD	MANUAL	3.333	B011844	
6	EPA-353.2	04/20/18 07:31	04/20/18 07:37		JNC	KONE-1	1	B011476	
7	EPA-314.0	05/07/18 11:00	05/07/18 13:00		EMW	IC6	1	B012886	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-03	Client Sample Name: JPL-GW, MW-4-4, 4/19/2018 8:15:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.58	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	3400	ug/L	50	30	EPA-200.7	39		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:23	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 12:47	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 19:28	JRG	PE-OP2	1	B012528

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-04	Client Sample Name: JPL-GW, MW-4-3, 4/19/2018 9:00:00AM, Tinh Hoang
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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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-04	Client Sample Name: JPL-GW, MW-4-3, 4/19/2018 9:00:00AM, Tinh Hoang
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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	0.25	ug/L	0.50	0.23	EPA-524.2	ND	J	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	0.90	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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-04	Client Sample Name: JPL-GW, MW-4-3, 4/19/2018 9:00:00AM, Thanh Hoang
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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)	96.6	%	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	04/26/18 07:00	04/27/18 07:34	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-04	Client Sample Name: JPL-GW, MW-4-3, 4/19/2018 9:00:00AM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 07:34	MGC	MS-V5	1	B012017

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-04		Client Sample Name: JPL-GW, MW-4-3, 4/19/2018 9:00:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	97	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	46	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	36	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	3.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	270	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	220	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	110	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	130	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.01	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	640	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/02/18 08:00	05/02/18 19:55		JRG	PE-OP2	1	B012528
2	SM-2320B	04/30/18 11:00	04/30/18 14:29		MEV	MET-1	1	B010235
3	EPA-300.0	04/19/18 21:00	04/20/18 01:06		EMW	IC2	1	B011503
4	EPA-150.1	04/30/18 11:00	04/30/18 14:29		MEV	MET-1	1	B010235
5	EPA-160.1	04/25/18 15:30	04/25/18 15:30		CAD	MANUAL	3.333	B011844
6	EPA-353.2	04/20/18 07:31	04/20/18 07:37		JNC	KONE-1	1	B011476
7	EPA-314.0	05/07/18 11:00	05/07/18 14:01		EMW	IC6	1	B012886

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-04	Client Sample Name: JPL-GW, MW-4-3, 4/19/2018 9:00:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	2.8	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	2500	ug/L	50	30	EPA-200.7	39		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:23	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:03	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 19:55	JRG	PE-OP2	1	B012528

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-05	Client Sample Name: JPL-GW, MW-4-2, 4/19/2018 9:35:00AM, Tinh Hoang
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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	0.49	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-05		Client Sample Name: JPL-GW, MW-4-2, 4/19/2018 9:35:00AM, Tinh Hoang						
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	0.32	ug/L	0.50	0.23	EPA-524.2	ND	J	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	1.3	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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-05	Client Sample Name: JPL-GW, MW-4-2, 4/19/2018 9:35:00AM, Thanh Hoang
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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)	99.9	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	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	04/26/18 07:00	04/27/18 07:57	MGC	MS-V5	1	B012017

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-05	Client Sample Name: JPL-GW, MW-4-2, 4/19/2018 9:35:00AM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 07:57	MGC	MS-V5	1	B012017

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-05		Client Sample Name: JPL-GW, MW-4-2, 4/19/2018 9:35:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	150	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	51	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	38	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	3.4	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	280	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	230	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	120	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	12	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	170	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.69	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	820	mg/L	50	50	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	6.5	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/02/18 08:00	05/02/18	19:58	JRG	PE-OP2	1	B012528
2	SM-2320B	04/30/18 11:00	04/30/18	14:37	MEV	MET-1	2	B010235
3	EPA-300.0	04/19/18 21:00	04/20/18	01:26	EMW	IC2	1	B011503
4	EPA-150.1	04/30/18 11:00	04/30/18	14:37	MEV	MET-1	1	B010235
5	EPA-160.1	04/25/18 15:30	04/25/18	15:30	CAD	MANUAL	5	B011844
6	EPA-353.2	04/20/18 07:31	04/20/18	07:37	JNC	KONE-1	1	B011476
7	EPA-314.0	05/07/18 11:00	05/07/18	14:47	EMW	IC6	1	B012886

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-05	Client Sample Name: JPL-GW, MW-4-2, 4/19/2018 9:35:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0018	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.9	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	79	ug/L	50	30	EPA-200.7	39		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:23	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:06	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 19:58	JRG	PE-OP2	1	B012528

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-06	Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Thanh Hoang
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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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-06	Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Tinh Hoang
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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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-06	Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Thanh Hoang
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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)	98.5	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	97.3	%	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	04/26/18 07:00	04/27/18 08:20	MGC	MS-V5	1	B012017

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-06	Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 08:20	MGC	MS-V5	1	B012017

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

BCL Sample ID: 1812739-06	Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,4-Dioxane	ND	ug/L	1.0	0.10	EPA-8270D	ND		1
Naphthalene-d8 (Surrogate)	104	%	70 - 130 (LCL - UCL)		EPA-8270D			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270D	04/24/18 14:00	05/04/18 11:04	RSM	MS-B4	1	B012734

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-06		Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Thinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	45	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	15	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	16	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	2.7	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	190	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	150	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	12	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.76	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	29	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.51	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	280	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.59	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/02/18 08:00	05/02/18 20:01		JRG	PE-OP2	1	B012528
2	SM-2320B	04/30/18 11:00	04/30/18 14:43		MEV	MET-1	1	B010235
3	EPA-300.0	04/19/18 21:00	04/20/18 02:49		EMW	IC2	1	B011503
4	EPA-150.1	04/30/18 11:00	04/30/18 14:43		MEV	MET-1	1	B010235
5	EPA-160.1	04/25/18 15:30	04/25/18 15:30		CAD	MANUAL	2	B011844
6	EPA-353.2	04/20/18 07:31	04/20/18 07:37		JNC	KONE-1	1	B011476
7	EPA-314.0	05/07/18 11:00	05/07/18 15:03		EMW	IC6	1	B012886

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-06	Client Sample Name: JPL-GW, MW-4-1, 4/19/2018 11:45:00AM, Tinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	35	ug/L	50	30	EPA-200.7	39	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:23	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:10	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 20:01	JRG	PE-OP2	1	B012528

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-07	Client Sample Name: JPL-GW, EB-2-041918, 4/19/2018 1:15:00PM, Thanh Hoang
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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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3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-07 **Client Sample Name:** JPL-GW, EB-2-041918, 4/19/2018 1:15:00PM, Thanh Hoang

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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-07 **Client Sample Name:** JPL-GW, EB-2-041918, 4/19/2018 1:15:00PM, Thanh Hoang

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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	107	%	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	04/26/18 07:00	04/27/18 08:43	MGC	MS-V5	1	B012017

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-07	Client Sample Name: JPL-GW, EB-2-041918, 4/19/2018 1:15:00PM, Thanh Hoang
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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	04/26/18 07:00	04/27/18 08:43	MGC	MS-V5	1	B012017

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-07	Client Sample Name: JPL-GW, EB-2-041918, 4/19/2018 1:15:00PM, Thanh Hoang
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	39		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:27	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:13	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 20:03	JRG	PE-OP2	1	B012528

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-08	Client Sample Name: JPL-GW, MW-14-5, 4/19/2018 1:45:00PM, Tinh Hoang
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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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-08	Client Sample Name: JPL-GW, MW-14-5, 4/19/2018 1:45:00PM, Tinh Hoang
----------------------------------	---

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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-08	Client Sample Name: JPL-GW, MW-14-5, 4/19/2018 1:45:00PM, Tinh Hoang
----------------------------------	---

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)	98.6	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.9	%	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	04/26/18 07:00	04/27/18 09:05	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-08	Client Sample Name: JPL-GW, MW-14-5, 4/19/2018 1:45:00PM, Tinh Hoang
----------------------------------	---

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	04/26/18 07:00	04/27/18 09:05	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-08		Client Sample Name: JPL-GW, MW-14-5, 4/19/2018 1:45:00PM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	19	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	13	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	33	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	2.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	150	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	7.1	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	140	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	9.3	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.12	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	16	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.42	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	220	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/02/18 08:00	05/02/18	20:06	JRG	PE-OP2	1	B012528
2	SM-2320B	04/30/18 11:00	04/30/18	14:56	MEV	MET-1	1	B010235
3	EPA-300.0	04/19/18 21:00	04/20/18	03:09	EMW	IC2	1	B011503
4	EPA-150.1	04/30/18 11:00	04/30/18	14:56	MEV	MET-1	1	B010235
5	EPA-160.1	04/25/18 15:30	04/25/18	15:30	CAD	MANUAL	2	B011844
6	EPA-353.2	04/20/18 07:31	04/20/18	07:40	JNC	KONE-1	1	B011476
7	EPA-314.0	05/07/18 11:00	05/08/18	00:46	SAV	IC6	1	B012886

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-08	Client Sample Name: JPL-GW, MW-14-5, 4/19/2018 1:45:00PM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	2.0	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.74	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	110	ug/L	50	30	EPA-200.7	39		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:27	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:17	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 20:06	JRG	PE-OP2	1	B012528

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-09 Client Sample Name: JPL-GW, MW-14-4, 4/19/2018 2:30:00PM, Tinh Hoang

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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-09	Client Sample Name: JPL-GW, MW-14-4, 4/19/2018 2:30:00PM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-09	Client Sample Name: JPL-GW, MW-14-4, 4/19/2018 2:30:00PM, Tinh Hoang
----------------------------------	---

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)	98.7	%	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	04/26/18 07:00	04/27/18 09:28	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-09	Client Sample Name: JPL-GW, MW-14-4, 4/19/2018 2:30:00PM, Tinh Hoang
----------------------------------	---

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	04/26/18 07:00	04/27/18 09:28	MGC	MS-V5	1	B012017

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-09	Client Sample Name: JPL-GW, MW-14-4, 4/19/2018 2:30:00PM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0028	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.3	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.0	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	39	ug/L	50	30	EPA-200.7	39	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:27	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:20	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 20:09	JRG	PE-OP2	1	B012528

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-10		Client Sample Name: JPL-GW, Dup-1-2Q18, 4/19/2018 2:40:00PM, Tinh Hoang						
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	0.16	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-10 **Client Sample Name:** JPL-GW, Dup-1-2Q18, 4/19/2018 2:40:00PM, Tinh Hoang

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: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812739-10 **Client Sample Name:** JPL-GW, Dup-1-2Q18, 4/19/2018 2:40:00PM, Tinh Hoang

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)	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	04/26/18 07:00	04/27/18 09:51	MGC	MS-V5	1	B012017

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Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812739-10	Client Sample Name: JPL-GW, Dup-1-2Q18, 4/19/2018 2:40:00PM, Tinh Hoang
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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	04/26/18 07:00	04/27/18 09:51	MGC	MS-V5	1	B012017

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812739-10		Client Sample Name: JPL-GW, Dup-1-2Q18, 4/19/2018 2:40:00PM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	67	mg/L	0.10	0.014	EPA-200.7	0.064		1
Total Recoverable Magnesium	25	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	31	mg/L	0.50	0.051	EPA-200.7	0.17		1
Total Recoverable Potassium	2.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	200	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	160	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	54	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	11	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	56	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.06	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	430	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	3.0	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/02/18 08:00	05/02/18 20:11		JRG	PE-OP2	1	B012528
2	SM-2320B	04/30/18 11:00	04/30/18 15:08		MEV	MET-1	1	B010235
3	EPA-300.0	04/19/18 21:00	04/20/18 03:51		EMW	IC2	1	B011503
4	EPA-150.1	04/30/18 11:00	04/30/18 15:08		MEV	MET-1	1	B010235
5	EPA-160.1	04/25/18 15:30	04/25/18 15:30		CAD	MANUAL	3.333	B011844
6	EPA-353.2	04/20/18 07:31	04/20/18 07:40		JNC	KONE-1	1	B011476
7	EPA-314.0	05/07/18 11:00	05/07/18 16:04		EMW	IC6	1	B012886

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812739-10	Client Sample Name: JPL-GW, Dup-1-2Q18, 4/19/2018 2:40:00PM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0028	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.2	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	3.7	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	38	ug/L	50	30	EPA-200.7	39	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/19/18 20:23	04/19/18 20:27	SAV	KONE-1	1	B011474
2	EPA-200.8	04/26/18 08:00	04/27/18 13:24	MH1	PE-EL2	1	B012009
3	EPA-200.7	05/02/18 08:00	05/02/18 20:11	JRG	PE-OP2	1	B012528

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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
QC Batch ID: B012017						
Benzene	B012017-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012017-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012017-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012017-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012017-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012017-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012017-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012017-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012017-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012017-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012017-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012017-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012017-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012017-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012017-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012017-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012017-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012017-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012017-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012017-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012017-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012017-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012017-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012017-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012017-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012017-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012017-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012017-BLK1	ND	ug/L	0.50	0.14	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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
QC Batch ID: B012017						
trans-1,3-Dichloropropene	B012017-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012017-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012017-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012017-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012017-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012017-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012017-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012017-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012017-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012017-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012017-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012017-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012017-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012017-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012017-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012017-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012017-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012017-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012017-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012017-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012017-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012017-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012017-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012017-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012017-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012017-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012017-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012017-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012017-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012017-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012017-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012017-BLK1	ND	ug/L	4.0	1.3	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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
QC Batch ID: B012017						
Ethyl t-butyl ether	B012017-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012017-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012017-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012017-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012017-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012017-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012017-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012017-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012017-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012017-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012017-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012017-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012017-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012017-BLK1	94.1	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012017-BLK1	97.0	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012017-BLK1	99.6	%	80 - 120 (LCL - UCL)		

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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	
QC Batch ID: B012017										
Benzene	B012017-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
Bromodichloromethane	B012017-BS1	LCS	25.880	25.000	ug/L	104		70 - 130		
Chlorobenzene	B012017-BS1	LCS	26.300	25.000	ug/L	105		70 - 130		
Chloroethane	B012017-BS1	LCS	21.810	25.000	ug/L	87.2		70 - 130		
1,4-Dichlorobenzene	B012017-BS1	LCS	25.220	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	B012017-BS1	LCS	25.630	25.000	ug/L	103		70 - 130		
1,1-Dichloroethene	B012017-BS1	LCS	26.630	25.000	ug/L	107		70 - 130		
Toluene	B012017-BS1	LCS	25.620	25.000	ug/L	102		70 - 130		
Trichloroethene	B012017-BS1	LCS	25.310	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012017-BS1	LCS	9.6400	10.000	ug/L	96.4		75 - 125		
Toluene-d8 (Surrogate)	B012017-BS1	LCS	10.190	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012017-BS1	LCS	10.460	10.000	ug/L	105		80 - 120		

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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	
QC Batch ID: B012017		Used client sample: Y - Description: MW-23-2, 04/18/2018 09:00								
Benzene	MS	1812598-05	ND	26.110	25.000	ug/L		104		70 - 130
	MSD	1812598-05	ND	25.680	25.000	ug/L	1.7	103	20	70 - 130
Bromodichloromethane	MS	1812598-05	ND	25.700	25.000	ug/L		103		70 - 130
	MSD	1812598-05	ND	25.850	25.000	ug/L	0.6	103	20	70 - 130
Chlorobenzene	MS	1812598-05	ND	25.710	25.000	ug/L		103		70 - 130
	MSD	1812598-05	ND	25.590	25.000	ug/L	0.5	102	20	70 - 130
Chloroethane	MS	1812598-05	ND	21.980	25.000	ug/L		87.9		70 - 130
	MSD	1812598-05	ND	21.400	25.000	ug/L	2.7	85.6	20	70 - 130
1,4-Dichlorobenzene	MS	1812598-05	ND	25.500	25.000	ug/L		102		70 - 130
	MSD	1812598-05	ND	24.900	25.000	ug/L	2.4	99.6	20	70 - 130
1,1-Dichloroethane	MS	1812598-05	0.16000	25.880	25.000	ug/L		103		70 - 130
	MSD	1812598-05	0.16000	25.030	25.000	ug/L	3.3	99.5	20	70 - 130
1,1-Dichloroethene	MS	1812598-05	ND	26.870	25.000	ug/L		107		70 - 130
	MSD	1812598-05	ND	25.990	25.000	ug/L	3.3	104	20	70 - 130
Toluene	MS	1812598-05	ND	25.350	25.000	ug/L		101		70 - 130
	MSD	1812598-05	ND	25.410	25.000	ug/L	0.2	102	20	70 - 130
Trichloroethene	MS	1812598-05	1.1200	25.830	25.000	ug/L		98.8		70 - 130
	MSD	1812598-05	1.1200	26.270	25.000	ug/L	1.7	101	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1812598-05	ND	9.5200	10.000	ug/L		95.2		75 - 125
	MSD	1812598-05	ND	9.7700	10.000	ug/L	2.6	97.7		75 - 125
Toluene-d8 (Surrogate)	MS	1812598-05	ND	9.8400	10.000	ug/L		98.4		80 - 120
	MSD	1812598-05	ND	10.180	10.000	ug/L	3.4	102		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1812598-05	ND	10.180	10.000	ug/L		102		80 - 120
	MSD	1812598-05	ND	10.040	10.000	ug/L	1.4	100		80 - 120

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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: B012017						
Chloroacetonitrile	B012017-BLK1	0	ug/L			
1-Chlorobutane	B012017-BLK1	0	ug/L			
1,1-Dichloropropanone	B012017-BLK1	0	ug/L			
Methyl acrylate	B012017-BLK1	0	ug/L			
Nitrobenzene	B012017-BLK1	0	ug/L			
2-Nitropropane	B012017-BLK1	0	ug/L			

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012734						
1,4-Dioxane	B012734-BLK1	ND	ug/L	1.0	0.10	
Naphthalene-d8 (Surrogate)	B012734-BLK1	94.7	%	70 - 130 (LCL - UCL)		

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: B012734										
1,4-Dioxane	B012734-BS1	LCS	42.590	50.000	ug/L	85.2		70	130	
Naphthalene-d8 (Surrogate)	B012734-BS1	LCS	42.340	40.000	ug/L	106		70	130	

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: B012734		Used client sample: N								
1,4-Dioxane	MS	1810833-64	ND	41.729	50.000	ug/L		83.5		70 - 130
	MSD	1810833-64	ND	39.824	50.000	ug/L	4.7	79.6	30	70 - 130
Naphthalene-d8 (Surrogate)	MS	1810833-64	ND	38.266	40.000	ug/L		95.7		70 - 130
	MSD	1810833-64	ND	35.692	40.000	ug/L	7.0	89.2		70 - 130

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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
QC Batch ID: B010235						
Bicarbonate	B010235-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010235-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010235-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B011476						
Nitrite as N	B011476-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B011503						
Chloride	B011503-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011503-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011503-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011844						
Total Dissolved Solids @ 180 C	B011844-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012528						
Total Recoverable Calcium	B012528-BLK1	0.064348	mg/L	0.10	0.014	J
Total Recoverable Magnesium	B012528-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012528-BLK1	0.17301	mg/L	0.50	0.051	J
Total Recoverable Potassium	B012528-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B012886						
Perchlorate	B012886-BLK1	ND	ug/L	4.0	0.58	

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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	
QC Batch ID: B010235										
Total Alkalinity as CaCO3	B010235-BS3	LCS	102.08	100.00	mg/L	102		90 - 110		
pH	B010235-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B011476										
Nitrite as N	B011476-BS1	LCS	0.50676	0.50000	mg/L	101		90 - 110		
QC Batch ID: B011503										
Chloride	B011503-BS1	LCS	46.863	50.000	mg/L	93.7		90 - 110		
Nitrate as N	B011503-BS1	LCS	4.8000	5.0000	mg/L	96.0		90 - 110		
Sulfate	B011503-BS1	LCS	94.207	100.00	mg/L	94.2		90 - 110		
QC Batch ID: B011844										
Total Dissolved Solids @ 180 C	B011844-BS1	LCS	585.00	586.00	mg/L	99.8		90 - 110		
QC Batch ID: B012528										
Total Recoverable Calcium	B012528-BS1	LCS	10.795	10.000	mg/L	108		85 - 115		
Total Recoverable Magnesium	B012528-BS1	LCS	10.783	10.000	mg/L	108		85 - 115		
Total Recoverable Sodium	B012528-BS1	LCS	10.625	10.000	mg/L	106		85 - 115		
Total Recoverable Potassium	B012528-BS1	LCS	10.502	10.000	mg/L	105		85 - 115		
QC Batch ID: B012886										
Perchlorate	B012886-BS1	LCS	9.6999	10.000	ug/L	97.0		85 - 115		

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Reported: 05/24/2018 8:54
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Project Number: 2nd Qtr 2018
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 B010235, B011476, B011503, B011844, B012528, and B012886.

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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	
QC Batch ID: B012886		Used client sample: Y - Description: MW-4-4, 04/19/2018 08:15								
Perchlorate	DUP	1812739-03	1.3520	1.3836		ug/L	2.3		15	J
	MS	1812739-03	1.3520	9.6084	10.101	ug/L		81.7	80 - 120	
	MSD	1812739-03	1.3520	10.066	10.101	ug/L	4.7	86.3	15 80 - 120	

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Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B011474						
Hexavalent Chromium	B011474-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012009						
Total Recoverable Arsenic	B012009-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012009-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012009-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012528						
Total Recoverable Iron	B012528-BLK1	39.237	ug/L	50	30	J

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Project Number: 2nd Qtr 2018
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	
QC Batch ID: B011474										
Hexavalent Chromium	B011474-BS1	LCS	0.051903	0.050000	mg/L	104		85 - 115		
QC Batch ID: B012009										
Total Recoverable Arsenic	B012009-BS1	LCS	102.56	100.00	ug/L	103		85 - 115		
Total Recoverable Chromium	B012009-BS1	LCS	41.624	40.000	ug/L	104		85 - 115		
Total Recoverable Lead	B012009-BS1	LCS	102.31	100.00	ug/L	102		85 - 115		
QC Batch ID: B012528										
Total Recoverable Iron	B012528-BS1	LCS	1120.5	1000.0	ug/L	112		85 - 115		

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Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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	
QC Batch ID: B011474		Used client sample: Y - Description: MW-4-4, 04/19/2018 08:15								
Hexavalent Chromium	DUP	1812739-03	ND	ND		mg/L			10	
	MS	1812739-03	ND	0.054275	0.052632	mg/L		103		85 - 115
	MSD	1812739-03	ND	0.054244	0.052632	mg/L	0.1	103	10	85 - 115
QC Batch ID: B012009		Used client sample: Y - Description: MW-4-5, 04/19/2018 07:45								
Total Recoverable Arsenic	DUP	1812739-02	ND	0.80400		ug/L			20	J
	MS	1812739-02	ND	103.32	100.00	ug/L		103		70 - 130
	MSD	1812739-02	ND	103.59	100.00	ug/L	0.3	104	20	70 - 130
Total Recoverable Chromium	DUP	1812739-02	0.67100	0.60400		ug/L	10.5		20	J
	MS	1812739-02	0.67100	40.836	40.000	ug/L		100		70 - 130
	MSD	1812739-02	0.67100	40.747	40.000	ug/L	0.2	100	20	70 - 130
Total Recoverable Lead	DUP	1812739-02	ND	ND		ug/L			20	
	MS	1812739-02	ND	99.275	100.00	ug/L		99.3		70 - 130
	MSD	1812739-02	ND	97.023	100.00	ug/L	2.3	97.0	20	70 - 130
QC Batch ID: B012528		Used client sample: Y - Description: MW-4-4, 04/19/2018 08:15								
Total Recoverable Iron	DUP	1812739-03	3374.9	3422.7		ug/L	1.4		20	
	MS	1812739-03	3374.9	4459.8	1000.0	ug/L		108		75 - 125
	MSD	1812739-03	3374.9	4460.5	1000.0	ug/L	0.0	109	20	75 - 125

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Certificate of Analysis

FINAL REPORT

Work Orders: 8D24008

Project: 1812739

Attn: BC Laboratories
Client: BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308

Report Date: 5/08/2018
Received Date: 4/24/2018
Turnaround Time: Normal
Phones: (661) 327-4911
Fax: (661) 327-1918
P.O. #:
Billing Code:

Dear BC Laboratories,

Enclosed are the results of analyses for samples received 4/24/18 with the Chain-of-Custody document. The samples were received in good condition, at 4.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: 1812739-06	Sampled: 04/19/18 11:45 by Client					
8D24008-01 (Water)						
Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 1625M N-Nitrosodimethylamine	Batch ID: W&D1522 Instr: GCMS09 ND	Prepared: 04/25/18 12:00 2.0	ng/l	1	Analyst: mld 04/28/18 04:28	

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All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Quality Control Results

Nitrosamines by isotopic dilution GC/MS CI Mode

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W8D1522 - EPA 3535/SPE										
Blank (W8D1522-BLK1)				Prepared: 04/25/18 Analyzed: 04/28/18						
N-Nitrosodimethylamine	ND	2.0	ng/l							
LCS (W8D1522-B51)				Prepared: 04/25/18 Analyzed: 04/30/18						
N-Nitrosodimethylamine	2.25	2.0	ng/l	3.00		75	50-150			
LCS Dup (W8D1522-B5D1)				Prepared: 04/25/18 Analyzed: 04/28/18						
N-Nitrosodimethylamine	2.25	2.0	ng/l	3.00		75	50-150	0.04	50	

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WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Notes and Definitions

Item	Definition
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
 An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
 All results are expressed on wet weight basis unless otherwise specified.
 All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Regina Giancola
Project Manager



DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 8:54
Project: JPL- GW Monitoring Wells
Project Number: 2nd Qtr 2018
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.
- S05 The sample holding time was exceeded.

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Date of Report: 05/24/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 2Q18

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1812884

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/20/2018. 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



Required Fields

Report To: Tidelwater, Inc.
 Client: Tidelwater, Inc.
 Attn: David Corner
 Street Address: 3761 Attucks Drive
 City: Powell state: OH Zip: 43065
 Phone: 626 298 - 5715 Fax: 614 792 - 2897
 Email Address: david.corner@tidelwater.com
 Submission #: 18-12884

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech
 Turn In House

Analysis Requested

Orthophosphate 365.1	
1,4 Dioxane 8270S/M	
NDMA 1625M	
CO3, HCO3, Alk, TDS, pH	X
Cl, NO3, NO2, SO4, Pech.	X
Hexavalent Cr6 -7196 (mg/L)	X
Na, Fe	X
TRM: Cr, Pb, As, Ca, Mg, K	X
VOCs EPA 524.2	X

Matrix*

Sample #	Sample Description	Date	Time	Matrix*
-1	TR-3-042018	04/24/18	0700	GW
-2	MW-19-5		0720	GW
-3	MW-19-4		0745	GW
-4	MW-19-3		0815	GW
-5	MW-19-2		0900	GW
-6	MW-19-1		1030	GW
-7	ER-3-042018		1100	GW
-8	MW-19-3		1125	GW
-9	MW-19-2		1150	GW
-10	MW-19-1		1215	GW
-11	MW-21-5		1335	GW

Notes

SHIP BY DISTRIBUTION
 Level IV
 SHIP HOLDING TIME
 DO Cl2 BOD MBAS COT

Billing

Client: Tidelwater
 Attn: David Corner
 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 = 70

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

Global ID: _____

Cost Center:

1. Relinquished By: _____ Date: 09/20/18 Time: 1:50
 2. Relinquished By: _____ Date: 4-20-18 Time: 00:40
 3. Relinquished 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)

MBU Site: MBU Site CVX RCRA Geotracker 5 File (CA Decruti) Geotracker 2 File Other (Specify)

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

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Chain of Custody Form

BC Laboratories, Inc.

Page 2 of 2

Report to: Tidewater, Inc.
 Client: Tidewater, Inc.
 Attn: David Corner
 Street Address: 3761 Attucks Drive
 City: Powell State: OH Zip: 43065
 Phone: 626 1298 - 5715 Fax: 614 792 - 2897
 Email Address: david.corner@tidwater.com
 Submission #: 18-12884

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech
 Think Hoas

Analysis Requested:
 VOCs EPA 524.2
 TRM: Cr, Pb, As, Ca, Mg, K
 Na, Fe
 Hexavalent Cr6 - 7196 (mg/L)
 Cl, NO3, NO2, SO4, Perch.
 Orthophosphate 365.1
 1,4 Dioxane 8270SIM
 NDMA 1625M

Sample #	Sample Description	Date	Time	Matrix*
-12	MW-21-3	04/20/18	1420	GW
-13	OP-2-2Q18		1430	GW
-14	MW-21-2		1506	GW
-15	MW-21-4		1400	GW

Notes: Level IV

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. Relinquished By: [Signature] Date: 4/20/18 Time: 1530
 2. Relinquished By: [Signature] Date: 4/20/18 Time: 2010
 3. Relinquished By: [Signature] Date: 4/20/18 Time: 2010

Global ID: [Signature] Date: 4/20/18 Time: 1530

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 #: 18-12884

SHIPPING INFORMATION: Fed Ex, UPS, Ontrac, Hand Delivery, Other. SHIPPING CONTAINER: Ice Chest, None, Box, Other. 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: 0.95. Container: VOA. Thermometer ID: 208. Date/Time: 4/20/15. Temperature: (A) 0.6 °C / (C) 0.3 °C. Analyst Init: [Signature]

Table with columns for SAMPLE CONTAINERS and SAMPLE NUMBERS (1-10). Rows include various sample types like QT PE UNPRES, INORGANIC CHEMICAL METALS, etc. with handwritten data entries.

Comments: [Signature] Date/Time: 4/20 2115 Rev 21 05/23/2016



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 2

Submission #: 1812884

SHIPPING INFORMATION: Fed Ex, UPS, Ontrac, Hand Delivery, 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 checked.

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

COC Received: YES. Emissivity: 0.98. Container: PE. Thermometer ID: 208. Date/Time: 4/20/15. Analyst Init: GSI

SAMPLE CONTAINERS and SAMPLE NUMBERS

Table with columns for container types (e.g., QT PE UNPRES, INORGANIC CHEMICAL METALS) and sample numbers (1-10). Includes handwritten entries like 'E', 'AOL', 'RPL', 'BOL', 'RBL'.

Comments: Sample Numbering Completed By: GSI Date/Time: 4/20/15 Rev 21 05/23/2016



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812884-01	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: TB-3-042018 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-3-042018 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-02	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-19-5 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 07:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-03	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-19-4 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 07:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812884-04	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-19-3 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 08:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-05	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-19-2 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 09:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-06	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-19-1 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 10:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-19-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812884-07	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: EB-3-042018 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 11:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-3-042018 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-08	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-14-3 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 11:25 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-09	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-14-2 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 11:50 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812884-10	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-14-1 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 12:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-14-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-11	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-21-5 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 13:35 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1812884-12	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-21-3 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 14:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1812884-13	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: DUP-2-2Q18 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 14:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-2-2Q18 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

1812884-14	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-21-2 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 15:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1812884-15	COC Number: --- Project Number: JPL GW Monitoring Sampling Location: --- Sampling Point: MW-21-4 Sampled By: Think Hoang of BTST	Receive Date: 04/20/2018 20:40 Sampling Date: 04/20/2018 14:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-21-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-01	Client Sample Name: JPL GW Monitoring, TB-3-042018, 4/20/2018 7:00:00AM, Tinh Hoang
----------------------------------	--

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-01	Client Sample Name: JPL GW Monitoring, TB-3-042018, 4/20/2018 7:00:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-01	Client Sample Name: JPL GW Monitoring, TB-3-042018, 4/20/2018 7:00:00AM, Tinh Hoang
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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)	98.0	%	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	04/26/18 13:50	04/27/18 10:14	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-01	Client Sample Name: JPL GW Monitoring, TB-3-042018, 4/20/2018 7:00:00AM, Tinh Hoang
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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	04/26/18 13:50	04/27/18 10:14	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-02	Client Sample Name: JPL GW Monitoring, MW-19-5, 4/20/2018 7:20:00AM, Thinh Hoang
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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	2.4	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-02	Client Sample Name: JPL GW Monitoring, MW-19-5, 4/20/2018 7:20:00AM, Thinh Hoang
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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	0.30	ug/L	0.50	0.23	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-02	Client Sample Name: JPL GW Monitoring, MW-19-5, 4/20/2018 7:20:00AM, Thinh Hoang
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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)	96.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.8	%	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	04/26/18 13:50	04/27/18 10:37	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-02	Client Sample Name: JPL GW Monitoring, MW-19-5, 4/20/2018 7:20:00AM, Thinh Hoang
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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	04/26/18 13:50	04/27/18 10:37	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-02		Client Sample Name: JPL GW Monitoring, MW-19-5, 4/20/2018 7:20:00AM, Thinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	59	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	25	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	31	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.4	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	180	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	150	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	51	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	5.2	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	70	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.09	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	400	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	2.5	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18 17:51		JRG	PE-OP2	1	B012659
2	SM-2320B	05/01/18 08:00	05/01/18 12:47		MEV	MET-1	1	B010243
3	EPA-300.0	04/21/18 01:00	04/21/18 02:40		EMW	IC8	1	B011530
4	EPA-150.1	05/01/18 08:00	05/01/18 12:47		MEV	MET-1	1	B010243
5	EPA-160.1	04/26/18 14:30	04/26/18 14:30		CAD	MANUAL	2	B011976
6	EPA-353.2	04/20/18 21:02	04/21/18 00:17		SAV	KONE-1	1	B011621
7	EPA-314.0	05/08/18 10:00	05/08/18 12:00		EMW	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-02	Client Sample Name: JPL GW Monitoring, MW-19-5, 4/20/2018 7:20:00AM, Thinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0019	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	1.7	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.4	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	240	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:47	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 10:49	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 17:51	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-03	Client Sample Name: JPL GW Monitoring, MW-19-4, 4/20/2018 7:45:00AM, Thinh Hoang
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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	0.54	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-03	Client Sample Name: JPL GW Monitoring, MW-19-4, 4/20/2018 7:45:00AM, Thinh Hoang
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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	0.37	ug/L	0.50	0.23	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-03	Client Sample Name: JPL GW Monitoring, MW-19-4, 4/20/2018 7:45:00AM, Thinh Hoang
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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)	99.0	%	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	04/26/18 13:50	04/27/18 11:00	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-03	Client Sample Name: JPL GW Monitoring, MW-19-4, 4/20/2018 7:45:00AM, Thinh Hoang
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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	04/26/18 13:50	04/27/18 11:00	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the analysis runs.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-03	Client Sample Name: JPL GW Monitoring, MW-19-4, 4/20/2018 7:45:00AM, Thinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0018	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.8	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	68	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:47	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:24	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 17:35	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-04		Client Sample Name: JPL GW Monitoring, MW-19-3, 4/20/2018 8:15:00AM, Thinh Hoang						
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	1.4	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-04	Client Sample Name: JPL GW Monitoring, MW-19-3, 4/20/2018 8:15:00AM, Thinh Hoang
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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	0.44	ug/L	0.50	0.23	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-04	Client Sample Name: JPL GW Monitoring, MW-19-3, 4/20/2018 8:15:00AM, Thinh Hoang
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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)	99.2	%	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	04/26/18 13:50	04/27/18 16:43	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-04	Client Sample Name: JPL GW Monitoring, MW-19-3, 4/20/2018 8:15:00AM, Thinh Hoang
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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	04/26/18 13:50	04/27/18 16:43	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-04		Client Sample Name: JPL GW Monitoring, MW-19-3, 4/20/2018 8:15:00AM, Thinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	84	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	30	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	30	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.6	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	220	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	180	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	69	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	10	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	85	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.64	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	510	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	4.7	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	
1	EPA-200.7	05/03/18 08:00	05/03/18	18:01	JRG	PE-OP2	1	B012659	
2	SM-2320B	05/01/18 08:00	05/01/18	13:00	MEV	MET-1	1	B010243	
3	EPA-300.0	04/21/18 01:00	04/21/18	03:21	EMW	IC8	1	B011530	
4	EPA-150.1	05/01/18 08:00	05/01/18	13:00	MEV	MET-1	1	B010243	
5	EPA-160.1	04/26/18 14:30	04/26/18	14:30	CAD	MANUAL	3.333	B011976	
6	EPA-353.2	04/20/18 21:02	04/21/18	00:17	SAV	KONE-1	1	B011621	
7	EPA-314.0	05/08/18 10:00	05/08/18	13:47	EMW	IC6	1	B013219	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-04	Client Sample Name: JPL GW Monitoring, MW-19-3, 4/20/2018 8:15:00AM, Thinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0020	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	2.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	160	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:47	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:27	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:01	JRG	PE-OP2	1	B012659

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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-05	Client Sample Name: JPL GW Monitoring, MW-19-2, 4/20/2018 9:00:00AM, Thinh Hoang
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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	2.2	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	0.35	ug/L	0.50	0.27	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-05	Client Sample Name: JPL GW Monitoring, MW-19-2, 4/20/2018 9:00:00AM, Thinh Hoang
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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	0.16	ug/L	0.50	0.14	EPA-524.2	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
Tetrachloroethene	1.8	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	0.89	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-05	Client Sample Name: JPL GW Monitoring, MW-19-2, 4/20/2018 9:00:00AM, Thinh Hoang
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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)	97.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.2	%	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	04/26/18 13:50	04/27/18 17:06	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-05	Client Sample Name: JPL GW Monitoring, MW-19-2, 4/20/2018 9:00:00AM, Thinh Hoang
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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	04/26/18 13:50	04/27/18 17:06	MGC	MS-V5	1	B012018

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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-05		Client Sample Name: JPL GW Monitoring, MW-19-2, 4/20/2018 9:00:00AM, Thinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Total Recoverable Calcium	140	mg/L	0.10	0.014	EPA-200.7	ND		1	
Total Recoverable Magnesium	50	mg/L	0.050	0.019	EPA-200.7	ND		1	
Total Recoverable Sodium	39	mg/L	0.50	0.051	EPA-200.7	ND		1	
Total Recoverable Potassium	3.3	mg/L	1.0	0.10	EPA-200.7	ND		1	
Bicarbonate	280	mg/L	10	10	SM-2320B	ND	A07	2	
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2	
Total Alkalinity as CaCO3	230	mg/L	8.2	8.2	SM-2320B	ND	A07	2	
Chloride	130	mg/L	0.50	0.077	EPA-300.0	ND		3	
Nitrate as N	11	mg/L	0.10	0.021	EPA-300.0	ND		3	
Sulfate	180	mg/L	1.0	0.13	EPA-300.0	ND		3	
pH	7.68	pH Units	0.05	0.05	EPA-150.1		S05	4	
Total Dissolved Solids @ 180 C	860	mg/L	50	50	EPA-160.1	ND		5	
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6	
Perchlorate	3.0	ug/L	4.0	0.58	EPA-314.0	ND	J	7	

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18	18:06	JRG	PE-OP2	1	B012659
2	SM-2320B	05/01/18 08:00	05/01/18	13:06	MEV	MET-1	2	B010243
3	EPA-300.0	04/21/18 01:00	04/21/18	03:42	EMW	IC8	1	B011530
4	EPA-150.1	05/01/18 08:00	05/01/18	13:06	MEV	MET-1	1	B010243
5	EPA-160.1	04/26/18 14:30	04/26/18	14:30	CAD	MANUAL	5	B011976
6	EPA-353.2	04/20/18 21:02	04/21/18	00:17	SAV	KONE-1	1	B011621
7	EPA-314.0	05/08/18 10:00	05/08/18	14:03	EMW	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-05	Client Sample Name: JPL GW Monitoring, MW-19-2, 4/20/2018 9:00:00AM, Thinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	2.0	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	370	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:47	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:31	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:06	JRG	PE-OP2	1	B012659

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-06	Client Sample Name: JPL GW Monitoring, MW-19-1, 4/20/2018 10:30:00AM, Tinh Hoang
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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	0.63	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-06 Client Sample Name: JPL GW Monitoring, MW-19-1, 4/20/2018 10:30:00AM, Tinh Hoang

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-06	Client Sample Name: JPL GW Monitoring, MW-19-1, 4/20/2018 10:30:00AM, Tinh Hoang
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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)	99.8	%	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	04/26/18 13:50	04/27/18 17:28	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-06	Client Sample Name: JPL GW Monitoring, MW-19-1, 4/20/2018 10:30:00AM, Tinh Hoang
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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	04/26/18 13:50	04/27/18 17:28	MGC	MS-V5	1	B012018

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-06		Client Sample Name: JPL GW Monitoring, MW-19-1, 4/20/2018 10:30:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	67	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	27	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	27	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	4.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	290	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	240	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	21	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.98	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	54	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.05	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	390	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18	18:09	JRG	PE-OP2	1	B012659
2	SM-2320B	05/01/18 08:00	05/01/18	13:13	MEV	MET-1	1	B010243
3	EPA-300.0	04/21/18 01:00	04/21/18	04:02	EMW	IC8	1	B011530
4	EPA-150.1	05/01/18 08:00	05/01/18	13:13	MEV	MET-1	1	B010243
5	EPA-160.1	04/26/18 14:30	04/26/18	14:30	CAD	MANUAL	2	B011976
6	EPA-353.2	04/20/18 21:02	04/21/18	00:41	SAV	KONE-1	1	B011621
7	EPA-314.0	05/08/18 10:00	05/08/18	14:18	EMW	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-06	Client Sample Name: JPL GW Monitoring, MW-19-1, 4/20/2018 10:30:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.72	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	210	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:47	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:34	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:09	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-07	Client Sample Name: JPL GW Monitoring, EB-3-042018, 4/20/2018 11:00:00AM, Tinh Hoang
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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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-07	Client Sample Name: JPL GW Monitoring, EB-3-042018, 4/20/2018 11:00:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-07	Client Sample Name: JPL GW Monitoring, EB-3-042018, 4/20/2018 11:00:00AM, Tinh Hoang
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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)	98.2	%	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	04/26/18 13:50	04/27/18 17:51	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-07	Client Sample Name: JPL GW Monitoring, EB-3-042018, 4/20/2018 11:00:00AM, Tinh Hoang
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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	04/26/18 13:50	04/27/18 17:51	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 2 columns: BCL Sample ID (1812884-07) and Client Sample Name (JPL GW Monitoring, EB-3-042018, 4/20/2018 11:00:00AM, Thanh Hoang)

Main data table with columns: Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main data table.

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-07	Client Sample Name: JPL GW Monitoring, EB-3-042018, 4/20/2018 11:00:00AM, Thanh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.58	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:53	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:37	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:12	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-08	Client Sample Name: JPL GW Monitoring, MW-14-3, 4/20/2018 11:25:00AM, Tinh Hoang
----------------------------------	---

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	0.48	ug/L	0.50	0.14	EPA-524.2	ND	J	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	0.37	ug/L	0.50	0.15	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-08	Client Sample Name: JPL GW Monitoring, MW-14-3, 4/20/2018 11:25:00AM, Tinh Hoang
----------------------------------	---

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	0.57	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	0.96	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-08	Client Sample Name: JPL GW Monitoring, MW-14-3, 4/20/2018 11:25:00AM, Tinh Hoang
----------------------------------	---

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)	99.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.3	%	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	04/26/18 13:50	04/27/18 18:14	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-08	Client Sample Name: JPL GW Monitoring, MW-14-3, 4/20/2018 11:25:00AM, Tinh Hoang
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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	04/26/18 13:50	04/27/18 18:14	MGC	MS-V5	1	B012018

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the water analysis results.

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-08	Client Sample Name: JPL GW Monitoring, MW-14-3, 4/20/2018 11:25:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.71	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	300	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:53	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:41	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:14	JRG	PE-OP2	1	B012659

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-09	Client Sample Name: JPL GW Monitoring, MW-14-2, 4/20/2018 11:50:00AM, Tinh Hoang
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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	0.43	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-09	Client Sample Name: JPL GW Monitoring, MW-14-2, 4/20/2018 11:50:00AM, Tinh Hoang
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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	0.47	ug/L	0.50	0.23	EPA-524.2	ND	J	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	1.2	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-09	Client Sample Name: JPL GW Monitoring, MW-14-2, 4/20/2018 11:50:00AM, Tinh Hoang
----------------------------------	---

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)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.1	%	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	04/26/18 13:50	04/27/18 18:37	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-09	Client Sample Name: JPL GW Monitoring, MW-14-2, 4/20/2018 11:50:00AM, Tinh Hoang
----------------------------------	---

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	04/26/18 13:50	04/27/18 18:37	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Lists various chemical constituents like Calcium, Magnesium, Sodium, Potassium, Bicarbonate, etc.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Provides details for each of the 7 runs.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-09	Client Sample Name: JPL GW Monitoring, MW-14-2, 4/20/2018 11:50:00AM, Tinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00091	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	200	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 23:20	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:44	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:17	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-10	Client Sample Name: JPL GW Monitoring, MW-14-1, 4/20/2018 12:15:00PM, Tinh Hoang
----------------------------------	---

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	0.29	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-10		Client Sample Name: JPL GW Monitoring, MW-14-1, 4/20/2018 12:15:00PM, Tinh Hoang						
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	1.2	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-10	Client Sample Name: JPL GW Monitoring, MW-14-1, 4/20/2018 12:15:00PM, Tinh Hoang
----------------------------------	---

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)	98.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	109	%	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	04/26/18 13:50	04/27/18 19:00	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-10	Client Sample Name: JPL GW Monitoring, MW-14-1, 4/20/2018 12:15:00PM, Tinh Hoang
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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	04/26/18 13:50	04/27/18 19:00	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-10		Client Sample Name: JPL GW Monitoring, MW-14-1, 4/20/2018 12:15:00PM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Total Recoverable Calcium	150	mg/L	0.10	0.014	EPA-200.7	ND		1	
Total Recoverable Magnesium	50	mg/L	0.050	0.019	EPA-200.7	ND		1	
Total Recoverable Sodium	45	mg/L	0.50	0.051	EPA-200.7	ND		1	
Total Recoverable Potassium	2.6	mg/L	1.0	0.10	EPA-200.7	ND		1	
Bicarbonate	260	mg/L	10	10	SM-2320B	ND	A07	2	
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2	
Total Alkalinity as CaCO3	210	mg/L	8.2	8.2	SM-2320B	ND	A07	2	
Chloride	140	mg/L	0.50	0.077	EPA-300.0	ND		3	
Nitrate as N	14	mg/L	0.10	0.021	EPA-300.0	ND		3	
Sulfate	220	mg/L	1.0	0.13	EPA-300.0	ND		3	
pH	7.64	pH Units	0.05	0.05	EPA-150.1		S05	4	
Total Dissolved Solids @ 180 C	900	mg/L	50	50	EPA-160.1	ND		5	
Nitrite as N	0.011	mg/L	0.050	0.010	EPA-353.2	ND	J	6	
Perchlorate	3.0	ug/L	4.0	0.58	EPA-314.0	ND	J	7	

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18	18:20	JRG	PE-OP2	1	B012659
2	SM-2320B	05/01/18 08:00	05/01/18	13:53	MEV	MET-1	2	B010244
3	EPA-300.0	04/21/18 01:00	04/21/18	07:07	EMW	IC8	1	B011530
4	EPA-150.1	05/01/18 08:00	05/01/18	13:53	MEV	MET-1	1	B010244
5	EPA-160.1	04/26/18 14:30	04/26/18	14:30	CAD	MANUAL	5	B011976
6	EPA-353.2	04/20/18 21:02	04/21/18	00:22	SAV	KONE-1	1	B011621
7	EPA-314.0	05/08/18 10:00	05/08/18	15:19	EMW	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-10	Client Sample Name: JPL GW Monitoring, MW-14-1, 4/20/2018 12:15:00PM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0018	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	0.99	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.3	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	98	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:53	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:48	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:20	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-11	Client Sample Name: JPL GW Monitoring, MW-21-5, 4/20/2018 1:35:00PM, Thinh Hoang
----------------------------------	---

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	5.1	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-11	Client Sample Name: JPL GW Monitoring, MW-21-5, 4/20/2018 1:35:00PM, Thinh Hoang
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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	0.77	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-11	Client Sample Name: JPL GW Monitoring, MW-21-5, 4/20/2018 1:35:00PM, Thinh Hoang
----------------------------------	---

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)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	108	%	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	04/26/18 13:50	04/27/18 19:23	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-11	Client Sample Name: JPL GW Monitoring, MW-21-5, 4/20/2018 1:35:00PM, Thinh Hoang
----------------------------------	---

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	04/26/18 13:50	04/27/18 19:23	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Qualls, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the analysis runs.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-11	Client Sample Name: JPL GW Monitoring, MW-21-5, 4/20/2018 1:35:00PM, Thinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0020	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	84	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:53	SAV	KONE-1	1	B011624
2	EPA-200.8	04/27/18 08:30	04/30/18 11:51	MH1	PE-EL2	1	B012122
3	EPA-200.7	05/03/18 08:00	05/03/18 18:22	JRG	PE-OP2	1	B012659

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-12	Client Sample Name: JPL GW Monitoring, MW-21-3, 4/20/2018 2:20:00PM, Thinh Hoang
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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	0.48	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-12	Client Sample Name: JPL GW Monitoring, MW-21-3, 4/20/2018 2:20:00PM, Thinh Hoang
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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	1.1	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	0.89	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-12	Client Sample Name: JPL GW Monitoring, MW-21-3, 4/20/2018 2:20:00PM, Thinh Hoang
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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)	98.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.0	%	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	04/26/18 13:50	04/27/18 19:46	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-12	Client Sample Name: JPL GW Monitoring, MW-21-3, 4/20/2018 2:20:00PM, Thinh Hoang
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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	04/26/18 13:50	04/27/18 19:46	MGC	MS-V5	1	B012018

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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-12		Client Sample Name: JPL GW Monitoring, MW-21-3, 4/20/2018 2:20:00PM, Thinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	150	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	45	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	57	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.6	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	370	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	300	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	130	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	10	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	160	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.95	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	820	mg/L	50	50	EPA-160.1	ND		5
Nitrite as N	0.018	mg/L	0.050	0.010	EPA-353.2	ND	J	6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18	16:07	JRG	PE-OP2	1	B012660
2	SM-2320B	05/01/18 08:00	05/01/18	14:09	MEV	MET-1	2	B010244
3	EPA-300.0	04/21/18 01:30	04/21/18	08:29	EMW	IC8	1	B011531
4	EPA-150.1	05/01/18 08:00	05/01/18	14:09	MEV	MET-1	1	B010244
5	EPA-160.1	04/26/18 14:30	04/26/18	14:30	CAD	MANUAL	5	B011977
6	EPA-353.2	04/20/18 21:02	04/21/18	00:26	SAV	KONE-1	1	B011623
7	EPA-314.0	05/08/18 10:00	05/08/18	15:50	EMW	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-12	Client Sample Name: JPL GW Monitoring, MW-21-3, 4/20/2018 2:20:00PM, Thinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.61	ug/L	3.0	0.50	EPA-200.8	1.8	J	2
Total Recoverable Iron	130	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:32	SAV	KONE-1	1	B011625
2	EPA-200.8	04/30/18 08:30	05/02/18 06:50	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/03/18 08:00	05/03/18 16:07	JRG	PE-OP2	1	B012660

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-13	Client Sample Name: JPL GW Monitoring, DUP-2-2Q18, 4/20/2018 2:30:00PM, Tinh Hoang
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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	0.54	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1812884-13	Client Sample Name:	JPL GW Monitoring, DUP-2-2Q18, 4/20/2018 2:30:00PM, Tinh Hoang						
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	1.4	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	1.1	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-13	Client Sample Name: JPL GW Monitoring, DUP-2-2Q18, 4/20/2018 2:30:00PM, Tinh Hoang
----------------------------------	---

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)	97.3	%	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	04/26/18 13:50	04/27/18 20:10	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-13	Client Sample Name: JPL GW Monitoring, DUP-2-2Q18, 4/20/2018 2:30:00PM, Tinh Hoang
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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	04/26/18 13:50	04/27/18 20:10	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-13		Client Sample Name: JPL GW Monitoring, DUP-2-2Q18, 4/20/2018 2:30:00PM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	140	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	45	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	55	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	360	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	300	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	130	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	10	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	160	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.80	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	820	mg/L	50	50	EPA-160.1	ND		5
Nitrite as N	0.023	mg/L	0.050	0.010	EPA-353.2	ND	J	6
Perchlorate	3.8	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18 16:10		JRG	PE-OP2	1	B012660
2	SM-2320B	05/01/18 08:00	05/01/18 14:15		MEV	MET-1	2	B010244
3	EPA-300.0	04/21/18 01:30	04/21/18 08:50		EMW	IC8	1	B011531
4	EPA-150.1	05/01/18 08:00	05/01/18 14:15		MEV	MET-1	1	B010244
5	EPA-160.1	04/26/18 14:30	04/26/18 14:30		CAD	MANUAL	5	B011977
6	EPA-353.2	04/20/18 21:02	04/21/18 00:26		SAV	KONE-1	1	B011623
7	EPA-314.0	05/08/18 10:00	05/08/18 16:05		EMW	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-13	Client Sample Name: JPL GW Monitoring, DUP-2-2Q18, 4/20/2018 2:30:00PM, Tinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	1.8		2
Total Recoverable Iron	130	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:32	SAV	KONE-1	1	B011625
2	EPA-200.8	04/30/18 08:30	05/02/18 07:11	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/03/18 08:00	05/03/18 16:10	JRG	PE-OP2	1	B012660

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-14	Client Sample Name: JPL GW Monitoring, MW-21-2, 4/20/2018 3:00:00PM, Thinh Hoang
----------------------------------	---

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	0.26	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-14	Client Sample Name: JPL GW Monitoring, MW-21-2, 4/20/2018 3:00:00PM, Thinh Hoang
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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	0.51	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	0.22	ug/L	0.50	0.19	EPA-524.2	ND	J	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-14	Client Sample Name: JPL GW Monitoring, MW-21-2, 4/20/2018 3:00:00PM, Thinh Hoang
----------------------------------	---

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)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	107	%	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	04/26/18 13:50	04/27/18 20:33	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-14	Client Sample Name: JPL GW Monitoring, MW-21-2, 4/20/2018 3:00:00PM, Thinh Hoang
----------------------------------	---

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	04/26/18 13:50	04/27/18 20:33	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-14	Client Sample Name: JPL GW Monitoring, MW-21-2, 4/20/2018 3:00:00PM, Thinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.66	ug/L	3.0	0.50	EPA-200.8	1.8	J	2
Total Recoverable Iron	79	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:30	SAV	KONE-1	1	B011625
2	EPA-200.8	04/30/18 08:30	05/02/18 07:23	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/03/18 08:00	05/03/18 16:13	JRG	PE-OP2	1	B012660

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-15	Client Sample Name: JPL GW Monitoring, MW-21-4, 4/20/2018 2:00:00PM, Thinh Hoang
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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	5.2	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-15	Client Sample Name: JPL GW Monitoring, MW-21-4, 4/20/2018 2:00:00PM, Thinh Hoang
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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	0.67	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: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1812884-15	Client Sample Name: JPL GW Monitoring, MW-21-4, 4/20/2018 2:00:00PM, Thinh Hoang
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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)	99.3	%	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	04/26/18 13:50	04/27/18 20:56	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1812884-15	Client Sample Name: JPL GW Monitoring, MW-21-4, 4/20/2018 2:00:00PM, Thinh Hoang
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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	04/26/18 13:50	04/27/18 20:56	MGC	MS-V5	1	B012018

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1812884-15		Client Sample Name: JPL GW Monitoring, MW-21-4, 4/20/2018 2:00:00PM, Thinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	92	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	28	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	31	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	210	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	170	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	83	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	7.1	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	130	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.89	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	580	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	2.6	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/03/18 08:00	05/03/18 16:15		JRG	PE-OP2	1	B012660
2	SM-2320B	05/01/18 08:00	05/01/18 14:25		MEV	MET-1	1	B010244
3	EPA-300.0	04/21/18 01:30	04/21/18 11:13		EMW	IC8	1	B011531
4	EPA-150.1	05/01/18 08:00	05/01/18 14:25		MEV	MET-1	1	B010244
5	EPA-160.1	04/26/18 14:30	04/26/18 14:30		CAD	MANUAL	3.333	B011977
6	EPA-353.2	04/20/18 21:02	04/21/18 00:26		SAV	KONE-1	1	B011623
7	EPA-314.0	05/08/18 10:00	05/08/18 17:07		SAV	IC6	1	B013219

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1812884-15	Client Sample Name: JPL GW Monitoring, MW-21-4, 4/20/2018 2:00:00PM, Thinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0013	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.7	ug/L	3.0	0.50	EPA-200.8	1.8	J	2
Total Recoverable Iron	100	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.24	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/20/18 22:23	04/20/18 22:32	SAV	KONE-1	1	B011625
2	EPA-200.8	04/30/18 08:30	05/02/18 07:26	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/03/18 08:00	05/03/18 16:15	JRG	PE-OP2	1	B012660

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012018						
Benzene	B012018-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012018-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012018-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012018-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012018-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012018-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012018-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012018-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012018-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012018-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012018-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012018-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012018-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012018-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012018-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012018-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012018-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012018-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012018-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012018-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012018-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012018-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012018-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012018-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012018-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012018-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012018-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012018-BLK1	ND	ug/L	0.50	0.14	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012018						
trans-1,3-Dichloropropene	B012018-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012018-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012018-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012018-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012018-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012018-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012018-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012018-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012018-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012018-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012018-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012018-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012018-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012018-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012018-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012018-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012018-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012018-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012018-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012018-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012018-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012018-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012018-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012018-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012018-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012018-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012018-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012018-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012018-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012018-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012018-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012018-BLK1	ND	ug/L	4.0	1.3	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012018						
Ethyl t-butyl ether	B012018-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012018-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012018-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012018-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012018-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012018-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012018-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012018-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012018-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012018-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012018-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012018-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012018-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012018-BLK1	98.5	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012018-BLK1	98.6	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012018-BLK1	103	%	80 - 120 (LCL - UCL)		

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Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012018										
Benzene	B012018-BS1	LCS	25.690	25.000	ug/L	103		70 - 130		
Bromodichloromethane	B012018-BS1	LCS	26.920	25.000	ug/L	108		70 - 130		
Chlorobenzene	B012018-BS1	LCS	25.770	25.000	ug/L	103		70 - 130		
Chloroethane	B012018-BS1	LCS	21.100	25.000	ug/L	84.4		70 - 130		
1,4-Dichlorobenzene	B012018-BS1	LCS	25.870	25.000	ug/L	103		70 - 130		
1,1-Dichloroethane	B012018-BS1	LCS	26.090	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B012018-BS1	LCS	27.020	25.000	ug/L	108		70 - 130		
Toluene	B012018-BS1	LCS	25.430	25.000	ug/L	102		70 - 130		
Trichloroethene	B012018-BS1	LCS	28.290	25.000	ug/L	113		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012018-BS1	LCS	10.070	10.000	ug/L	101		75 - 125		
Toluene-d8 (Surrogate)	B012018-BS1	LCS	10.150	10.000	ug/L	102		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012018-BS1	LCS	10.310	10.000	ug/L	103		80 - 120		

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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012018		Used client sample: Y - Description: MW-24-2, 04/18/2018 12:30								
Benzene	MS	1812598-12	ND	25.390	25.000	ug/L		102		70 - 130
	MSD	1812598-12	ND	25.860	25.000	ug/L	1.8	103	20	70 - 130
Bromodichloromethane	MS	1812598-12	ND	25.440	25.000	ug/L		102		70 - 130
	MSD	1812598-12	ND	27.750	25.000	ug/L	8.7	111	20	70 - 130
Chlorobenzene	MS	1812598-12	ND	25.440	25.000	ug/L		102		70 - 130
	MSD	1812598-12	ND	26.780	25.000	ug/L	5.1	107	20	70 - 130
Chloroethane	MS	1812598-12	ND	21.330	25.000	ug/L		85.3		70 - 130
	MSD	1812598-12	ND	21.480	25.000	ug/L	0.7	85.9	20	70 - 130
1,4-Dichlorobenzene	MS	1812598-12	ND	25.310	25.000	ug/L		101		70 - 130
	MSD	1812598-12	ND	26.530	25.000	ug/L	4.7	106	20	70 - 130
1,1-Dichloroethane	MS	1812598-12	ND	25.820	25.000	ug/L		103		70 - 130
	MSD	1812598-12	ND	26.140	25.000	ug/L	1.2	105	20	70 - 130
1,1-Dichloroethene	MS	1812598-12	ND	26.960	25.000	ug/L		108		70 - 130
	MSD	1812598-12	ND	27.030	25.000	ug/L	0.3	108	20	70 - 130
Toluene	MS	1812598-12	ND	24.910	25.000	ug/L		99.6		70 - 130
	MSD	1812598-12	ND	25.470	25.000	ug/L	2.2	102	20	70 - 130
Trichloroethene	MS	1812598-12	ND	24.360	25.000	ug/L		97.4		70 - 130
	MSD	1812598-12	ND	25.340	25.000	ug/L	3.9	101	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1812598-12	ND	10.520	10.000	ug/L		105		75 - 125
	MSD	1812598-12	ND	9.9800	10.000	ug/L	5.3	99.8		75 - 125
Toluene-d8 (Surrogate)	MS	1812598-12	ND	9.7800	10.000	ug/L		97.8		80 - 120
	MSD	1812598-12	ND	10.000	10.000	ug/L	2.2	100		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1812598-12	ND	10.060	10.000	ug/L		101		80 - 120
	MSD	1812598-12	ND	10.480	10.000	ug/L	4.1	105		80 - 120

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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012018						
Chloroacetonitrile	B012018-BLK1	0	ug/L			
1-Chlorobutane	B012018-BLK1	0	ug/L			
1,1-Dichloropropanone	B012018-BLK1	0	ug/L			
Methyl acrylate	B012018-BLK1	0	ug/L			
Nitrobenzene	B012018-BLK1	0	ug/L			
2-Nitropropane	B012018-BLK1	0	ug/L			

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B010243						
Bicarbonate	B010243-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010243-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010243-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010244						
Bicarbonate	B010244-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010244-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010244-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B011530						
Chloride	B011530-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011530-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011530-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011531						
Chloride	B011531-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011531-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011531-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011621						
Nitrite as N	B011621-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B011623						
Nitrite as N	B011623-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B011976						
Total Dissolved Solids @ 180 C	B011976-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B011977						
Total Dissolved Solids @ 180 C	B011977-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012659						
Total Recoverable Calcium	B012659-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B012659-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012659-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B012659-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B012660						
Total Recoverable Calcium	B012660-BLK1	ND	mg/L	0.10	0.014	

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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012660						
Total Recoverable Magnesium	B012660-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012660-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B012660-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013219						
Perchlorate	B013219-BLK1	ND	ug/L	4.0	0.58	

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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B010243										
Total Alkalinity as CaCO3	B010243-BS3	LCS	101.62	100.00	mg/L	102		90 - 110		
pH	B010243-BS2	LCS	7.0400	7.0000	pH Units	101		95 - 105		
QC Batch ID: B010244										
Total Alkalinity as CaCO3	B010244-BS3	LCS	103.15	100.00	mg/L	103		90 - 110		
pH	B010244-BS2	LCS	7.0400	7.0000	pH Units	101		95 - 105		
QC Batch ID: B011530										
Chloride	B011530-BS1	LCS	49.865	50.000	mg/L	99.7		90 - 110		
Nitrate as N	B011530-BS1	LCS	4.9400	5.0000	mg/L	98.8		90 - 110		
Sulfate	B011530-BS1	LCS	100.48	100.00	mg/L	100		90 - 110		
QC Batch ID: B011531										
Chloride	B011531-BS1	LCS	50.075	50.000	mg/L	100		90 - 110		
Nitrate as N	B011531-BS1	LCS	4.9570	5.0000	mg/L	99.1		90 - 110		
Sulfate	B011531-BS1	LCS	100.51	100.00	mg/L	101		90 - 110		
QC Batch ID: B011621										
Nitrite as N	B011621-BS1	LCS	0.53387	0.50000	mg/L	107		90 - 110		
QC Batch ID: B011623										
Nitrite as N	B011623-BS1	LCS	0.52066	0.50000	mg/L	104		90 - 110		
QC Batch ID: B011976										
Total Dissolved Solids @ 180 C	B011976-BS1	LCS	590.00	586.00	mg/L	101		90 - 110		
QC Batch ID: B011977										
Total Dissolved Solids @ 180 C	B011977-BS1	LCS	575.00	586.00	mg/L	98.1		90 - 110		
QC Batch ID: B012659										
Total Recoverable Calcium	B012659-BS1	LCS	10.707	10.000	mg/L	107		85 - 115		
Total Recoverable Magnesium	B012659-BS1	LCS	10.793	10.000	mg/L	108		85 - 115		
Total Recoverable Sodium	B012659-BS1	LCS	10.219	10.000	mg/L	102		85 - 115		
Total Recoverable Potassium	B012659-BS1	LCS	10.043	10.000	mg/L	100		85 - 115		
QC Batch ID: B012660										
Total Recoverable Calcium	B012660-BS1	LCS	10.338	10.000	mg/L	103		85 - 115		
Total Recoverable Magnesium	B012660-BS1	LCS	10.492	10.000	mg/L	105		85 - 115		
Total Recoverable Sodium	B012660-BS1	LCS	9.9889	10.000	mg/L	99.9		85 - 115		
Total Recoverable Potassium	B012660-BS1	LCS	9.9509	10.000	mg/L	99.5		85 - 115		
QC Batch ID: B013219										

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Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B013219										
Perchlorate	B013219-BS1	LCS	9.1653	10.000	ug/L	91.7		85 - 115		

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Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 B010243, B010244, B011530, B011531, B011531, B011621, and B011623.

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Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Qualls. Includes QC batches B011623, B011976, B011977, B012659, B012660, and B013219.

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B011624						
Hexavalent Chromium	B011624-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B011625						
Hexavalent Chromium	B011625-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012122						
Total Recoverable Arsenic	B012122-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012122-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012122-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012262						
Total Recoverable Arsenic	B012262-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012262-BLK1	1.8330	ug/L	3.0	0.50	J
Total Recoverable Lead	B012262-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012659						
Total Recoverable Iron	B012659-BLK1	ND	ug/L	50	30	
QC Batch ID: B012660						
Total Recoverable Iron	B012660-BLK1	ND	ug/L	50	30	

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Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B011624										
Hexavalent Chromium	B011624-BS1	LCS	0.052133	0.050000	mg/L	104		85	115	
QC Batch ID: B011625										
Hexavalent Chromium	B011625-BS1	LCS	0.049968	0.050000	mg/L	99.9		85	115	
QC Batch ID: B012122										
Total Recoverable Arsenic	B012122-BS1	LCS	103.94	100.00	ug/L	104		85	115	
Total Recoverable Chromium	B012122-BS1	LCS	43.894	40.000	ug/L	110		85	115	
Total Recoverable Lead	B012122-BS1	LCS	110.28	100.00	ug/L	110		85	115	
QC Batch ID: B012262										
Total Recoverable Arsenic	B012262-BS1	LCS	101.26	100.00	ug/L	101		85	115	
Total Recoverable Chromium	B012262-BS1	LCS	42.685	40.000	ug/L	107		85	115	
Total Recoverable Lead	B012262-BS1	LCS	104.37	100.00	ug/L	104		85	115	
QC Batch ID: B012659										
Total Recoverable Iron	B012659-BS1	LCS	1147.4	1000.0	ug/L	115		85	115	
QC Batch ID: B012660										
Total Recoverable Iron	B012660-BS1	LCS	1101.7	1000.0	ug/L	110		85	115	

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Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

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 batches B011624, B011625, B012122, B012262, B012659, and B012660.

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Reported: 05/24/2018 9:59
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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.
- A03 The sample concentration is more than 4 times the spike level.
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- S05 The sample holding time was exceeded.

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Date of Report: 05/15/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 2Q18

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1813014

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/23/2018. 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

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Required Fields

Report To: Tidewater, Inc.
 Client: Tidewater
 Attn: David Conner
 Street Address: 3761 Altrucks Drive
 City: Powell State: OH Zip: 43065
 Phone: 626 1298 Fax: 614 792 2897
 Email: david.conner@tideh2o.net
 Submission #: 1813014

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech
 Josh Hayes

Analysis Requested

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-4-042318	04/23/18	0700	GW
-2	MW-3-5		0745	GW
-3	MW-3-4		0820	GW
-4	MW-3-3		0840	GW
-5	MW-3-2		0915	GW
-6	MW-3-1		1100	GW
-7	EB-4-042318		1115	GW
-8	SB-2-042318		1120	GW
-9	MW-25-5		1215	GW
-10	MW-25-3		1310	GW
-11	MW-25-4		1240	GW

Analysis Requested

Analysis	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
VOCs EPA 524.2	X	X	X	X	X	X	X	X	X	X	X
TRM: Cr, Pb, As, Ca, Mg, K	X	X	X	X	X	X	X	X	X	X	X
Na, Fe	X	X	X	X	X	X	X	X	X	X	X
Hexavalent Cr6 -7196 (mg/L)	X	X	X	X	X	X	X	X	X	X	X
Cl, NO3, NO2, SO4, Perch.	X	X	X	X	X	X	X	X	X	X	X
CO3, HCO3, Alk., TDS, pH	X	X	X	X	X	X	X	X	X	X	X
Orthophosphate 365.1	X	X	X	X	X	X	X	X	X	X	X
1,4 Dioxane 82705M	X	X	X	X	X	X	X	X	X	X	X
NDMA 1625M	X	X	X	X	X	X	X	X	X	X	X

Notes

CK BY: [Signature] DISTRIBUTION
 SLUB-OUT
 COLD HOLDING TIME
 (NO2) (NO3) OP SS
 DO C12 BOD MBAS COT

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
 CC (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 CC)

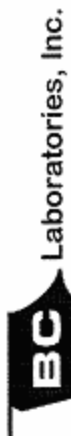
Cost Center:
 1. Relinquished By: [Signature] Date: 04/23/18 Time: 1530
 2. Relinquished By: [Signature] Date: 04-23-18 Time: 1845
 3. Relinquished By: [Signature] Date: 4/23/18 Time: 1845

Billing
 Client: Tidewater
 Attn: David Conner
 Address: 3761 Altrucks Drive
 City: Powell State: OH Zip: 43065
 Are there any tests with holding times?
 Yes NO
 *Standard Turnaround = 30

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

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Chain of Custody Form



***Required Fields**

Report for: Tidewater, Inc. Client: Tidewater Attn: David Connier Street Address: 3761 Allucks Drive City: Powell State: OH Zip: 43065 Phone: 626) 298 - 5715 Fax: 614) 792 - 2897 Email Address: david.connier@tideh2o.net Submission #: 18-13014		Project Description: JPL-GW Monitoring Project Code: 2Q18 Sampler(s): Blaine Tech		Billing Client: Tidewater Attn: David Connier Address: 3761 Allucks Drive City: Powell State: OH Zip: 43065 Are there any tests with holding times? less than or equal to 48 hours? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO *Standard Turnaround = 30	
Analysis Requested VOCs EPA 5242 TRM: Cr, Pb, As, Ca, Mg, K, Hexavalent Cr6 -7196 (mg/L) Cl, NO3, NO2, SO4, Perch, CO3, HCO3, Alk, TDS, pH Orthophosphate 365.1 1,4 Dioxane 82703M NDMA 1625M		Matrix* Date Time 04/23/18 1340 GW ✓ 04/23/18 1430 GW ✓		Notes MS/MSD	

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: 04/23/18 Time: 1530 2. Requisitioned by: [Signature] Date: 4-23-18 Time: 1845 3. Requisitioned by: [Signature] Date: 4/23/18 Time: 1845	
---	--	---	--

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 2

Submission #: 1813014

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: 0.94 Container: 16 Thermometer ID: 206 Date/Time: 4/23/18 1845

Temperature: (A) 1.4 °C / (C) 1.1 °C Analyst Init: [Signature]

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT FE UNPRES										
4oz / 8oz / 16oz FE UNPRES										
2oz Cr ⁶⁺										
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	A									
40ml VOA VIAL		ABC	ABC	ABC	ABC	ABC	ABC	ABC		
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 504/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 545										
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: Vexcep/that don't make for 3, 4, 5
 Sample Numbering Completed By: [Signature] Date/Time: 4/23 1950
 A = Actual / C = Corrected

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 2

Submission #: 1813014

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 Insect? Yes No Insect? Yes No 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: 205 Date/Time: 4/23/18 1845

Temperature: (A) 1.9 °C (C) 1.0 °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 ⁶⁺										
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										
PA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 506/508/509										
QT EPA 515.1/515.2										
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 IAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDIAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: _____

Sample Numbering Completed By: [Signature] Date/Time: 4/23/18

A = Actual / C = Corrected

Rev 21 05/23/2016 [S:\WP\Doc\Wet\Perfect\LAB_DOC\FORMS\CSANREC\rev 20]



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813014-01	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: TB-4-042318 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-4-042318 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813014-02	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-3-5 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 07:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1813014-03	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-3-4 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 08:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813014-04	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-3-3 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 08:40 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1813014-05	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-3-2 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 09:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-2 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

1813014-06	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-3-1 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 11:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-3-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	--	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813014-07	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: EB-4-042318 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 11:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-4-042318 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813014-08	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: SB-2-042318 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 11:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): SB-2-042318 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813014-09	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-25-5 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 12:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813014-10	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-25-3 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 13:10 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-3 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813014-11	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-25-4 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 12:40 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-25-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813014-12	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-25-2 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 13:40 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813014-13	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-25-1 Sampled By: Think Hoang of BAT	Receive Date: 04/23/2018 18:45 Sampling Date: 04/23/2018 14:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-01	Client Sample Name: JPL-GW, TB-4-042318, 4/23/2018 7:00:00AM, Thanh Hoang
----------------------------------	--

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-01	Client Sample Name: JPL-GW, TB-4-042318, 4/23/2018 7:00:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-01	Client Sample Name: JPL-GW, TB-4-042318, 4/23/2018 7:00:00AM, Thanh Hoang
----------------------------------	--

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)	98.5	%	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	04/27/18 07:00	04/27/18 21:19	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-01	Client Sample Name: JPL-GW, TB-4-042318, 4/23/2018 7:00:00AM, Tinh Hoang
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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	04/27/18 07:00	04/27/18 21:19	MGC	MS-V5	1	B012135

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-02	Client Sample Name: JPL-GW, MW-3-5, 4/23/2018 7:45:00AM, Tinh Hoang
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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	0.17	ug/L	0.50	0.15	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-02	Client Sample Name: JPL-GW, MW-3-5, 4/23/2018 7:45:00AM, Tinh Hoang
----------------------------------	--

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	0.25	ug/L	0.50	0.23	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-02	Client Sample Name: JPL-GW, MW-3-5, 4/23/2018 7:45:00AM, Thanh Hoang
----------------------------------	---

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)	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	04/27/18 07:00	04/27/18 21:42	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-02	Client Sample Name: JPL-GW, MW-3-5, 4/23/2018 7:45:00AM, Tinh Hoang
----------------------------------	--

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	04/27/18 07:00	04/27/18 21:42	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-02	Client Sample Name: JPL-GW, MW-3-5, 4/23/2018 7:45:00AM, Thanh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.9	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.1	ug/L	3.0	0.50	EPA-200.8	1.8	J	2
Total Recoverable Iron	1100	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:25	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	05/02/18 07:37	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/04/18 08:00	05/04/18 19:21	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-03	Client Sample Name: JPL-GW, MW-3-4, 4/23/2018 8:20:00AM, Tinh Hoang
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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	0.16	ug/L	0.50	0.15	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-03		Client Sample Name: JPL-GW, MW-3-4, 4/23/2018 8:20:00AM, Tinh Hoang						
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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-03	Client Sample Name: JPL-GW, MW-3-4, 4/23/2018 8:20:00AM, Tinh Hoang
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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)	98.1	%	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	04/27/18 07:00	04/27/18 22:05	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-03	Client Sample Name: JPL-GW, MW-3-4, 4/23/2018 8:20:00AM, Tinh Hoang
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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	04/27/18 07:00	04/27/18 22:05	MGC	MS-V5	1	B012135

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813014-03		Client Sample Name: JPL-GW, MW-3-4, 4/23/2018 8:20:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	56	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	18	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	52	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	230	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	190	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	45	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.8	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	32	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.92	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	360	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	0.052	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.98	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18	19:32	JRG	PE-OP2	1	B012757
2	SM-2320B	05/02/18 07:30	05/02/18	11:22	MEV	MET-1	1	B010251
3	EPA-300.0	04/23/18 22:00	04/24/18	01:03	EMW	IC2	1	B011723
4	EPA-150.1	05/02/18 07:30	05/02/18	11:22	MEV	MET-1	1	B010251
5	EPA-160.1	04/27/18 16:00	04/27/18	16:00	CAD	MANUAL	2	B012164
6	EPA-353.2	04/24/18 08:58	04/24/18	09:09	JNC	KONE-1	1	B011856
7	EPA-314.0	05/08/18 17:00	05/09/18	02:54	EMW	IC6	1	B013372

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-03	Client Sample Name: JPL-GW, MW-3-4, 4/23/2018 8:20:00AM, Thanh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	6.0	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	11	ug/L	3.0	0.50	EPA-200.8	1.8		2
Total Recoverable Iron	8100	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:25	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	05/02/18 07:40	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/04/18 08:00	05/04/18 19:32	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1813014-04) and Client Sample Name (JPL-GW, MW-3-3, 4/23/2018 8:40:00AM, Tinh Hoang)

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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-04	Client Sample Name: JPL-GW, MW-3-3, 4/23/2018 8:40:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-04	Client Sample Name: JPL-GW, MW-3-3, 4/23/2018 8:40:00AM, Thanh Hoang
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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)	97.4	%	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	04/27/18 07:00	04/27/18 22:28	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-04	Client Sample Name: JPL-GW, MW-3-3, 4/23/2018 8:40:00AM, Tinh Hoang
----------------------------------	--

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	04/27/18 07:00	04/27/18 22:28	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813014-04		Client Sample Name: JPL-GW, MW-3-3, 4/23/2018 8:40:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	56	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	17	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	51	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	230	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	190	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	43	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	2.3	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	31	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.80	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	390	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.64	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18 19:35		JRG	PE-OP2	1	B012757
2	SM-2320B	05/02/18 07:30	05/02/18 11:32		MEV	MET-1	1	B010251
3	EPA-300.0	04/23/18 22:00	04/24/18 01:23		EMW	IC2	1	B011723
4	EPA-150.1	05/02/18 07:30	05/02/18 11:32		MEV	MET-1	1	B010251
5	EPA-160.1	04/27/18 16:00	04/27/18 16:00		CAD	MANUAL	2	B012164
6	EPA-353.2	04/24/18 08:58	04/24/18 09:09		JNC	KONE-1	1	B011856
7	EPA-314.0	05/08/18 17:00	05/09/18 03:09		EMW	IC6	1	B013372

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-04	Client Sample Name: JPL-GW, MW-3-3, 4/23/2018 8:40:00AM, Thanh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	2.6	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	2.3	ug/L	3.0	0.50	EPA-200.8	1.8	J	2
Total Recoverable Iron	480	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:25	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	05/02/18 07:44	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/04/18 08:00	05/04/18 19:35	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-05	Client Sample Name: JPL-GW, MW-3-2, 4/23/2018 9:15:00AM, Tinh Hoang
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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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-05	Client Sample Name: JPL-GW, MW-3-2, 4/23/2018 9:15:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-05	Client Sample Name: JPL-GW, MW-3-2, 4/23/2018 9:15:00AM, Tinh Hoang
----------------------------------	--

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)	99.6	%	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	04/27/18 07:00	04/27/18 22:51	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-05	Client Sample Name: JPL-GW, MW-3-2, 4/23/2018 9:15:00AM, Tinh Hoang
----------------------------------	--

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	04/27/18 07:00	04/27/18 22:51	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813014-05		Client Sample Name: JPL-GW, MW-3-2, 4/23/2018 9:15:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	71	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	23	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	26	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	280	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	230	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	15	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.2	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	39	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.85	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	360	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	0.052	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.62	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18	19:37	JRG	PE-OP2	1	B012757
2	SM-2320B	05/02/18 07:30	05/02/18	11:39	MEV	MET-1	1	B010251
3	EPA-300.0	04/23/18 22:00	04/24/18	01:44	EMW	IC2	1	B011723
4	EPA-150.1	05/02/18 07:30	05/02/18	11:39	MEV	MET-1	1	B010251
5	EPA-160.1	04/27/18 16:00	04/27/18	16:00	CAD	MANUAL	2	B012164
6	EPA-353.2	04/24/18 08:58	04/24/18	09:09	JNC	KONE-1	1	B011856
7	EPA-314.0	05/08/18 17:00	05/09/18	21:18	SAV	IC6	1	B013372

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-05	Client Sample Name: JPL-GW, MW-3-2, 4/23/2018 9:15:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.65	ug/L	3.0	0.50	EPA-200.8	1.8	J	2
Total Recoverable Iron	230	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:25	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	05/02/18 07:47	ARD	PE-EL2	1	B012262
3	EPA-200.7	05/04/18 08:00	05/04/18 19:37	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-06	Client Sample Name: JPL-GW, MW-3-1, 4/23/2018 11:00:00AM, Tinh Hoang
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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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-06		Client Sample Name: JPL-GW, MW-3-1, 4/23/2018 11:00:00AM, Tinh Hoang						
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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-06	Client Sample Name: JPL-GW, MW-3-1, 4/23/2018 11:00:00AM, Thanh Hoang
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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)	99.6	%	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	04/27/18 07:00	04/28/18 04:11	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-06	Client Sample Name: JPL-GW, MW-3-1, 4/23/2018 11:00:00AM, Thinh Hoang
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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	04/27/18 07:00	04/28/18 04:11	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813014-06		Client Sample Name: JPL-GW, MW-3-1, 4/23/2018 11:00:00AM, Thinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	71	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	23	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	30	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.4	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	280	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	230	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	23	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.67	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	41	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.97	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	380	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18 19:40		JRG	PE-OP2	1	B012757
2	SM-2320B	05/02/18 07:30	05/02/18 12:21		MEV	MET-1	1	B010252
3	EPA-300.0	04/23/18 22:00	04/24/18 02:05		EMW	IC2	1	B011723
4	EPA-150.1	05/02/18 07:30	05/02/18 12:21		MEV	MET-1	1	B010252
5	EPA-160.1	04/27/18 16:00	04/27/18 16:00		CAD	MANUAL	2	B012164
6	EPA-353.2	04/24/18 08:58	04/24/18 09:09		JNC	KONE-1	1	B011856
7	EPA-314.0	05/08/18 17:00	05/09/18 04:11		EMW	IC6	1	B013372

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-06	Client Sample Name: JPL-GW, MW-3-1, 4/23/2018 11:00:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	190	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:25	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	04/30/18 23:03	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 19:40	JRG	PE-OP2	1	B012757

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Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-07	Client Sample Name: JPL-GW, EB-4-042318, 4/23/2018 11:15:00AM, Thinh Hoang
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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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-07	Client Sample Name: JPL-GW, EB-4-042318, 4/23/2018 11:15:00AM, Thinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-07	Client Sample Name: JPL-GW, EB-4-042318, 4/23/2018 11:15:00AM, Thanh Hoang
----------------------------------	---

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)	99.5	%	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	04/27/18 07:00	04/28/18 04:34	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-07	Client Sample Name: JPL-GW, EB-4-042318, 4/23/2018 11:15:00AM, Thinh Hoang
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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	04/27/18 07:00	04/28/18 04:34	MGC	MS-V5	1	B012135

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Qualls, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the analysis runs.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-07	Client Sample Name: JPL-GW, EB-4-042318, 4/23/2018 11:15:00AM, Thanh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.77	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:31	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	04/30/18 23:16	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 19:42	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-08	Client Sample Name: JPL-GW, SB-2-042318, 4/23/2018 11:20:00AM, Thinh Hoang
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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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-08	Client Sample Name: JPL-GW, SB-2-042318, 4/23/2018 11:20:00AM, Thinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-08	Client Sample Name: JPL-GW, SB-2-042318, 4/23/2018 11:20:00AM, Thanh Hoang
----------------------------------	---

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)	98.0	%	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	04/27/18 07:00	04/28/18 04:57	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-08	Client Sample Name: JPL-GW, SB-2-042318, 4/23/2018 11:20:00AM, Thinh Hoang
----------------------------------	---

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	04/27/18 07:00	04/28/18 04:57	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Qualls, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 detailing sample analysis parameters.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-08	Client Sample Name: JPL-GW, SB-2-042318, 4/23/2018 11:20:00AM, Thinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:31	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	04/30/18 23:20	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 19:45	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-09	Client Sample Name: JPL-GW, MW-25-5, 4/23/2018 12:15:00PM, Tinh Hoang
----------------------------------	--

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-09	Client Sample Name: JPL-GW, MW-25-5, 4/23/2018 12:15:00PM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-09	Client Sample Name: JPL-GW, MW-25-5, 4/23/2018 12:15:00PM, Tinh Hoang
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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)	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	04/27/18 07:00	04/28/18 05:20	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-09	Client Sample Name: JPL-GW, MW-25-5, 4/23/2018 12:15:00PM, Thanh Hoang
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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	04/27/18 07:00	04/28/18 05:20	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813014-09		Client Sample Name: JPL-GW, MW-25-5, 4/23/2018 12:15:00PM, Thanh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	5.9	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	4.5	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	66	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.9	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	71	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	15	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	83	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	15	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	52	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	9.07	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	230	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18	19:48	JRG	PE-OP2	1	B012757
2	SM-2320B	05/02/18 07:30	05/02/18	12:37	MEV	MET-1	1	B010252
3	EPA-300.0	04/23/18 22:00	04/24/18	03:48	EMW	IC2	1	B011723
4	EPA-150.1	05/02/18 07:30	05/02/18	12:37	MEV	MET-1	1	B010252
5	EPA-160.1	04/27/18 16:00	04/27/18	16:00	CAD	MANUAL	2	B012164
6	EPA-353.2	04/24/18 08:58	04/24/18	09:09	JNC	KONE-1	1	B011856
7	EPA-314.0	05/08/18 17:00	05/09/18	04:57	EMW	IC6	1	B013372

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-09	Client Sample Name: JPL-GW, MW-25-5, 4/23/2018 12:15:00PM, Thanh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.86	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	68	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:31		SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	04/30/18 23:23		ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 19:48		JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-10	Client Sample Name: JPL-GW, MW-25-3, 4/23/2018 1:10:00PM, Tinh Hoang
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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	0.54	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-10		Client Sample Name: JPL-GW, MW-25-3, 4/23/2018 1:10:00PM, Tinh Hoang						
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	0.38	ug/L	0.50	0.23	EPA-524.2	ND	J	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	0.88	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-10	Client Sample Name: JPL-GW, MW-25-3, 4/23/2018 1:10:00PM, Tinh Hoang
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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)	97.6	%	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	04/27/18 07:00	04/28/18 05:42	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-10	Client Sample Name: JPL-GW, MW-25-3, 4/23/2018 1:10:00PM, Tinh Hoang
----------------------------------	---

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	04/27/18 07:00	04/28/18 05:42	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-10	Client Sample Name: JPL-GW, MW-25-3, 4/23/2018 1:10:00PM, Tinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0022	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.4	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	3.9	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	170	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.18	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 22:02	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	04/30/18 23:27	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 19:51	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-11	Client Sample Name: JPL-GW, MW-25-4, 4/23/2018 12:40:00PM, Tinh Hoang
----------------------------------	--

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-11		Client Sample Name: JPL-GW, MW-25-4, 4/23/2018 12:40:00PM, Tinh Hoang						
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	0.67	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-11	Client Sample Name: JPL-GW, MW-25-4, 4/23/2018 12:40:00PM, Tinh Hoang
----------------------------------	--

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)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	107	%	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	04/27/18 07:00	04/28/18 06:05	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-11	Client Sample Name: JPL-GW, MW-25-4, 4/23/2018 12:40:00PM, Tinh Hoang
----------------------------------	--

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	04/27/18 07:00	04/28/18 06:05	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813014-11		Client Sample Name: JPL-GW, MW-25-4, 4/23/2018 12:40:00PM, Thanh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	86	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	25	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	51	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.4	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	280	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	230	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	54	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	6.1	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	76	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.06	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	490	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	9.0	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/04/18 08:00	05/04/18 20:07		JRG	PE-OP2	1	B012775
2	SM-2320B	05/02/18 07:30	05/02/18 12:48		MEV	MET-1	1	B010252
3	EPA-300.0	04/23/18 22:00	04/24/18 04:29		EMW	IC2	1	B011723
4	EPA-150.1	05/02/18 07:30	05/02/18 12:48		MEV	MET-1	1	B010252
5	EPA-160.1	04/27/18 16:00	04/27/18 16:00		CAD	MANUAL	3.333	B012164
6	EPA-353.2	04/24/18 08:58	04/24/18 09:14		JNC	KONE-1	1	B011857
7	EPA-314.0	05/08/18 17:00	05/09/18 05:27		EMW	IC6	1	B013372

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-11	Client Sample Name: JPL-GW, MW-25-4, 4/23/2018 12:40:00PM, Thanh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.00082	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.7	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	150	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:31	SAV	KONE-1	1	B011853
2	EPA-200.8	04/30/18 08:30	04/30/18 23:30	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 20:07	JRG	PE-OP2	1	B012775

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-12 **Client Sample Name:** JPL-GW, MW-25-2, 4/23/2018 1:40:00PM, Tinh Hoang

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	0.16	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-12 Client Sample Name: JPL-GW, MW-25-2, 4/23/2018 1:40:00PM, Tinh Hoang

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	0.27	ug/L	0.50	0.19	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-12	Client Sample Name: JPL-GW, MW-25-2, 4/23/2018 1:40:00PM, Tinh Hoang
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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)	97.4	%	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	04/27/18 07:00	04/27/18 14:26	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-12	Client Sample Name: JPL-GW, MW-25-2, 4/23/2018 1:40:00PM, Tinh Hoang
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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	04/27/18 07:00	04/27/18 14:26	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the water analysis results.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-12	Client Sample Name: JPL-GW, MW-25-2, 4/23/2018 1:40:00PM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0021	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.79	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.4	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	430	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:31	SAV	KONE-1	1	B011854
2	EPA-200.8	04/30/18 08:30	04/30/18 22:42	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 19:05	JRG	PE-OP2	1	B012757

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-13	Client Sample Name: JPL-GW, MW-25-1, 4/23/2018 2:30:00PM, Tinh Hoang
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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	0.39	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-13		Client Sample Name: JPL-GW, MW-25-1, 4/23/2018 2:30:00PM, Tinh Hoang						
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	0.42	ug/L	0.50	0.14	EPA-524.2	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
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	1.0	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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813014-13	Client Sample Name: JPL-GW, MW-25-1, 4/23/2018 2:30:00PM, Tinh Hoang
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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)	98.8	%	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	04/27/18 07:00	04/28/18 06:28	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813014-13	Client Sample Name: JPL-GW, MW-25-1, 4/23/2018 2:30:00PM, Tinh Hoang
----------------------------------	---

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	04/27/18 07:00	04/28/18 06:28	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813014-13	Client Sample Name: JPL-GW, MW-25-1, 4/23/2018 2:30:00PM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.89	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.4	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	630	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.14	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/23/18 21:24	04/23/18 21:32	SAV	KONE-1	1	B011854
2	EPA-200.8	04/30/18 08:30	04/30/18 23:34	ARD	PE-EL2	1	B012263
3	EPA-200.7	05/04/18 08:00	05/04/18 20:23	JRG	PE-OP2	1	B012775

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012135						
Benzene	B012135-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012135-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012135-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012135-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012135-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012135-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012135-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012135-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012135-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012135-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012135-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012135-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012135-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012135-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012135-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012135-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012135-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012135-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012135-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012135-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012135-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012135-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012135-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012135-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012135-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012135-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012135-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012135-BLK1	ND	ug/L	0.50	0.14	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012135						
trans-1,3-Dichloropropene	B012135-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012135-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012135-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012135-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012135-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012135-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012135-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012135-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012135-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012135-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012135-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012135-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012135-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012135-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012135-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012135-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012135-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012135-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012135-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012135-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012135-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012135-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012135-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012135-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012135-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012135-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012135-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012135-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012135-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012135-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012135-BLK1	ND	ug/L	4.0	1.3	

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Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012135						
Ethyl t-butyl ether	B012135-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012135-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012135-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012135-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012135-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012135-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012135-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012135-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012135-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012135-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012135-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012135-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012135-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012135-BLK1	97.7	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012135-BLK1	102	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012135-BLK1	105	%	80 - 120 (LCL - UCL)		

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Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012135										
Benzene	B012135-BS1	LCS	25.220	25.000	ug/L	101		70 - 130		
Bromodichloromethane	B012135-BS1	LCS	25.440	25.000	ug/L	102		70 - 130		
Chlorobenzene	B012135-BS1	LCS	25.320	25.000	ug/L	101		70 - 130		
Chloroethane	B012135-BS1	LCS	20.670	25.000	ug/L	82.7		70 - 130		
1,4-Dichlorobenzene	B012135-BS1	LCS	24.800	25.000	ug/L	99.2		70 - 130		
1,1-Dichloroethane	B012135-BS1	LCS	25.000	25.000	ug/L	100		70 - 130		
1,1-Dichloroethene	B012135-BS1	LCS	26.970	25.000	ug/L	108		70 - 130		
Toluene	B012135-BS1	LCS	25.130	25.000	ug/L	101		70 - 130		
Trichloroethene	B012135-BS1	LCS	24.780	25.000	ug/L	99.1		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012135-BS1	LCS	10.090	10.000	ug/L	101		75 - 125		
Toluene-d8 (Surrogate)	B012135-BS1	LCS	10.140	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012135-BS1	LCS	9.8200	10.000	ug/L	98.2		80 - 120		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012135										
Used client sample: Y - Description: MW-25-2, 04/23/2018 13:40										
Benzene	MS	1813014-12	ND	24.560	25.000	ug/L		98.2		70 - 130
	MSD	1813014-12	ND	25.000	25.000	ug/L	1.8	100	20	70 - 130
Bromodichloromethane	MS	1813014-12	ND	26.350	25.000	ug/L		105		70 - 130
	MSD	1813014-12	ND	26.630	25.000	ug/L	1.1	107	20	70 - 130
Chlorobenzene	MS	1813014-12	ND	25.360	25.000	ug/L		101		70 - 130
	MSD	1813014-12	ND	26.240	25.000	ug/L	3.4	105	20	70 - 130
Chloroethane	MS	1813014-12	ND	20.650	25.000	ug/L		82.6		70 - 130
	MSD	1813014-12	ND	20.940	25.000	ug/L	1.4	83.8	20	70 - 130
1,4-Dichlorobenzene	MS	1813014-12	ND	24.840	25.000	ug/L		99.4		70 - 130
	MSD	1813014-12	ND	25.680	25.000	ug/L	3.3	103	20	70 - 130
1,1-Dichloroethane	MS	1813014-12	ND	25.090	25.000	ug/L		100		70 - 130
	MSD	1813014-12	ND	25.160	25.000	ug/L	0.3	101	20	70 - 130
1,1-Dichloroethene	MS	1813014-12	ND	26.570	25.000	ug/L		106		70 - 130
	MSD	1813014-12	ND	26.650	25.000	ug/L	0.3	107	20	70 - 130
Toluene	MS	1813014-12	ND	25.500	25.000	ug/L		102		70 - 130
	MSD	1813014-12	ND	26.090	25.000	ug/L	2.3	104	20	70 - 130
Trichloroethene	MS	1813014-12	0.27000	25.390	25.000	ug/L		100		70 - 130
	MSD	1813014-12	0.27000	25.930	25.000	ug/L	2.1	103	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1813014-12	ND	9.8100	10.000	ug/L		98.1		75 - 125
	MSD	1813014-12	ND	9.1500	10.000	ug/L	7.0	91.5		75 - 125
Toluene-d8 (Surrogate)	MS	1813014-12	ND	9.9800	10.000	ug/L		99.8		80 - 120
	MSD	1813014-12	ND	10.010	10.000	ug/L	0.3	100		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1813014-12	ND	9.9200	10.000	ug/L		99.2		80 - 120
	MSD	1813014-12	ND	9.9200	10.000	ug/L	0	99.2		80 - 120

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012135						
Chloroacetonitrile	B012135-BLK1	0	ug/L			
1-Chlorobutane	B012135-BLK1	0	ug/L			
1,1-Dichloropropanone	B012135-BLK1	0	ug/L			
Methyl acrylate	B012135-BLK1	0	ug/L			
Nitrobenzene	B012135-BLK1	0	ug/L			
2-Nitropropane	B012135-BLK1	0	ug/L			

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Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B010251						
Bicarbonate	B010251-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010251-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010251-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010252						
Bicarbonate	B010252-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010252-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010252-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B011723						
Chloride	B011723-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011723-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011723-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011724						
Chloride	B011724-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011724-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011724-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011856						
Nitrite as N	B011856-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B011857						
Nitrite as N	B011857-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B012164						
Total Dissolved Solids @ 180 C	B012164-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012165						
Total Dissolved Solids @ 180 C	B012165-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012757						
Total Recoverable Calcium	B012757-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B012757-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012757-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B012757-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B012775						
Total Recoverable Calcium	B012775-BLK1	ND	mg/L	0.10	0.014	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012775						
Total Recoverable Magnesium	B012775-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012775-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B012775-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013372						
Perchlorate	B013372-BLK1	ND	ug/L	4.0	0.58	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B010251										
Total Alkalinity as CaCO3	B010251-BS3	LCS	103.45	100.00	mg/L	103		90 - 110		
pH	B010251-BS2	LCS	7.0300	7.0000	pH Units	100		95 - 105		
QC Batch ID: B010252										
Total Alkalinity as CaCO3	B010252-BS3	LCS	102.08	100.00	mg/L	102		90 - 110		
pH	B010252-BS2	LCS	7.0300	7.0000	pH Units	100		95 - 105		
QC Batch ID: B011723										
Chloride	B011723-BS1	LCS	51.314	50.000	mg/L	103		90 - 110		
Nitrate as N	B011723-BS1	LCS	4.9680	5.0000	mg/L	99.4		90 - 110		
Sulfate	B011723-BS1	LCS	96.677	100.00	mg/L	96.7		90 - 110		
QC Batch ID: B011724										
Chloride	B011724-BS1	LCS	50.968	50.000	mg/L	102		90 - 110		
Nitrate as N	B011724-BS1	LCS	5.0990	5.0000	mg/L	102		90 - 110		
Sulfate	B011724-BS1	LCS	95.527	100.00	mg/L	95.5		90 - 110		
QC Batch ID: B011856										
Nitrite as N	B011856-BS1	LCS	0.54422	0.50000	mg/L	109		90 - 110		
QC Batch ID: B011857										
Nitrite as N	B011857-BS1	LCS	0.53644	0.50000	mg/L	107		90 - 110		
QC Batch ID: B012164										
Total Dissolved Solids @ 180 C	B012164-BS1	LCS	590.00	586.00	mg/L	101		90 - 110		
QC Batch ID: B012165										
Total Dissolved Solids @ 180 C	B012165-BS1	LCS	605.00	586.00	mg/L	103		90 - 110		
QC Batch ID: B012757										
Total Recoverable Calcium	B012757-BS1	LCS	10.589	10.000	mg/L	106		85 - 115		
Total Recoverable Magnesium	B012757-BS1	LCS	10.746	10.000	mg/L	107		85 - 115		
Total Recoverable Sodium	B012757-BS1	LCS	10.923	10.000	mg/L	109		85 - 115		
Total Recoverable Potassium	B012757-BS1	LCS	10.213	10.000	mg/L	102		85 - 115		
QC Batch ID: B012775										
Total Recoverable Calcium	B012775-BS1	LCS	10.768	10.000	mg/L	108		85 - 115		
Total Recoverable Magnesium	B012775-BS1	LCS	10.961	10.000	mg/L	110		85 - 115		
Total Recoverable Sodium	B012775-BS1	LCS	11.370	10.000	mg/L	114		85 - 115		
Total Recoverable Potassium	B012775-BS1	LCS	10.408	10.000	mg/L	104		85 - 115		
QC Batch ID: B013372										

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B013372										
Perchlorate	B013372-BS1	LCS	11.012	10.000	ug/L	110		85	115	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 B010251, B010252, B011723, B011724, B011856, and B011857.

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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, Control Limits Percent Recovery, Lab Quails. Includes QC Batch IDs B011857, B012164, B012165, B012757, B012775, and B013372.

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B011853						
Hexavalent Chromium	B011853-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B011854						
Hexavalent Chromium	B011854-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012262						
Total Recoverable Arsenic	B012262-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012262-BLK1	1.8330	ug/L	3.0	0.50	J
Total Recoverable Lead	B012262-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012263						
Total Recoverable Arsenic	B012263-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012263-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012263-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012757						
Total Recoverable Iron	B012757-BLK1	ND	ug/L	50	30	
QC Batch ID: B012775						
Total Recoverable Iron	B012775-BLK1	ND	ug/L	50	30	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B011853										
Hexavalent Chromium	B011853-BS1	LCS	0.049887	0.050000	mg/L	99.8		85	115	
QC Batch ID: B011854										
Hexavalent Chromium	B011854-BS1	LCS	0.049684	0.050000	mg/L	99.4		85	115	
QC Batch ID: B012262										
Total Recoverable Arsenic	B012262-BS1	LCS	101.26	100.00	ug/L	101		85	115	
Total Recoverable Chromium	B012262-BS1	LCS	42.685	40.000	ug/L	107		85	115	
Total Recoverable Lead	B012262-BS1	LCS	104.37	100.00	ug/L	104		85	115	
QC Batch ID: B012263										
Total Recoverable Arsenic	B012263-BS1	LCS	98.823	100.00	ug/L	98.8		85	115	
Total Recoverable Chromium	B012263-BS1	LCS	40.756	40.000	ug/L	102		85	115	
Total Recoverable Lead	B012263-BS1	LCS	99.830	100.00	ug/L	99.8		85	115	
QC Batch ID: B012757										
Total Recoverable Iron	B012757-BS1	LCS	1111.0	1000.0	ug/L	111		85	115	
QC Batch ID: B012775										
Total Recoverable Iron	B012775-BS1	LCS	1101.6	1000.0	ug/L	110		85	115	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

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 multiple QC batches (B011853, B011854, B012262, B012263, B012757, B012775) and various metal analysis results.

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: 05/15/2018 8:51
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Notes And Definitions

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A03 The sample concentration is more than 4 times the spike level.
- Q01 Sample precision is not within the control limits.
- Q03 Matrix spike recovery(s) is(are) not within the control limits.
- S05 The sample holding time was exceeded.



Date of Report: 05/17/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: [none]

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1813184

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/24/2018. 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

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Required Fields

Report to: Tidewater, Inc.
 Client: Tidewater
 Attn: David Corner
 Street Address: 3781 Attucks Drive
 City: Powell State: OH Zip: 43065
 Phone: 626 1298 - 5715 Fax: 614 792-2897
 Email Address: david.corner@tidewater.net
 Submission #: 18-13184

Project Description: JPL-GW Monitoring
 Project Code: 2018
 Sampler(s): Blaine Tech

Sample #	Sample Description	Date	Time	Matrix*
-1	TP-5-042418	04/24/18	0700	GW
-2	MW-22-5		0800	GW
-3	MW-22-4		0830	GW
-4	MW-22-3		0900	GW
-5	DIP-3-2018		0910	GW
-6	MW-22-2		0930	GW
-7	EB-5-042418		0945	GW
-8	MW-22-1		1015	GW
-9	MW-26-2		1220	GW
-10	MW-26-1		1300	GW
-11	DIP-4-2018		1310	GW

Analysis Requested:
 VOCs EPA 524.2
 TRM: Cr, Pb, As, Ca, Mg, K
 Na, Fe
 Hexavalent Cr-7196 (mg/L)
 Cl, NO3, NO2, SO4, Pctch.
 CO3, HCO3, Alk, TDS, pH
 Orthophosphate 365.1
 1,4 Dioxane 8270SIM
 NDMA 1625M

Notes:
 CHZ BY DISTRIBUTION
 SUB-OUT
 M/S/MSD
 STORAGE HOLDING TIME
 Cr: NO3, NO2, OP, SS
 TOC, Clp, BOD, MBAS, COT

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. Relinquished By: Date Time
 2. Relinquished By: Date Time
 3. Relinquished By: Date Time

Global ID: Received By: Date Time

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 3

Submission #: 1813184

SHIPPING INFORMATION: Fed Ex, UPS, Ontrac, Hand Delivery, BC Lab Field Service. SHIPPING CONTAINER: Ice Chest, None, Box. FREE LIQUID: YES, NO.

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: 0.9. Container: PE. Thermometer ID: 208. Date/Time: 4/24/18 1815. Temperature: (A) 0.9 °C / (C) 0.5 °C. Analyst Init: [Signature]

Table with columns for SAMPLE CONTAINERS and SAMPLE NUMBERS (1-10). Rows include various sample types like QT PE UNPRES, INORGANIC CHEMICAL METALS, etc.

Comments: Sample Numbering Completed By: [Signature] Date/Time: 4/24/1917 Rev 21 06/23/2016



Submission #: 1813184 Page 3 of 4

SHIPPING INFORMATION Fed Ex <input type="checkbox"/> UPS <input checked="" 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 checked="" type="checkbox"/>
--	--	---	--	---

Refrigerant: Ice Blue Ice None Other Comments:

Custody Seals Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> <small>Intact: Yes <input type="checkbox"/> No <input type="checkbox"/></small>	None <input checked="" type="checkbox"/> Comments:
---	--

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

COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Emissivity: 0.98 Container: PE Thermometer ID: 208 Temperature: (A) 0.8 °C / (C) 0.5 °C	Date/Time: 4/24/18 1915 Analyst Init: [Signature]
--	--	--

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	10									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁴										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	E									
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	ABC									
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL - 504										
QT EPA 520/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 543										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: _____
 Sample Numbering Completed By: [Signature] Date/Time: 4/24/18
 A = Actual / C = Corrected



BC LABORATORIES INC. COOLER RECEIPT FORM Page 7 of 7
 Submission #: 1813184

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 checked="" type="checkbox"/> <u>W / S</u>
---	--	---	--	---

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 CDC? Yes No

COC Received YES NO
 Emissivity: 0.95 Container: PE Thermometer ID: 208 Date/Time: 4/24/15
 Temperature: (A) 25 °C / (C) 22 °C Analyst Init: VR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	A	B	C	D	E	F	G	H	I	J
QT PE UNPRES	D	D	D	D	D	D	D	D	D	D
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁴										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	E	E	E	E	E	E	E	E	E	E
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 505/602/8080										
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										
Box / 16oz / 32oz AMBER										
Box / 16oz / 32oz IAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: _____
 Sample Numbering Completed By: GSD Date/Time: 4/24 1911 Rev 21 05/23/2016
 A = Actual / C = Corrected

(S:\WPDoc\Word\encl\LAB_DCS\FORMS\5\SAMRECDEV 201



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813184-01	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: TB-5-042418 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-5-042418 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813184-02	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-22-5 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 08:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-22-5 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

1813184-03	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-22-4 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 08:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-22-4 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
-------------------	---	---

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813184-04	COC Number: ---	Receive Date: 04/24/2018 18:15
	Project Number: JPL-GW	Sampling Date: 04/24/2018 09:00
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-22-3	Lab Matrix: Water
	Sampled By: Blaine Tech of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-22-3
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

1813184-05	COC Number: ---	Receive Date: 04/24/2018 18:15
	Project Number: JPL-GW	Sampling Date: 04/24/2018 09:10
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: DUP-3-2Q18	Lab Matrix: Water
	Sampled By: Blaine Tech of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): DUP-3-2Q18
		Matrix: WG
		Sample QC Type (SACode): CS
		Cooler ID:

1813184-06	COC Number: ---	Receive Date: 04/24/2018 18:15
	Project Number: JPL-GW	Sampling Date: 04/24/2018 09:30
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-22-2	Lab Matrix: Water
	Sampled By: Blaine Tech of BAT	Sample Type: Groundwater
		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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813184-07	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: EB-5-042418 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 09:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-5-042418 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1813184-08	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-22-1 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 10:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-22-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1813184-09	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-26-2 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 12:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater 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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813184-10	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: MW-26-1 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 13:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-26-1 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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1813184-11	COC Number: --- Project Number: JPL-GW Sampling Location: --- Sampling Point: DUP-4-2Q18 Sampled By: Blaine Tech of BAT	Receive Date: 04/24/2018 18:15 Sampling Date: 04/24/2018 13:10 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-4-2Q18 Matrix: WG Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-01	Client Sample Name: JPL-GW, TB-5-042418, 4/24/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-01	Client Sample Name: JPL-GW, TB-5-042418, 4/24/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-01	Client Sample Name: JPL-GW, TB-5-042418, 4/24/2018 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)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.6	%	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	04/27/18 12:00	04/28/18 06:51	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-01	Client Sample Name: JPL-GW, TB-5-042418, 4/24/2018 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	04/27/18 12:00	04/28/18 06:51	MGC	MS-V5	1	B012136

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-02 Client Sample Name: JPL-GW, MW-22-5, 4/24/2018 8:00:00AM, 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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-02 Client Sample Name: JPL-GW, MW-22-5, 4/24/2018 8:00:00AM, 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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-02	Client Sample Name: JPL-GW, MW-22-5, 4/24/2018 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)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.9	%	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	04/27/18 12:00	04/28/18 07:14	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-02	Client Sample Name: JPL-GW, MW-22-5, 4/24/2018 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	04/27/18 12:00	04/28/18 07:14	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813184-02		Client Sample Name: JPL-GW, MW-22-5, 4/24/2018 8:00:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	4.1	mg/L	0.10	0.014	EPA-200.7	0.021		1
Total Recoverable Magnesium	1.2	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	65	mg/L	0.50	0.051	EPA-200.7	0.092		1
Total Recoverable Potassium	0.83	mg/L	1.0	0.10	EPA-200.7	ND	J	1
Bicarbonate	57	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	30	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	97	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	6.8	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.032	mg/L	0.10	0.021	EPA-300.0	ND	J	3
Sulfate	26	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	9.34	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	230	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/07/18 08:00	05/07/18 17:50		JRG	PE-OP2	1	B012924
2	SM-2320B	05/02/18 15:00	05/02/18 19:51		MEV	MET-1	1	B010257
3	EPA-300.0	04/24/18 21:00	04/25/18 04:42		EMW	IC8	1	B011899
4	EPA-150.1	05/02/18 15:00	05/02/18 19:51		MEV	MET-1	1	B010257
5	EPA-160.1	04/30/18 08:30	04/30/18 08:30		CAD	MANUAL	2	B012212
6	EPA-353.2	04/25/18 08:25	04/25/18 08:36		JNC	KONE-1	1	B011958
7	EPA-314.0	05/09/18 17:00	05/10/18 01:05		EMW	IC6	1	B013446

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-02	Client Sample Name: JPL-GW, MW-22-5, 4/24/2018 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.0	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	61	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:42	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:21	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 17:50	JRG	PE-OP2	1	B012924

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-03	Client Sample Name: JPL-GW, MW-22-4, 4/24/2018 8:30:00AM, 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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-03	Client Sample Name: JPL-GW, MW-22-4, 4/24/2018 8:30:00AM, 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	0.63	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-03	Client Sample Name: JPL-GW, MW-22-4, 4/24/2018 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)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.9	%	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	04/27/18 12:00	04/28/18 07:37	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-03	Client Sample Name: JPL-GW, MW-22-4, 4/24/2018 8:30:00AM, 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	04/27/18 12:00	04/28/18 07:37	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813184-03		Client Sample Name: JPL-GW, MW-22-4, 4/24/2018 8:30:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	37	mg/L	0.10	0.014	EPA-200.7	0.021		1
Total Recoverable Magnesium	11	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	28	mg/L	0.50	0.051	EPA-200.7	0.092		1
Total Recoverable Potassium	1.7	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	180	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	150	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	13	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	4.2	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	10	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.11	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	270	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.83	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	
1	EPA-200.7	05/07/18 08:00	05/07/18	18:01	JRG	PE-OP2	1	B012924	
2	SM-2320B	05/02/18 15:00	05/02/18	19:57	MEV	MET-1	1	B010257	
3	EPA-300.0	04/24/18 21:00	04/25/18	05:02	EMW	IC8	1	B011899	
4	EPA-150.1	05/02/18 15:00	05/02/18	19:57	MEV	MET-1	1	B010257	
5	EPA-160.1	04/30/18 08:30	04/30/18	08:30	CAD	MANUAL	2	B012212	
6	EPA-353.2	04/25/18 08:25	04/25/18	08:42	JNC	KONE-1	1	B011958	
7	EPA-314.0	05/09/18 17:00	05/10/18	01:20	EMW	IC6	1	B013446	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-03	Client Sample Name: JPL-GW, MW-22-4, 4/24/2018 8:30:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0026	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.74	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	3.1	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	47	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 21:03	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:32	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:01	JRG	PE-OP2	1	B012924

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-04	Client Sample Name: JPL-GW, MW-22-3, 4/24/2018 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
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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-04	Client Sample Name: JPL-GW, MW-22-3, 4/24/2018 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
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	0.50	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-04	Client Sample Name: JPL-GW, MW-22-3, 4/24/2018 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)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.4	%	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	04/27/18 12:00	04/28/18 08:00	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-04	Client Sample Name: JPL-GW, MW-22-3, 4/24/2018 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	04/27/18 12:00	04/28/18 08:00	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813184-04		Client Sample Name: JPL-GW, MW-22-3, 4/24/2018 9:00:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	38	mg/L	0.10	0.014	EPA-200.7	0.021		1
Total Recoverable Magnesium	15	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	34	mg/L	0.50	0.051	EPA-200.7	0.092		1
Total Recoverable Potassium	2.0	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	170	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	140	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	26	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	6.9	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	19	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.28	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	300	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.2	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/07/18 08:00	05/07/18	18:04	JRG	PE-OP2	1	B012924
2	SM-2320B	05/02/18 15:00	05/02/18	20:03	MEV	MET-1	1	B010257
3	EPA-300.0	04/24/18 21:00	04/25/18	05:23	EMW	IC8	1	B011899
4	EPA-150.1	05/02/18 15:00	05/02/18	20:03	MEV	MET-1	1	B010257
5	EPA-160.1	04/30/18 08:30	04/30/18	08:30	CAD	MANUAL	2	B012212
6	EPA-353.2	04/25/18 08:25	04/25/18	08:42	JNC	KONE-1	1	B011958
7	EPA-314.0	05/09/18 17:00	05/10/18	01:36	EMW	IC6	1	B013446

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-04	Client Sample Name: JPL-GW, MW-22-3, 4/24/2018 9:00:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0020	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.3	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.2	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	50	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 21:03	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:35	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:04	JRG	PE-OP2	1	B012924

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-05 **Client Sample Name:** JPL-GW, DUP-3-2Q18, 4/24/2018 9:10:00AM, 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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-05 Client Sample Name: JPL-GW, DUP-3-2Q18, 4/24/2018 9:10:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-05	Client Sample Name: JPL-GW, DUP-3-2Q18, 4/24/2018 9:10:00AM, 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)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	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	04/27/18 12:00	04/28/18 08:22	MGC	MS-V5	1	B012136

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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-05	Client Sample Name: JPL-GW, DUP-3-2Q18, 4/24/2018 9:10:00AM, 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	04/27/18 12:00	04/28/18 08:22	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-05	Client Sample Name: JPL-GW, DUP-3-2Q18, 4/24/2018 9:10:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0016	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	0.80	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	41	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 21:03	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:39	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:07	JRG	PE-OP2	1	B012924

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-06 Client Sample Name: JPL-GW, MW-22-2, 4/24/2018 9:30:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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 Quads, Run #. Lists various chemical constituents and their analysis results.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-06	Client Sample Name: JPL-GW, MW-22-2, 4/24/2018 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)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.8	%	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	04/27/18 12:00	04/28/18 01:54	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-06	Client Sample Name: JPL-GW, MW-22-2, 4/24/2018 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	04/27/18 12:00	04/28/18 01:54	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows correspond to runs 1 through 7.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-06	Client Sample Name: JPL-GW, MW-22-2, 4/24/2018 9:30:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0018	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	1.4	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.0	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	66	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:42	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:01	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 17:34	JRG	PE-OP2	1	B012924

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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-07	Client Sample Name: JPL-GW, EB-5-042418, 4/24/2018 9:45:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-07 **Client Sample Name:** JPL-GW, EB-5-042418, 4/24/2018 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
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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-07	Client Sample Name: JPL-GW, EB-5-042418, 4/24/2018 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)	106	%	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	04/27/18 12:00	04/28/18 08:45	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-07	Client Sample Name: JPL-GW, EB-5-042418, 4/24/2018 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	04/27/18 12:00	04/28/18 08:45	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-07	Client Sample Name: JPL-GW, EB-5-042418, 4/24/2018 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	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:46	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:42	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:09	JRG	PE-OP2	1	B012924

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-08	Client Sample Name: JPL-GW, MW-22-1, 4/24/2018 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
Chloroform	0.36	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-08	Client Sample Name: JPL-GW, MW-22-1, 4/24/2018 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	0.24	ug/L	0.50	0.23	EPA-524.2	ND	J	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	0.69	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-08	Client Sample Name: JPL-GW, MW-22-1, 4/24/2018 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)	113	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.1	%	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	04/27/18 12:00	04/28/18 09:08	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-08	Client Sample Name: JPL-GW, MW-22-1, 4/24/2018 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	04/27/18 12:00	04/28/18 09:08	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813184-08		Client Sample Name: JPL-GW, MW-22-1, 4/24/2018 10:15:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	150	mg/L	0.10	0.014	EPA-200.7	0.021		1
Total Recoverable Magnesium	53	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	35	mg/L	0.50	0.051	EPA-200.7	0.092		1
Total Recoverable Potassium	2.9	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	300	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	250	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	120	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	11	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	180	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.78	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	840	mg/L	50	50	EPA-160.1	ND		5
Nitrite as N	0.23	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	2.6	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/07/18 08:00	05/07/18	18:12	JRG	PE-OP2	1	B012924
2	SM-2320B	05/03/18 07:30	05/03/18	08:46	MEV	MET-1	2	B010258
3	EPA-300.0	04/24/18 21:00	04/25/18	08:27	EMW	IC8	1	B011899
4	EPA-150.1	05/03/18 07:30	05/03/18	08:46	MEV	MET-1	1	B010258
5	EPA-160.1	04/30/18 08:30	04/30/18	08:30	CAD	MANUAL	5	B012212
6	EPA-353.2	04/25/18 08:25	04/25/18	08:42	JNC	KONE-1	1	B011958
7	EPA-314.0	05/09/18 17:00	05/10/18	12:40	EMW	IC6	1	B013446

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-08	Client Sample Name: JPL-GW, MW-22-1, 4/24/2018 10:15:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	1.0	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	200	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:46	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:46	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:12	JRG	PE-OP2	1	B012924

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Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-09	Client Sample Name: JPL-GW, MW-26-2, 4/24/2018 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	1.9	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	0.34	ug/L	0.50	0.27	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-09	Client Sample Name: JPL-GW, MW-26-2, 4/24/2018 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
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	2.3	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	0.25	ug/L	0.50	0.19	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-09	Client Sample Name: JPL-GW, MW-26-2, 4/24/2018 12:20:00PM, 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)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.3	%	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	04/27/18 12:00	04/28/18 09:31	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-09	Client Sample Name: JPL-GW, MW-26-2, 4/24/2018 12:20:00PM, 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	04/27/18 12:00	04/28/18 09:31	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-09	Client Sample Name: JPL-GW, MW-26-2, 4/24/2018 12:20:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0020	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.60	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	100	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:46	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:49	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:15	JRG	PE-OP2	1	B012924

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Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-10	Client Sample Name: JPL-GW, MW-26-1, 4/24/2018 1:00:00PM, 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	0.54	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-10		Client Sample Name: JPL-GW, MW-26-1, 4/24/2018 1:00:00PM, 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	1.2	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	0.47	ug/L	0.50	0.19	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-10	Client Sample Name: JPL-GW, MW-26-1, 4/24/2018 1:00:00PM, 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)	96.8	%	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	04/27/18 12:00	04/28/18 09:54	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-10	Client Sample Name: JPL-GW, MW-26-1, 4/24/2018 1:00:00PM, 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	04/27/18 12:00	04/28/18 09:54	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813184-10		Client Sample Name: JPL-GW, MW-26-1, 4/24/2018 1:00:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	110	mg/L	0.10	0.014	EPA-200.7	0.021		1
Total Recoverable Magnesium	40	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	33	mg/L	0.50	0.051	EPA-200.7	0.092		1
Total Recoverable Potassium	3.0	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	300	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	250	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	79	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	6.4	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	100	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.44	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	570	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	0.31	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.6	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/07/18 08:00	05/07/18 18:17		JRG	PE-OP2	1	B012924
2	SM-2320B	05/03/18 07:30	05/03/18 08:58		MEV	MET-1	1	B010258
3	EPA-300.0	04/24/18 21:00	04/25/18 09:08		EMW	IC8	1	B011899
4	EPA-150.1	05/03/18 07:30	05/03/18 08:58		MEV	MET-1	1	B010258
5	EPA-160.1	04/30/18 08:30	04/30/18 08:30		CAD	MANUAL	3.333	B012212
6	EPA-353.2	04/25/18 08:25	04/25/18 08:42		JNC	KONE-1	1	B011958
7	EPA-314.0	05/09/18 17:00	05/10/18 04:24		EMW	IC6	1	B013446

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-10	Client Sample Name: JPL-GW, MW-26-1, 4/24/2018 1:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.65	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	480	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:46	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:53	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:17	JRG	PE-OP2	1	B012924

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-11 Client Sample Name: JPL-GW, DUP-4-2Q18, 4/24/2018 1:10:00PM, 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	0.23	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-11	Client Sample Name: JPL-GW, DUP-4-2Q18, 4/24/2018 1:10:00PM, 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	0.52	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: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813184-11	Client Sample Name: JPL-GW, DUP-4-2Q18, 4/24/2018 1:10:00PM, 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)	107	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.7	%	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	04/27/18 12:00	04/28/18 10:16	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813184-11	Client Sample Name: JPL-GW, DUP-4-2Q18, 4/24/2018 1:10:00PM, 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	04/27/18 12:00	04/28/18 10:16	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813184-11		Client Sample Name: JPL-GW, DUP-4-2Q18, 4/24/2018 1:10:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	100	mg/L	0.10	0.014	EPA-200.7	0.021		1
Total Recoverable Magnesium	37	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	30	mg/L	0.50	0.051	EPA-200.7	0.092		1
Total Recoverable Potassium	2.9	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	300	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	250	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	79	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	6.4	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	100	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.70	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	570	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	0.35	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.7	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/07/18 08:00	05/07/18	18:20	JRG	PE-OP2	1	B012924
2	SM-2320B	05/03/18 07:30	05/03/18	09:04	MEV	MET-1	1	B010258
3	EPA-300.0	04/24/18 21:00	04/25/18	09:29	EMW	IC8	1	B011899
4	EPA-150.1	05/03/18 07:30	05/03/18	09:04	MEV	MET-1	1	B010258
5	EPA-160.1	04/30/18 08:30	04/30/18	08:30	CAD	MANUAL	3.333	B012212
6	EPA-353.2	04/25/18 08:25	04/25/18	08:42	JNC	KONE-1	1	B011958
7	EPA-314.0	05/09/18 17:00	05/10/18	17:49	SAV	IC6	1	B013446

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813184-11	Client Sample Name: JPL-GW, DUP-4-2Q18, 4/24/2018 1:10:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.80	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	330	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/24/18 20:42	04/24/18 20:51	SAV	KONE-1	1	B011953
2	EPA-200.8	05/01/18 08:30	05/03/18 01:56	ARD	PE-EL2	1	B012435
3	EPA-200.7	05/07/18 08:00	05/07/18 18:20	JRG	PE-OP2	1	B012924

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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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
QC Batch ID: B012136						
Benzene	B012136-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012136-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012136-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012136-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012136-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012136-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012136-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012136-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012136-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012136-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012136-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012136-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012136-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012136-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012136-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012136-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012136-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012136-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012136-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012136-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012136-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012136-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012136-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012136-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012136-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012136-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012136-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012136-BLK1	ND	ug/L	0.50	0.14	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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
QC Batch ID: B012136						
trans-1,3-Dichloropropene	B012136-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012136-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012136-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012136-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012136-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012136-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012136-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012136-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012136-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012136-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012136-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012136-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012136-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012136-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012136-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012136-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012136-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012136-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012136-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012136-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012136-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012136-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012136-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012136-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012136-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012136-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012136-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012136-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012136-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012136-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012136-BLK1	ND	ug/L	4.0	1.3	

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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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
QC Batch ID: B012136						
Ethyl t-butyl ether	B012136-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012136-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012136-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012136-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012136-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012136-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012136-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012136-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012136-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012136-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012136-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012136-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012136-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012136-BLK1	102	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012136-BLK1	98.1	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012136-BLK1	100	%	80 - 120 (LCL - UCL)		

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Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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	
QC Batch ID: B012136										
Benzene	B012136-BS1	LCS	25.250	25.000	ug/L	101		70 - 130		
Bromodichloromethane	B012136-BS1	LCS	26.690	25.000	ug/L	107		70 - 130		
Chlorobenzene	B012136-BS1	LCS	25.590	25.000	ug/L	102		70 - 130		
Chloroethane	B012136-BS1	LCS	21.240	25.000	ug/L	85.0		70 - 130		
1,4-Dichlorobenzene	B012136-BS1	LCS	25.510	25.000	ug/L	102		70 - 130		
1,1-Dichloroethane	B012136-BS1	LCS	26.110	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B012136-BS1	LCS	27.460	25.000	ug/L	110		70 - 130		
Toluene	B012136-BS1	LCS	24.970	25.000	ug/L	99.9		70 - 130		
Trichloroethene	B012136-BS1	LCS	27.860	25.000	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012136-BS1	LCS	10.460	10.000	ug/L	105		75 - 125		
Toluene-d8 (Surrogate)	B012136-BS1	LCS	9.9100	10.000	ug/L	99.1		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012136-BS1	LCS	10.190	10.000	ug/L	102		80 - 120		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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	
QC Batch ID: B012136										
Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30										
Benzene	MS	1813184-06	ND	25.920	25.000	ug/L		104		70 - 130
	MSD	1813184-06	ND	24.890	25.000	ug/L	4.1	99.6	20	70 - 130
Bromodichloromethane	MS	1813184-06	ND	26.930	25.000	ug/L		108		70 - 130
	MSD	1813184-06	ND	25.470	25.000	ug/L	5.6	102	20	70 - 130
Chlorobenzene	MS	1813184-06	ND	27.080	25.000	ug/L		108		70 - 130
	MSD	1813184-06	ND	23.540	25.000	ug/L	14.0	94.2	20	70 - 130
Chloroethane	MS	1813184-06	ND	21.670	25.000	ug/L		86.7		70 - 130
	MSD	1813184-06	ND	20.250	25.000	ug/L	6.8	81.0	20	70 - 130
1,4-Dichlorobenzene	MS	1813184-06	ND	26.370	25.000	ug/L		105		70 - 130
	MSD	1813184-06	ND	23.400	25.000	ug/L	11.9	93.6	20	70 - 130
1,1-Dichloroethane	MS	1813184-06	ND	26.990	25.000	ug/L		108		70 - 130
	MSD	1813184-06	ND	24.970	25.000	ug/L	7.8	99.9	20	70 - 130
1,1-Dichloroethene	MS	1813184-06	ND	28.070	25.000	ug/L		112		70 - 130
	MSD	1813184-06	ND	25.950	25.000	ug/L	7.8	104	20	70 - 130
Toluene	MS	1813184-06	ND	25.770	25.000	ug/L		103		70 - 130
	MSD	1813184-06	ND	24.550	25.000	ug/L	4.8	98.2	20	70 - 130
Trichloroethene	MS	1813184-06	ND	25.470	25.000	ug/L		102		70 - 130
	MSD	1813184-06	ND	24.200	25.000	ug/L	5.1	96.8	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1813184-06	ND	9.9800	10.000	ug/L		99.8		75 - 125
	MSD	1813184-06	ND	10.320	10.000	ug/L	3.3	103		75 - 125
Toluene-d8 (Surrogate)	MS	1813184-06	ND	9.8300	10.000	ug/L		98.3		80 - 120
	MSD	1813184-06	ND	10.100	10.000	ug/L	2.7	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1813184-06	ND	10.460	10.000	ug/L		105		80 - 120
	MSD	1813184-06	ND	9.8300	10.000	ug/L	6.2	98.3		80 - 120

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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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: B012136						
Chloroacetonitrile	B012136-BLK1	0	ug/L			
1-Chlorobutane	B012136-BLK1	0	ug/L			
1,1-Dichloropropanone	B012136-BLK1	0	ug/L			
Methyl acrylate	B012136-BLK1	0	ug/L			
Nitrobenzene	B012136-BLK1	0	ug/L			
2-Nitropropane	B012136-BLK1	0	ug/L			

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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
QC Batch ID: B010257						
Bicarbonate	B010257-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010257-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010257-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010258						
Bicarbonate	B010258-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010258-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010258-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B011899						
Chloride	B011899-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B011899-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B011899-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B011958						
Nitrite as N	B011958-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B012212						
Total Dissolved Solids @ 180 C	B012212-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012924						
Total Recoverable Calcium	B012924-BLK1	0.021111	mg/L	0.10	0.014	J
Total Recoverable Magnesium	B012924-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B012924-BLK1	0.091835	mg/L	0.50	0.051	J
Total Recoverable Potassium	B012924-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013446						
Perchlorate	B013446-BLK1	ND	ug/L	4.0	0.58	

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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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	Control Limits		Lab RPD Quals
							Percent Recovery	RPD	
QC Batch ID: B010257									
Total Alkalinity as CaCO3	B010257-BS3	LCS	102.84	100.00	mg/L	103	90 - 110		
pH	B010257-BS2	LCS	7.0300	7.0000	pH Units	100	95 - 105		
QC Batch ID: B010258									
Total Alkalinity as CaCO3	B010258-BS3	LCS	99.650	100.00	mg/L	99.6	90 - 110		
pH	B010258-BS2	LCS	7.0400	7.0000	pH Units	101	95 - 105		
QC Batch ID: B011899									
Chloride	B011899-BS1	LCS	51.938	50.000	mg/L	104	90 - 110		
Nitrate as N	B011899-BS1	LCS	5.0580	5.0000	mg/L	101	90 - 110		
Sulfate	B011899-BS1	LCS	104.63	100.00	mg/L	105	90 - 110		
QC Batch ID: B011958									
Nitrite as N	B011958-BS1	LCS	0.53765	0.50000	mg/L	108	90 - 110		
QC Batch ID: B012212									
Total Dissolved Solids @ 180 C	B012212-BS1	LCS	570.00	586.00	mg/L	97.3	90 - 110		
QC Batch ID: B012924									
Total Recoverable Calcium	B012924-BS1	LCS	10.190	10.000	mg/L	102	85 - 115		
Total Recoverable Magnesium	B012924-BS1	LCS	10.401	10.000	mg/L	104	85 - 115		
Total Recoverable Sodium	B012924-BS1	LCS	9.5871	10.000	mg/L	95.9	85 - 115		
Total Recoverable Potassium	B012924-BS1	LCS	9.6088	10.000	mg/L	96.1	85 - 115		
QC Batch ID: B013446									
Perchlorate	B013446-BS1	LCS	10.753	10.000	ug/L	108	85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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 B010257, B010258, B011899, B011958, B012212, and B012924.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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	
QC Batch ID: B012924		Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30								
Total Recoverable Potassium	DUP	1813184-06	2.1307	2.2131		mg/L	3.8		20	
	MS	1813184-06	2.1307	12.404	10.000	mg/L		103		75 - 125
	MSD	1813184-06	2.1307	12.620	10.000	mg/L	1.7	105	20	75 - 125
QC Batch ID: B013446		Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30								
Perchlorate	DUP	1813184-06	2.0561	2.0155		ug/L	2.0		15	J
	MS	1813184-06	2.0561	10.819	10.101	ug/L		86.8		80 - 120
	MSD	1813184-06	2.0561	10.395	10.101	ug/L	4.0	82.6	15	80 - 120

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B011953						
Hexavalent Chromium	B011953-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012435						
Total Recoverable Arsenic	B012435-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012435-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012435-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012924						
Total Recoverable Iron	B012924-BLK1	ND	ug/L	50	30	

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Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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	
QC Batch ID: B011953										
Hexavalent Chromium	B011953-BS1	LCS	0.046999	0.050000	mg/L	94.0		85 - 115		
QC Batch ID: B012435										
Total Recoverable Arsenic	B012435-BS1	LCS	108.21	100.00	ug/L	108		85 - 115		
Total Recoverable Chromium	B012435-BS1	LCS	44.646	40.000	ug/L	112		85 - 115		
Total Recoverable Lead	B012435-BS1	LCS	114.12	100.00	ug/L	114		85 - 115		
QC Batch ID: B012924										
Total Recoverable Iron	B012924-BS1	LCS	1105.6	1000.0	ug/L	111		85 - 115		

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
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	
QC Batch ID: B011953		Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30								
Hexavalent Chromium	DUP	1813184-06	0.0018240	0.0016880		mg/L	7.7		10	J
	MS	1813184-06	0.0018240	0.058940	0.052632	mg/L		109	85 - 115	
	MSD	1813184-06	0.0018240	0.058667	0.052632	mg/L	0.5	108	10	85 - 115
QC Batch ID: B012435		Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30								
Total Recoverable Arsenic	DUP	1813184-06	1.3640	1.5730		ug/L	14.2		20	J
	MS	1813184-06	1.3640	106.45	100.00	ug/L		105		70 - 130
	MSD	1813184-06	1.3640	109.86	100.00	ug/L	3.2	108	20	70 - 130
Total Recoverable Chromium	DUP	1813184-06	2.0000	2.0010		ug/L	0.0		20	J
	MS	1813184-06	2.0000	42.935	40.000	ug/L		102		70 - 130
	MSD	1813184-06	2.0000	42.339	40.000	ug/L	1.4	101	20	70 - 130
Total Recoverable Lead	DUP	1813184-06	ND	ND		ug/L			20	
	MS	1813184-06	ND	108.00	100.00	ug/L		108		70 - 130
	MSD	1813184-06	ND	110.48	100.00	ug/L	2.3	110	20	70 - 130
QC Batch ID: B012924		Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30								
Total Recoverable Iron	DUP	1813184-06	65.647	54.731		ug/L	18.1		20	
	MS	1813184-06	65.647	1198.4	1000.0	ug/L		113		75 - 125
	MSD	1813184-06	65.647	1231.5	1000.0	ug/L	2.7	117	20	75 - 125

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Powell, OH 43065

Reported: 05/17/2018 9:17
Project: JPL- GW Monitoring Wells
Project Number: [none]
Project Manager: David Conner

Notes And Definitions

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A03 The sample concentration is more than 4 times the spike level.
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- Q03 Matrix spike recovery(s) is(are) not within the control limits.
- S05 The sample holding time was exceeded.



Date of Report: 05/24/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 2Q18

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1813360

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/25/2018. 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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Quality Control Reports

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Chain of Custody Form



Page 1 of 1

Required Fields

Report To: Tidewater, Inc.
Client: David Conner
Att: 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@tidel20.net
Submission #: 18-13360

Project Description: JPL-GW Monitoring
Project Code: 2Q18
Sampler(s): Blaine Tech
Thin to Heavy

Sample #	Sample Description	Date	Time	Matrix*
1	TB-6-042518	04/25/18	0700	GW
2	MW-17-5		0730	GW
3	MW-17-4		0800	GW
4	MW-17-3		0930	GW
5	MW-17-2		1120	GW
6	MW-17-1		1200	GW
7	DIP-5-2618		1130	GW
8	EB-6-042518		1215	GW
9	MW-11-5		1415	GW
10	MW-11-4		1500	GW

Analysis Requested

Analysis	Requested
VOCs EPA 524.2	X
TRM: Cr, Pb, As, Ca, Mg, K	X
Na, Fe	X
Hexavalent Cr - 7196 (mg/L)	X
Cl, NO3, NO2, SO4, Perch.	X
CO3, HCO3, Alk, TDS, pH	X
Orthophosphate 365.1	X
1,4 Dioxane 8270SIM	X
NMA 1625M	X

Notes

DO Cl₂ BOD MBAS COT
Level IV

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)

Global ID: _____

Cost Center:
1. Relinquished By: _____ Date: 04/25/18 Time: 1600
2. Relinquished By: _____ Date: 4-25-18 Time: 2010
3. Relinquished By: _____ Date: 4-25-18 Time: 2010

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 #: 18-13360

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: 0.95 Container: UBA'S Thermometer ID: 208 Date/Time: 4/25/2010

Temperature: (A) 0.8 °C / (C) 0.5 °C Analyst Init: BSP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶										
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	<u>A</u>									
40ml VOA VIAL		<u>ABC</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>	<u>ABC</u>
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/509/8080										
QT EPA 515.1/8159										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 545										
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: BSP Date/Time: 4/25/2010 Rev 21 05/23/2016

A = Actual / C = Corrected

IS:\WPDoc\WordPerfect\LAB_DOC\FORMS\SAWREC1WY 200



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 2

Submission #: 18-13360

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: 4/25/2010

Temperature: (A) 0.4°C / (C) 0.1°C Analyst Init: CSP

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 ⁴										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		E	E	E	E	E	E	E		
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 503/608/8080										
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				EG						
8oz / 16oz / 32oz JAR				H						
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: _____ Date/Time: 4/25/2010

Sample Numbering Completed By: GSA Rev 21 05/23/2016

A = Actual / C = Corrected



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813360-01	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: TB-6-042518 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-6-042518 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1813360-02	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-17-5 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 07:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1813360-03	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-17-4 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 08:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813360-04	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-17-3 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 09:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1813360-05	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-17-2 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 11:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1813360-06	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-17-1 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 12:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-17-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813360-07	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: DUP-5-2Q18 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 11:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-5-2Q18 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	--	---

1813360-08	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: EB-6-042518 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 12:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-6-042518 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

1813360-09	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-11-5 Sampled By: Blaine Tech of BAT	Receive Date: 04/25/2018 20:10 Sampling Date: 04/25/2018 14:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

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

1813360-10

COC Number: ---
Project Number: NASA/JPL
Sampling Location: ---
Sampling Point: MW-11-4
Sampled By: Blaine Tech of BAT

Receive Date: 04/25/2018 20:10
Sampling Date: 04/25/2018 15:00
Sample Depth: ---
Lab Matrix: Water
Sample Type: Groundwater
Delivery Work Order:
Global ID: 0000000000
Location ID (FieldPoint): MW-11-4
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-01	Client Sample Name: NASA/JPL, TB-6-042518, 4/25/2018 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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-01	Client Sample Name: NASA/JPL, TB-6-042518, 4/25/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-01	Client Sample Name: NASA/JPL, TB-6-042518, 4/25/2018 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)	97.8	%	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	04/27/18 07:00	04/28/18 12:57	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-01	Client Sample Name: NASA/JPL, TB-6-042518, 4/25/2018 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	04/27/18 07:00	04/28/18 12:57	MGC	MS-V5	1	B012135

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-02	Client Sample Name: NASA/JPL, MW-17-5, 4/25/2018 7:30:00AM, 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	0.49	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-02		Client Sample Name: NASA/JPL, MW-17-5, 4/25/2018 7:30:00AM, 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
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	0.43	ug/L	0.50	0.23	EPA-524.2	ND	J	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	0.85	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-02	Client Sample Name: NASA/JPL, MW-17-5, 4/25/2018 7:30:00AM, 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)	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	04/27/18 07:00	04/28/18 13:20	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-02	Client Sample Name: NASA/JPL, MW-17-5, 4/25/2018 7:30:00AM, 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	04/27/18 07:00	04/28/18 13:20	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813360-02		Client Sample Name: NASA/JPL, MW-17-5, 4/25/2018 7:30:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	59	mg/L	0.10	0.014	EPA-200.7	0.017		1
Total Recoverable Magnesium	17	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	53	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	220	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	180	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	45	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	6.4	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	54	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.13	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	400	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	4.3	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/08/18 08:00	05/08/18 17:52		JRG	PE-OP2	1	B013190
2	SM-2320B	05/03/18 12:00	05/03/18 17:36		MEV	MET-1	1	B010264
3	EPA-300.0	04/26/18 01:00	04/26/18 09:18		EMW	IC8	1	B012048
4	EPA-150.1	05/03/18 12:00	05/03/18 17:36		MEV	MET-1	1	B010264
5	EPA-160.1	05/01/18 10:00	05/01/18 10:00		CAD	MANUAL	2	B012438
6	EPA-353.2	04/26/18 09:09	04/26/18 09:20		JNC	KONE-1	1	B012011
7	EPA-314.0	05/11/18 20:00	05/11/18 21:51		SAV	IC6	1	B013780

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-02	Client Sample Name: NASA/JPL, MW-17-5, 4/25/2018 7:30:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0013	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	2.4	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	2.1	ug/L	3.0	0.50	EPA-200.8	0.92	J	2
Total Recoverable Iron	690	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.50	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:20	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 21:54	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 17:52	JRG	PE-OP2	1	B013190

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-03	Client Sample Name: NASA/JPL, MW-17-4, 4/25/2018 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	0.41	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-03	Client Sample Name: NASA/JPL, MW-17-4, 4/25/2018 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	0.33	ug/L	0.50	0.23	EPA-524.2	ND	J	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	0.59	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-03	Client Sample Name: NASA/JPL, MW-17-4, 4/25/2018 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)	102	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.7	%	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	04/27/18 07:00	04/28/18 13:43	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-03	Client Sample Name: NASA/JPL, MW-17-4, 4/25/2018 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	04/27/18 07:00	04/28/18 13:43	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

BCL Sample ID: 1813360-03	Client Sample Name: NASA/JPL, MW-17-4, 4/25/2018 8:00:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,4-Dioxane	ND	ug/L	1.0	0.10	EPA-8270D	ND		1
Naphthalene-d8 (Surrogate)	94.5	%	70 - 130 (LCL - UCL)		EPA-8270D			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270D	04/30/18 12:00	05/04/18 16:10	RSM	MS-B4	0.960	B012923

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-03	Client Sample Name: NASA/JPL, MW-17-4, 4/25/2018 8:00:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0017	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	1.3	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	1.8	ug/L	3.0	0.50	EPA-200.8	0.92	J	2
Total Recoverable Iron	80	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:37	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:14	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:08	JRG	PE-OP2	1	B013190

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-04	Client Sample Name: NASA/JPL, MW-17-3, 4/25/2018 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	0.57	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	0.35	ug/L	0.50	0.15	EPA-524.2	ND	J	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-04	Client Sample Name: NASA/JPL, MW-17-3, 4/25/2018 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	0.82	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	3.2	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-04	Client Sample Name: NASA/JPL, MW-17-3, 4/25/2018 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)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.2	%	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	04/27/18 07:00	04/28/18 14:05	MGC	MS-V5	1	B012135

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-04	Client Sample Name: NASA/JPL, MW-17-3, 4/25/2018 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	04/27/18 07:00	04/28/18 14:05	MGC	MS-V5	1	B012135

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813360-04		Client Sample Name: NASA/JPL, MW-17-3, 4/25/2018 9:30:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	87	mg/L	0.10	0.014	EPA-200.7	0.017		1
Total Recoverable Magnesium	45	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	35	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	230	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	190	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	89	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	9.7	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	130	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.02	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	590	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	5.0	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/08/18 08:00	05/08/18 18:24		JRG	PE-OP2	1	B013190
2	SM-2320B	05/03/18 12:00	05/03/18 17:48		MEV	MET-1	1	B010264
3	EPA-300.0	04/26/18 01:00	04/26/18 09:59		EMW	IC8	1	B012048
4	EPA-150.1	05/03/18 12:00	05/03/18 17:48		MEV	MET-1	1	B010264
5	EPA-160.1	05/01/18 10:00	05/01/18 10:00		CAD	MANUAL	3.333	B012438
6	EPA-353.2	04/26/18 09:09	04/26/18 09:20		JNC	KONE-1	1	B012011
7	EPA-314.0	05/11/18 20:00	05/11/18 23:59		SAV	IC6	1	B013780

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-04	Client Sample Name: NASA/JPL, MW-17-3, 4/25/2018 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	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.92		2
Total Recoverable Iron	70	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:20	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:25	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:24	JRG	PE-OP2	1	B013190

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-05	Client Sample Name: NASA/JPL, MW-17-2, 4/25/2018 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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-05	Client Sample Name: NASA/JPL, MW-17-2, 4/25/2018 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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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-05	Client Sample Name: NASA/JPL, MW-17-2, 4/25/2018 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)	107	%	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	04/27/18 07:00	04/28/18 14:28	MGC	MS-V5	1	B012135

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-05	Client Sample Name: NASA/JPL, MW-17-2, 4/25/2018 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	04/27/18 07:00	04/28/18 14:28	MGC	MS-V5	1	B012135

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-05	Client Sample Name: NASA/JPL, MW-17-2, 4/25/2018 11:20:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.92		2
Total Recoverable Iron	490	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:20	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:28	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:27	JRG	PE-OP2	1	B013190

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-06	Client Sample Name: NASA/JPL, MW-17-1, 4/25/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-06	Client Sample Name: NASA/JPL, MW-17-1, 4/25/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-06	Client Sample Name: NASA/JPL, MW-17-1, 4/25/2018 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)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	97.6	%	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	04/27/18 07:00	04/28/18 14:51	MGC	MS-V5	1	B012135

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-06	Client Sample Name: NASA/JPL, MW-17-1, 4/25/2018 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	04/27/18 07:00	04/28/18 14:51	MGC	MS-V5	1	B012135

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813360-06		Client Sample Name: NASA/JPL, MW-17-1, 4/25/2018 12:00:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	57	mg/L	0.10	0.014	EPA-200.7	0.017		1
Total Recoverable Magnesium	19	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	19	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	220	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	180	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	13	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.2	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	43	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.77	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	300	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/08/18 08:00	05/08/18 18:30		JRG	PE-OP2	1	B013190
2	SM-2320B	05/03/18 12:00	05/03/18 18:03		MEV	MET-1	1	B010264
3	EPA-300.0	04/26/18 01:00	04/26/18 11:21		EMW	IC8	1	B012048
4	EPA-150.1	05/03/18 12:00	05/03/18 18:03		MEV	MET-1	1	B010264
5	EPA-160.1	05/01/18 10:00	05/01/18 10:00		CAD	MANUAL	2	B012438
6	EPA-353.2	04/26/18 09:09	04/26/18 09:20		JNC	KONE-1	1	B012011
7	EPA-314.0	05/11/18 20:00	05/12/18 00:30		SAV	IC6	1	B013780

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-06	Client Sample Name: NASA/JPL, MW-17-1, 4/25/2018 12:00:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.59	ug/L	3.0	0.50	EPA-200.8	0.92	J	2
Total Recoverable Iron	53	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:24	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:32	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:30	JRG	PE-OP2	1	B013190

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-07	Client Sample Name: NASA/JPL, DUP-5-2Q18, 4/25/2018 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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-07	Client Sample Name: NASA/JPL, DUP-5-2Q18, 4/25/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-07	Client Sample Name: NASA/JPL, DUP-5-2Q18, 4/25/2018 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)	107	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.3	%	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	04/27/18 07:00	04/28/18 15:14	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-07	Client Sample Name: NASA/JPL, DUP-5-2Q18, 4/25/2018 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	04/27/18 07:00	04/28/18 15:14	MGC	MS-V5	1	B012135

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-07	Client Sample Name: NASA/JPL, DUP-5-2Q18, 4/25/2018 11:30:00AM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.81	ug/L	3.0	0.50	EPA-200.8	0.92	J	2
Total Recoverable Iron	640	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:24	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:35	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:32	JRG	PE-OP2	1	B013190

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-08	Client Sample Name: NASA/JPL, EB-6-042518, 4/25/2018 12:15:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-08	Client Sample Name: NASA/JPL, EB-6-042518, 4/25/2018 12:15:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-08	Client Sample Name: NASA/JPL, EB-6-042518, 4/25/2018 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)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	97.6	%	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	04/27/18 12:00	04/28/18 15:37	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-08	Client Sample Name: NASA/JPL, EB-6-042518, 4/25/2018 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	04/27/18 12:00	04/28/18 15:37	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813360-08		Client Sample Name: NASA/JPL, EB-6-042518, 4/25/2018 12:15:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	0.028	mg/L	0.10	0.014	EPA-200.7	0.017	J	1
Total Recoverable Magnesium	0.020	mg/L	0.050	0.019	EPA-200.7	ND	J	1
Total Recoverable Sodium	ND	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	ND	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	ND	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	ND	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	0.24	mg/L	0.50	0.077	EPA-300.0	ND	J	3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	0.28	mg/L	1.0	0.13	EPA-300.0	ND	J	3
pH	4.40	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	ND	mg/L	6.7	6.7	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/08/18 08:00	05/08/18 18:35		JRG	PE-OP2	1	B013190
2	SM-2320B	05/03/18 12:00	05/03/18 18:15		MEV	MET-1	1	B010264
3	EPA-300.0	04/26/18 01:00	04/26/18 12:44		EMW	IC8	1	B012048
4	EPA-150.1	05/03/18 12:00	05/03/18 18:15		MEV	MET-1	1	B010264
5	EPA-160.1	05/01/18 10:00	05/01/18 10:00		CAD	MANUAL	0.667	B012438
6	EPA-353.2	04/26/18 09:09	04/26/18 09:20		JNC	KONE-1	1	B012011
7	EPA-314.0	05/11/18 20:00	05/12/18 02:17		SAV	IC6	1	B013780

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-08	Client Sample Name: NASA/JPL, EB-6-042518, 4/25/2018 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.92		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:24	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:39	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:35	JRG	PE-OP2	1	B013190

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-09	Client Sample Name: NASA/JPL, MW-11-5, 4/25/2018 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
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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-09	Client Sample Name: NASA/JPL, MW-11-5, 4/25/2018 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
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	0.13	ug/L	0.50	0.12	EPA-524.2	ND	J	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-09	Client Sample Name: NASA/JPL, MW-11-5, 4/25/2018 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)	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	04/27/18 12:00	04/28/18 15:59	MGC	MS-V5	1	B012136

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-09	Client Sample Name: NASA/JPL, MW-11-5, 4/25/2018 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	04/27/18 12:00	04/28/18 15:59	MGC	MS-V5	1	B012136

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813360-09		Client Sample Name: NASA/JPL, MW-11-5, 4/25/2018 2:15:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	20	mg/L	0.10	0.014	EPA-200.7	0.017		1
Total Recoverable Magnesium	2.4	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	49	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	150	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	4.9	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	130	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	10	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.048	mg/L	0.10	0.021	EPA-300.0	ND	J	3
Sulfate	17	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.34	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	190	mg/L	10	10	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/08/18 08:00	05/08/18 18:37		JRG	PE-OP2	1	B013190
2	SM-2320B	05/03/18 12:00	05/03/18 18:20		MEV	MET-1	1	B010264
3	EPA-300.0	04/26/18 01:00	04/26/18 13:04		EMW	IC8	1	B012048
4	EPA-150.1	05/03/18 12:00	05/03/18 18:20		MEV	MET-1	1	B010264
5	EPA-160.1	05/01/18 10:00	05/01/18 10:00		CAD	MANUAL	1	B012438
6	EPA-353.2	04/26/18 09:09	04/26/18 09:14		JNC	KONE-1	1	B012011
7	EPA-314.0	05/11/18 20:00	05/12/18 02:33		SAV	IC6	1	B013780

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-09	Client Sample Name: NASA/JPL, MW-11-5, 4/25/2018 2:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	7.4	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	3.1	ug/L	3.0	0.50	EPA-200.8	0.92		2
Total Recoverable Iron	1500	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.90	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:20	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:42	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:37	JRG	PE-OP2	1	B013190

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-10	Client Sample Name: NASA/JPL, MW-11-4, 4/25/2018 3:00:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-10	Client Sample Name: NASA/JPL, MW-11-4, 4/25/2018 3:00:00PM, 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	0.14	ug/L	0.50	0.12	EPA-524.2	ND	J	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: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813360-10	Client Sample Name: NASA/JPL, MW-11-4, 4/25/2018 3:00:00PM, 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)	115	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	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	04/27/18 12:00	04/28/18 16:22	MGC	MS-V5	1	B012136

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813360-10	Client Sample Name: NASA/JPL, MW-11-4, 4/25/2018 3:00:00PM, 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	04/27/18 12:00	04/28/18 16:22	MGC	MS-V5	1	B012136

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813360-10		Client Sample Name: NASA/JPL, MW-11-4, 4/25/2018 3:00:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	9.4	mg/L	0.10	0.014	EPA-200.7	0.017		1
Total Recoverable Magnesium	9.5	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	26	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.0	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	110	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	9.9	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	100	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	11	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	1.0	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.72	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	140	mg/L	10	10	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/08/18 08:00	05/08/18	18:40	JRG	PE-OP2	1	B013190
2	SM-2320B	05/03/18 12:00	05/03/18	18:28	MEV	MET-1	1	B010264
3	EPA-300.0	04/26/18 01:00	04/26/18	15:07	EMW	IC8	1	B012048
4	EPA-150.1	05/03/18 12:00	05/03/18	18:28	MEV	MET-1	1	B010264
5	EPA-160.1	05/01/18 10:00	05/01/18	10:00	CAD	MANUAL	1	B012438
6	EPA-353.2	04/26/18 09:09	04/26/18	09:20	JNC	KONE-1	1	B012011
7	EPA-314.0	05/11/18 20:00	05/12/18	03:34	SAV	IC6	1	B013780

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813360-10	Client Sample Name: NASA/JPL, MW-11-4, 4/25/2018 3:00:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.92		2
Total Recoverable Iron	35	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/26/18 00:20	04/26/18 00:24	SAV	KONE-1	1	B012235
2	EPA-200.8	05/01/18 08:00	05/02/18 22:46	ARD	PE-EL2	1	B012530
3	EPA-200.7	05/08/18 08:00	05/08/18 18:40	JRG	PE-OP2	1	B013190

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012135						
Benzene	B012135-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012135-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012135-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012135-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012135-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012135-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012135-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012135-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012135-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012135-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012135-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012135-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012135-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012135-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012135-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012135-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012135-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012135-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012135-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012135-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012135-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012135-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012135-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012135-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012135-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012135-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012135-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012135-BLK1	ND	ug/L	0.50	0.14	

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012135						
trans-1,3-Dichloropropene	B012135-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012135-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012135-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012135-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012135-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012135-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012135-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012135-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012135-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012135-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012135-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012135-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012135-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012135-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012135-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012135-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012135-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012135-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012135-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012135-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012135-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012135-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012135-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012135-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012135-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012135-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012135-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012135-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012135-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012135-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012135-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012135-BLK1	ND	ug/L	4.0	1.3	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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

QC Batch ID: B012135

Main data table for QC Batch B012135 listing various compounds and their results.

QC Batch ID: B012136

Main data table for QC Batch B012136 listing various compounds and their results.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012136						
Dibromochloromethane	B012136-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012136-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012136-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012136-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012136-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012136-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012136-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012136-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012136-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012136-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012136-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012136-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012136-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012136-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012136-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B012136-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012136-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012136-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012136-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012136-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012136-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012136-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012136-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012136-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012136-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012136-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012136-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012136-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012136-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012136-BLK1	ND	ug/L	0.50	0.15	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012136						
1,1,1-Trichloroethane	B012136-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012136-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012136-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012136-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012136-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012136-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012136-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012136-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012136-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012136-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012136-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012136-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012136-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012136-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012136-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012136-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012136-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012136-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B012136-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012136-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012136-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012136-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012136-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012136-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012136-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012136-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012136-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012136-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012136-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012136-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012136-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012136-BLK1	102	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012136-BLK1	98.1	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012136-BLK1	100	%	80 - 120 (LCL - UCL)		

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012135										
Benzene	B012135-BS1	LCS	25.220	25.000	ug/L	101		70 - 130		
Bromodichloromethane	B012135-BS1	LCS	25.440	25.000	ug/L	102		70 - 130		
Chlorobenzene	B012135-BS1	LCS	25.320	25.000	ug/L	101		70 - 130		
Chloroethane	B012135-BS1	LCS	20.670	25.000	ug/L	82.7		70 - 130		
1,4-Dichlorobenzene	B012135-BS1	LCS	24.800	25.000	ug/L	99.2		70 - 130		
1,1-Dichloroethane	B012135-BS1	LCS	25.000	25.000	ug/L	100		70 - 130		
1,1-Dichloroethene	B012135-BS1	LCS	26.970	25.000	ug/L	108		70 - 130		
Toluene	B012135-BS1	LCS	25.130	25.000	ug/L	101		70 - 130		
Trichloroethene	B012135-BS1	LCS	24.780	25.000	ug/L	99.1		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012135-BS1	LCS	10.090	10.000	ug/L	101		75 - 125		
Toluene-d8 (Surrogate)	B012135-BS1	LCS	10.140	10.000	ug/L	101		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012135-BS1	LCS	9.8200	10.000	ug/L	98.2		80 - 120		

QC Batch ID: B012136										
Benzene	B012136-BS1	LCS	25.250	25.000	ug/L	101		70 - 130		
Bromodichloromethane	B012136-BS1	LCS	26.690	25.000	ug/L	107		70 - 130		
Chlorobenzene	B012136-BS1	LCS	25.590	25.000	ug/L	102		70 - 130		
Chloroethane	B012136-BS1	LCS	21.240	25.000	ug/L	85.0		70 - 130		
1,4-Dichlorobenzene	B012136-BS1	LCS	25.510	25.000	ug/L	102		70 - 130		
1,1-Dichloroethane	B012136-BS1	LCS	26.110	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B012136-BS1	LCS	27.460	25.000	ug/L	110		70 - 130		
Toluene	B012136-BS1	LCS	24.970	25.000	ug/L	99.9		70 - 130		
Trichloroethene	B012136-BS1	LCS	27.860	25.000	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012136-BS1	LCS	10.460	10.000	ug/L	105		75 - 125		
Toluene-d8 (Surrogate)	B012136-BS1	LCS	9.9100	10.000	ug/L	99.1		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012136-BS1	LCS	10.190	10.000	ug/L	102		80 - 120		

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 QC Batch ID: B012135 and Used client sample: Y - Description: MW-25-2, 04/23/2018 13:40.

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 ID: B012136 and Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30.

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012136		Used client sample: Y - Description: MW-22-2, 04/24/2018 09:30								
1,1-Dichloroethene	MS	1813184-06	ND	28.070	25.000	ug/L		112		70 - 130
	MSD	1813184-06	ND	25.950	25.000	ug/L	7.8	104	20	70 - 130
Toluene	MS	1813184-06	ND	25.770	25.000	ug/L		103		70 - 130
	MSD	1813184-06	ND	24.550	25.000	ug/L	4.8	98.2	20	70 - 130
Trichloroethene	MS	1813184-06	ND	25.470	25.000	ug/L		102		70 - 130
	MSD	1813184-06	ND	24.200	25.000	ug/L	5.1	96.8	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1813184-06	ND	9.9800	10.000	ug/L		99.8		75 - 125
	MSD	1813184-06	ND	10.320	10.000	ug/L	3.3	103		75 - 125
Toluene-d8 (Surrogate)	MS	1813184-06	ND	9.8300	10.000	ug/L		98.3		80 - 120
	MSD	1813184-06	ND	10.100	10.000	ug/L	2.7	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1813184-06	ND	10.460	10.000	ug/L		105		80 - 120
	MSD	1813184-06	ND	9.8300	10.000	ug/L	6.2	98.3		80 - 120

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Tidewater Inc.
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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012135						
Chloroacetonitrile	B012135-BLK1	0	ug/L			
1-Chlorobutane	B012135-BLK1	0	ug/L			
1,1-Dichloropropanone	B012135-BLK1	0	ug/L			
Methyl acrylate	B012135-BLK1	0	ug/L			
Nitrobenzene	B012135-BLK1	0	ug/L			
2-Nitropropane	B012135-BLK1	0	ug/L			
QC Batch ID: B012136						
Chloroacetonitrile	B012136-BLK1	0	ug/L			
1-Chlorobutane	B012136-BLK1	0	ug/L			
1,1-Dichloropropanone	B012136-BLK1	0	ug/L			
Methyl acrylate	B012136-BLK1	0	ug/L			
Nitrobenzene	B012136-BLK1	0	ug/L			
2-Nitropropane	B012136-BLK1	0	ug/L			

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012923						
1,4-Dioxane	B012923-BLK1	ND	ug/L	1.0	0.10	
Naphthalene-d8 (Surrogate)	B012923-BLK1	93.4	%	70 - 130 (LCL - UCL)		

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Tidewater Inc.
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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: B012923										
1,4-Dioxane	B012923-BS1	LCS	41.370	50.000	ug/L	82.7		70 - 130		
Naphthalene-d8 (Surrogate)	B012923-BS1	LCS	40.560	40.000	ug/L	101		70 - 130		

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Tidewater Inc.
3761 Attucks Drive
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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

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	
QC Batch ID: B012923		Used client sample: N								
1,4-Dioxane	MS	1810833-66	ND	41.560	50.000	ug/L		83.1		70 - 130
	MSD	1810833-66	ND	38.314	50.000	ug/L	8.1	76.6	30	70 - 130
Naphthalene-d8 (Surrogate)	MS	1810833-66	ND	37.947	40.000	ug/L		94.9		70 - 130
	MSD	1810833-66	ND	37.696	40.000	ug/L	0.7	94.2		70 - 130

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B010264						
Bicarbonate	B010264-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010264-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010264-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B012011						
Nitrite as N	B012011-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B012048						
Chloride	B012048-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B012048-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B012048-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B012438						
Total Dissolved Solids @ 180 C	B012438-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B013190						
Total Recoverable Calcium	B013190-BLK1	0.016848	mg/L	0.10	0.014	J
Total Recoverable Magnesium	B013190-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B013190-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B013190-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013780						
Perchlorate	B013780-BLK1	ND	ug/L	4.0	0.58	

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B010264										
Total Alkalinity as CaCO3	B010264-BS3	LCS	103.91	100.00	mg/L	104		90 - 110		
pH	B010264-BS2	LCS	7.0300	7.0000	pH Units	100		95 - 105		
QC Batch ID: B012011										
Nitrite as N	B012011-BS1	LCS	0.54727	0.50000	mg/L	109		90 - 110		
QC Batch ID: B012048										
Chloride	B012048-BS1	LCS	51.852	50.000	mg/L	104		90 - 110		
Nitrate as N	B012048-BS1	LCS	5.1360	5.0000	mg/L	103		90 - 110		
Sulfate	B012048-BS1	LCS	104.69	100.00	mg/L	105		90 - 110		
QC Batch ID: B012438										
Total Dissolved Solids @ 180 C	B012438-BS1	LCS	580.00	586.00	mg/L	99.0		90 - 110		
QC Batch ID: B013190										
Total Recoverable Calcium	B013190-BS1	LCS	10.173	10.000	mg/L	102		85 - 115		
Total Recoverable Magnesium	B013190-BS1	LCS	10.360	10.000	mg/L	104		85 - 115		
Total Recoverable Sodium	B013190-BS1	LCS	9.6026	10.000	mg/L	96.0		85 - 115		
Total Recoverable Potassium	B013190-BS1	LCS	9.5022	10.000	mg/L	95.0		85 - 115		
QC Batch ID: B013780										
Perchlorate	B013780-BS1	LCS	10.920	10.000	ug/L	109		85 - 115		

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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, Percent Recovery, Lab Quals. Includes QC Batch IDs B010264, B012011, B012048, B012438, B013190, and B013780.

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Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B013780		Used client sample: Y - Description: MW-11-5, 04/25/2018 14:15								
Perchlorate	DUP	1813360-09	ND	ND		ug/L			15	
	MS	1813360-09	ND	9.5386	10.101	ug/L		94.4		80 - 120
	MSD	1813360-09	ND	9.9867	10.101	ug/L	4.6	98.9	15	80 - 120

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012235						
Hexavalent Chromium	B012235-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012530						
Total Recoverable Arsenic	B012530-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012530-BLK1	0.92300	ug/L	3.0	0.50	J
Total Recoverable Lead	B012530-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B013190						
Total Recoverable Iron	B013190-BLK1	ND	ug/L	50	30	

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Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012235										
Hexavalent Chromium	B012235-BS1	LCS	0.050082	0.050000	mg/L	100		85 - 115		
QC Batch ID: B012530										
Total Recoverable Arsenic	B012530-BS1	LCS	98.738	100.00	ug/L	98.7		85 - 115		
Total Recoverable Chromium	B012530-BS1	LCS	41.334	40.000	ug/L	103		85 - 115		
Total Recoverable Lead	B012530-BS1	LCS	98.289	100.00	ug/L	98.3		85 - 115		
QC Batch ID: B013190										
Total Recoverable Iron	B013190-BS1	LCS	1091.4	1000.0	ug/L	109		85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012235		Used client sample: Y - Description: MW-11-5, 04/25/2018 14:15								
Hexavalent Chromium	DUP	1813360-09	ND	ND		mg/L			10	
	MS	1813360-09	ND	0.052339	0.052632	mg/L		99.4		85 - 115
	MSD	1813360-09	ND	0.052075	0.052632	mg/L	0.5	98.9	10	85 - 115
QC Batch ID: B012530		Used client sample: Y - Description: MW-17-5, 04/25/2018 07:30								
Total Recoverable Arsenic	DUP	1813360-02	2.4000	1.8800		ug/L	24.3		20	J,A02
	MS	1813360-02	2.4000	104.94	100.00	ug/L		103		70 - 130
	MSD	1813360-02	2.4000	105.50	100.00	ug/L	0.5	103	20	70 - 130
Total Recoverable Chromium	DUP	1813360-02	2.1410	2.0690		ug/L	3.4		20	J
	MS	1813360-02	2.1410	39.922	40.000	ug/L		94.5		70 - 130
	MSD	1813360-02	2.1410	40.796	40.000	ug/L	2.2	96.6	20	70 - 130
Total Recoverable Lead	DUP	1813360-02	0.50300	0.48200		ug/L	4.3		20	J
	MS	1813360-02	0.50300	94.839	100.00	ug/L		94.3		70 - 130
	MSD	1813360-02	0.50300	97.569	100.00	ug/L	2.8	97.1	20	70 - 130
QC Batch ID: B013190		Used client sample: Y - Description: MW-17-5, 04/25/2018 07:30								
Total Recoverable Iron	DUP	1813360-02	692.90	659.84		ug/L	4.9		20	
	MS	1813360-02	692.90	2027.1	1000.0	ug/L		133		75 - 125 Q03
	MSD	1813360-02	692.90	2056.5	1000.0	ug/L	1.4	136	20	75 - 125 Q03

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Certificate of Analysis FINAL REPORT

Work Orders: 8E04019

Report Date: 5/14/2018

Project: 1813360

Received Date: 5/4/2018

Turnaround Time: Normal

Phones: (661) 327-4911

Fax: (661) 327-1918

Attn: BC Laboratories

P.O. #:

Client: BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308

Billing Code:

Dear BC Laboratories,

Enclosed are the results of analyses for samples received 5/04/18 with the Chain-of-Custody document. The samples were received in good condition, at 2.6 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Case Narrative

ok to proceed past HT per client- RG 5/4

Sample Results

Sample: 1813360-03 Sampled: 04/25/18 8:00 by Client
8E04019-01 (Water)

Table with 7 columns: Analyte, Method, Batch ID, Instr, MRL, Units, Dil, Analyzed, Qualifier. Row 1: N-Nitrosodimethylamine, EPA 1625M, W8E0257, GCMS09, 2.0, ng/l, 1, 05/10/18 10:04, C-14



WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Quality Control Results

Nitrosamines by isotopic dilution GC/MS CI Mode

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W8E0257 - EPA 3535/SPE										
Blank (W8E0257-BLK1)				Prepared: 05/04/18 Analyzed: 05/09/18						
N-Nitrosodimethylamine	ND	2.0	ng/l							
LCS (W8E0257-BS1)				Prepared: 05/04/18 Analyzed: 05/09/18						
N-Nitrosodimethylamine	2.52	2.0	ng/l	3.00		84	50-150			
LCS Dup (W8E0257-BS01)				Prepared: 05/04/18 Analyzed: 05/09/18						
N-Nitrosodimethylamine	2.63	2.0	ng/l	3.00		88	50-150	5	50	

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WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Notes and Definitions

Item	Definition
O-14	This analysis was requested by the client after the holding time was exceeded.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
 An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
 All results are expressed on wet weight basis unless otherwise specified.
 All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Regina Giancola
Project Manager



DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 •
 LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/24/2018 10:30
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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.
- Q03 Matrix spike recovery(s) is(are) not within the control limits.
- S05 The sample holding time was exceeded.



Date of Report: 05/30/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 2Q18

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1813498

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/26/2018. 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 listing various analytical methods and their corresponding page numbers, including sections for Volatile Organic Analysis, Water Analysis, Metals Analysis, and specific sample IDs like 1813498-12 through 1813498-18.

Quality Control Reports

Table listing quality control reports such as Volatile Organic Analysis (EPA Method 524.2), 1,4-Dioxane (EPA Method 8270C), and Water Analysis (General Chemistry) with their respective page numbers.

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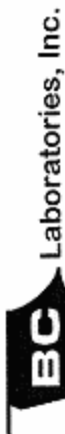
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Chain of Custody Form



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Required Fields

Report To: Tidelwater, Inc.
 Client: Tidelwater
 Attn: David Conner
 Street Address: 3761 Altucks Drive
 City: Powell State: OH Zip: 43065

Phone: 628 | 298 Fax: 614 | 792 - 2897
 Email Address: david.conner@tidelwater.net

Submission #: 1813498

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech

Analysis Requested

Sample #	Sample Description	Date	Time	Matrix*
-1	TB-7-042618	04/26/18	0700	GW
-2	MW-18-5		0820	GW
-3	MW-18-4		0900	GW
-4	MW-18-3		1100	GW
-5	MW-18-2		1125	GW
-6	TB-7-042618		1215	GW
-7	MW-11-3		1300	GW
-8	DUP-6-2Q18		1310	GW
-9	MW-11-2		1345	GW
-10	MW-11-1		1420	GW

Analysis Requested

Analysis	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
VOCs EPA 524.2	X	X	X	X	X	X	X	X	X	X
TRM: Cr, Pb, As, Ca, Mg, K	X	X	X	X	X	X	X	X	X	X
Na, Fe	X	X	X	X	X	X	X	X	X	X
Hexavalent Cr6 -7196 (mg/L)	X	X	X	X	X	X	X	X	X	X
Cl, NO3, NO2, SO4, Perch.	X	X	X	X	X	X	X	X	X	X
CO3, HCO3, Alk., TDS, pH	X	X	X	X	X	X	X	X	X	X
Orthophosphate 365.1	X	X	X	X	X	X	X	X	X	X
1,4 Dioxane 8270SIM	X	X	X	X	X	X	X	X	X	X
NDMA 1625M	X	X	X	X	X	X	X	X	X	X

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

Notes

CXK BY DISTRIBUTION
 SUBMITTING
 SUB-CUT

IT'S SHORT HOLDING TIME
 (Gr) NO NO3 OP SS
 NO CH BOD MBAS COT

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: _____

Comments:

PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MSMSD) 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:

1. Requisitioned By: [Signature] Date: 04/26/18 Time: 16:50
 2. Requisitioned By: [Signature] Date: 4/26/18 Time: 6:30
 3. Requisitioned By: [Signature] Date: 4/26/18 Time: 18:30

Cost Center:

1. Requisitioned By: [Signature] Date: 04/26/18 Time: 16:50
 2. Requisitioned By: [Signature] Date: 4/26/18 Time: 6:30
 3. Requisitioned By: [Signature] Date: 4/26/18 Time: 18:30

MBU Site

MBU Site
 CXK RCRA
 Geotracker 5 File (CA Default)
 Geotracker 2 File
 Other (Specify):

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

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Chain of Custody Form

BC Laboratories, Inc.

Page 2 of 2

Required Fields

Report To: Tidelwater, Inc.
 Client: Tidelwater
 Attn: David Conner
 Street Address: 3781 Attucks Drive
 City: Powell State: OH Zip: 43065
 Phone: 626 1298 Fax: 614 752-2897
 Email Address: david.conner@tidel20.net
 Submission #: 18-13498

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech
 (Mark Heuser)

Analysis Requested

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr, Pb, As, Ca, Mg, K	Na, Fe	Hexavalent Cr 7-196 (mg/L)	Cl, NO3, NO2, SO4, Perch.	CO2, HCO3, AIR, TDS, pH	Orthophosphate 365.1	1,4 Dioxane 8270S/M	NDMA 1625M
MW-4	-6	4/26/18	0800	W	X	X	X	X	X	X	X		
MW-5	-5	0905			X	X	X	X	X	X	X		
MW-13	-13	1020			X	X	X	X	X	X	X		
MW-8	-8	1120			X	X	X	X	X	X	X		
MW-15	-15	1235			X	X	X	X	X	X	X		
MW-7	-7	1330			X	X	X	X	X	X	X		
MW-12-5	-5	1545		GW	X	X	X	X	X	X	X		
MW-12-4	-4	1630		GW	X	X	X	X	X	X	X		

Notes: MSMSD

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 Normal (10 - Days)

Lab TAT Approval: _____

Global ID: _____

Cost Center:

1. Relinquished By: _____ Date: 4/26/18 Time: 16:50

2. Relinquished By: _____ Date: 4/26/18 Time: 6:30

3. Relinquished By: _____ Date: 4/26/18 Time: 18:30

Comments:

PLEASE NOTIFY WHICH SAMPLES TO USE FOR OC (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)

MBU Site CVA RCRA Geotracker 5 File (CA Default) Geotracker 2 File other (Specify) _____

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 3

Submission #: 1813498

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 Intact? Yes No Intact? Yes No None Comments:

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

COC Received: YES NO Emissivity: 0.96 Container: PE Thermometer ID: 208 Date/Time: 4/26/16 2100
Temperature: (A) 1.7 °C / (C) 1.4 °C Analyst Init: PR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁴										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		E	E	E	E	E	E	E		
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PA 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- 504										
QT EPA 503/603/803										
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: GSP Date/Time: 4/26 2155 Rev 21 05/23/2016
 Sample Numbering Completed By: _____ (S:\WPDec\Wood\Profec\FLAB_BDC\FORMS\SUSANRECrev 20)



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 of 3

Submission #: 1813498

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: 0.99 Container: W Thermometer ID: 208 Date/Time: 4/26/18 2100
 Temperature: (A) 1.2 °C / (C) n/a °C Analyst Init: VR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz BE UNPRES										
2oz Cr ⁶										
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	ABC	ABC	ABC	ABC						
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/608/8080										
QT EPA 515.1/8150										
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 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: 668 Date/Time: 4/26 2155
 A = Actual / C = Corrected



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 3

Submission #: 1813498

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
 Intact? Yes No Intact? Yes No None Comments: _____

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

COC Received
 YES NO

Emissivity: 0.95 Container: VOCS Thermometer ID: 205 Date/Time: 4/26/18 2100
 Temperature: (A) 0.7 °C / (C) 0.4 °C Analyst Init: VR

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>				
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	<u>D</u>	<u>E</u>	<u>F</u>	<u>J</u>	<u>K</u>	<u>E</u>	<u>F</u>			
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	<u>A-F</u>	<u>ADL</u>	<u>ADL</u>	<u>AJS</u>	<u>ADL</u>	<u>ADL</u>				
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/603/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml RPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCE VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SURIMA CANISTER										

Comments: _____
 Sample Numbering Completed By: CSL Date/Time: 4/26 2155
 A = Actual / C = Corrected

Rev 21 05/23/2016
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813498-01	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: TB-7-042618 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Blank Water Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-7-042618 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-02	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-18-5 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 08:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-03	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-18-4 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 09:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813498-04	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-18-3 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 11:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-05	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-18-2 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 11:25 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-18-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-06	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: EB-7-042618 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 12:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-7-042618 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813498-07	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-11-3 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 13:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-08	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: DUP-6-2Q18 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 13:10 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-6-2Q18 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-09	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-11-2 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 13:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813498-10	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-11-1 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 14:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-11-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-11	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-6 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 08:08 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-6 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-12	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-5 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 09:05 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813498-13	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-13 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 10:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-13 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-14	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-8 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 11:20 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-8 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813498-15	COC Number: --- Project Number: JPL Sampling Location: --- Sampling Point: MW-15 Sampled By: Blaine Tech of BAT	Receive Date: 04/26/2018 21:00 Sampling Date: 04/26/2018 12:35 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-15 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813498-16	COC Number: ---	Receive Date: 04/26/2018 21:00
	Project Number: JPL	Sampling Date: 04/26/2018 13:30
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-7	Lab Matrix: Water
	Sampled By: Blaine Tech of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-7
		Matrix: W
		Sample QC Type (SACode): CS
		Cooler ID:

1813498-17	COC Number: ---	Receive Date: 04/26/2018 21:00
	Project Number: JPL	Sampling Date: 04/26/2018 15:45
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-12-5	Lab Matrix: Water
	Sampled By: Blaine Tech of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-12-5
		Matrix: W
		Sample QC Type (SACode): CS
		Cooler ID:

1813498-18	COC Number: ---	Receive Date: 04/26/2018 21:00
	Project Number: JPL	Sampling Date: 04/26/2018 16:20
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-12-4	Lab Matrix: Water
	Sampled By: Blaine Tech of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-12-4
		Matrix: W
		Sample QC Type (SACode): CS
		Cooler ID:

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-01	Client Sample Name: JPL, TB-7-042618, 4/26/2018 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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-01		Client Sample Name: JPL, TB-7-042618, 4/26/2018 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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-01	Client Sample Name: JPL, TB-7-042618, 4/26/2018 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)	93.7	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	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	04/29/18 07:00	04/29/18 11:42	MGC	MS-V5	1	B012137

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-01	Client Sample Name: JPL, TB-7-042618, 4/26/2018 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	04/29/18 07:00	04/29/18 11:42	MGC	MS-V5	1	B012137

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-02	Client Sample Name: JPL, MW-18-5, 4/26/2018 8:20:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-02	Client Sample Name: JPL, MW-18-5, 4/26/2018 8:20:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-02	Client Sample Name: JPL, MW-18-5, 4/26/2018 8:20:00AM, 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)	107	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	93.0	%	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	04/29/18 07:00	04/29/18 12:05	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-02	Client Sample Name: JPL, MW-18-5, 4/26/2018 8:20:00AM, 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	04/29/18 07:00	04/29/18 12:05	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-02		Client Sample Name: JPL, MW-18-5, 4/26/2018 8:20:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	9.3	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	3.8	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	49	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.4	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	140	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	8.9	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	130	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	10	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	2.6	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.60	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	190	mg/L	10	10	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 19:58		JRG	PE-OP2	1	B013320
2	SM-2320B	05/04/18 12:00	05/04/18 17:48		MEV	MET-1	1	B010272
3	EPA-300.0	04/27/18 19:00	04/27/18 21:06		SAV	IC5	1	B012201
4	EPA-150.1	05/04/18 12:00	05/04/18 17:48		MEV	MET-1	1	B010272
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	1	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:29		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/13/18 00:06		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-02	Client Sample Name: JPL, MW-18-5, 4/26/2018 8:20:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	1.0		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	82	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:11	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 19:58	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-03	Client Sample Name: JPL, MW-18-4, 4/26/2018 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	7.7	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	1.7	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-03	Client Sample Name: JPL, MW-18-4, 4/26/2018 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	0.73	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	1.6	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-03	Client Sample Name: JPL, MW-18-4, 4/26/2018 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)	105	%	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	04/29/18 07:00	04/29/18 12:27	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-03	Client Sample Name: JPL, MW-18-4, 4/26/2018 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	04/29/18 07:00	04/29/18 12:27	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-03		Client Sample Name: JPL, MW-18-4, 4/26/2018 9:00:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	41	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	12	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	28	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	210	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	170	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	13	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.5	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	25	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.13	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	300	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	16	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/16/18 08:30	05/16/18 16:02		JRG	PE-OP2	1	B013972
2	SM-2320B	05/04/18 12:00	05/04/18 18:19		MEV	MET-1	1	B010272
3	EPA-300.0	04/27/18 19:00	04/27/18 21:24		SAV	IC5	1	B012201
4	EPA-150.1	05/04/18 12:00	05/04/18 18:19		MEV	MET-1	1	B010272
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:29		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/13/18 00:21		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-03	Client Sample Name: JPL, MW-18-4, 4/26/2018 9:00:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0022	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.91	ug/L	2.0	0.70	EPA-200.8	1.0	J	2
Total Recoverable Chromium	2.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	59	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:15	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:09	JRG	PE-OP2	1	B013320

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1813498-04	Client Sample Name:	JPL, MW-18-3, 4/26/2018 11:00:00AM, 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	0.53	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-04	Client Sample Name: JPL, MW-18-3, 4/26/2018 11:00:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-04	Client Sample Name: JPL, MW-18-3, 4/26/2018 11:00:00AM, 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)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	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	04/29/18 07:00	04/29/18 12:50	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-04	Client Sample Name: JPL, MW-18-3, 4/26/2018 11:00:00AM, 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	04/29/18 07:00	04/29/18 12:50	MGC	MS-V5	1	B012137

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-04		Client Sample Name: JPL, MW-18-3, 4/26/2018 11:00:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	66	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	19	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	24	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.0	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	250	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	210	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	16	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.0	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	39	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.95	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	350	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	4.6	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 20:11		JRG	PE-OP2	1	B013320
2	SM-2320B	05/04/18 12:00	05/04/18 18:26		MEV	MET-1	1	B010272
3	EPA-300.0	04/27/18 19:00	04/27/18 21:42		SAV	IC5	1	B012201
4	EPA-150.1	05/04/18 12:00	05/04/18 18:26		MEV	MET-1	1	B010272
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:29		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/14/18 10:50		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-04	Client Sample Name: JPL, MW-18-3, 4/26/2018 11:00:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0018	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	1.2	ug/L	2.0	0.70	EPA-200.8	1.0	J	2
Total Recoverable Chromium	2.6	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	78	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:18	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:11	JRG	PE-OP2	1	B013320

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-05	Client Sample Name: JPL, MW-18-2, 4/26/2018 11:25:00AM, 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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-05	Client Sample Name: JPL, MW-18-2, 4/26/2018 11:25:00AM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-05	Client Sample Name: JPL, MW-18-2, 4/26/2018 11:25:00AM, 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)	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	04/29/18 07:00	04/29/18 13:13	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-05	Client Sample Name: JPL, MW-18-2, 4/26/2018 11:25:00AM, 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	04/29/18 07:00	04/29/18 13:13	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-05		Client Sample Name: JPL, MW-18-2, 4/26/2018 11:25:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	63	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	21	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	22	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	260	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	220	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	16	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.55	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	36	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.89	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	350	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 20:14		JRG	PE-OP2	1	B013320
2	SM-2320B	05/04/18 12:00	05/04/18 18:31		MEV	MET-1	1	B010272
3	EPA-300.0	04/27/18 19:00	04/27/18 22:00		SAV	IC5	1	B012201
4	EPA-150.1	05/04/18 12:00	05/04/18 18:31		MEV	MET-1	1	B010272
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:29		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/13/18 00:52		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-05	Client Sample Name: JPL, MW-18-2, 4/26/2018 11:25:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.2	ug/L	2.0	0.70	EPA-200.8	1.0	J	2
Total Recoverable Chromium	1.1	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	81	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.11	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:22	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:14	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-06 **Client Sample Name:** JPL, EB-7-042618, 4/26/2018 12:15:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-06	Client Sample Name: JPL, EB-7-042618, 4/26/2018 12:15:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-06	Client Sample Name: JPL, EB-7-042618, 4/26/2018 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)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.0	%	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	04/29/18 07:00	04/29/18 13:36	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-06	Client Sample Name: JPL, EB-7-042618, 4/26/2018 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	04/29/18 07:00	04/29/18 13:36	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the analysis runs.

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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-06	Client Sample Name: JPL, EB-7-042618, 4/26/2018 12:15:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	1.0		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:25	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:17	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-07	Client Sample Name: JPL, MW-11-3, 4/26/2018 1:00:00PM, 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	0.20	ug/L	0.50	0.17	EPA-524.2	ND	J	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	0.21	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-07	Client Sample Name: JPL, MW-11-3, 4/26/2018 1:00:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-07	Client Sample Name: JPL, MW-11-3, 4/26/2018 1:00:00PM, 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)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	99.4	%	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	04/29/18 07:00	04/29/18 13:59	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-07	Client Sample Name: JPL, MW-11-3, 4/26/2018 1:00:00PM, 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	04/29/18 07:00	04/29/18 13:59	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-07	Client Sample Name: JPL, MW-11-3, 4/26/2018 1:00:00PM, Blaine Tech
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	1.0		2
Total Recoverable Chromium	1.9	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	420	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.14	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:29	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:19	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-08	Client Sample Name: JPL, DUP-6-2Q18, 4/26/2018 1:10:00PM, 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	0.15	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-08	Client Sample Name: JPL, DUP-6-2Q18, 4/26/2018 1:10:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-08	Client Sample Name: JPL, DUP-6-2Q18, 4/26/2018 1:10:00PM, 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)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	96.8	%	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	04/29/18 07:00	04/29/18 14:22	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-08	Client Sample Name: JPL, DUP-6-2Q18, 4/26/2018 1:10:00PM, 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	04/29/18 07:00	04/29/18 14:22	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-08		Client Sample Name: JPL, DUP-6-2Q18, 4/26/2018 1:10:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	41	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	13	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	25	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.0	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	210	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	170	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	11	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.14	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	23	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.02	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	280	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.81	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 20:22		JRG	PE-OP2	1	B013320
2	SM-2320B	05/04/18 12:00	05/04/18 18:49		MEV	MET-1	1	B010272
3	EPA-300.0	04/27/18 21:00	04/27/18 22:36		SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 18:49		MEV	MET-1	1	B010272
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:31		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/13/18 02:09		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-08	Client Sample Name: JPL, DUP-6-2Q18, 4/26/2018 1:10:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.2	ug/L	2.0	0.70	EPA-200.8	1.0	J	2
Total Recoverable Chromium	0.79	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	75	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:25	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:32	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:22	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-09	Client Sample Name: JPL, MW-11-2, 4/26/2018 1:45:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-09	Client Sample Name: JPL, MW-11-2, 4/26/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-09	Client Sample Name: JPL, MW-11-2, 4/26/2018 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)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	96.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	93.5	%	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	04/29/18 07:00	04/29/18 14:45	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-09	Client Sample Name: JPL, MW-11-2, 4/26/2018 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	04/29/18 07:00	04/29/18 14:45	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-09		Client Sample Name: JPL, MW-11-2, 4/26/2018 1:45:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	41	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	19	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	25	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	210	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	170	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	15	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	23	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.18	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	290	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.86	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 20:25		JRG	PE-OP2	1	B013320
2	SM-2320B	05/04/18 12:00	05/04/18 19:23		MEV	MET-1	1	B010273
3	EPA-300.0	04/27/18 21:00	04/27/18 22:54		SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 19:23		MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:31		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/13/18 02:24		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-09	Client Sample Name: JPL, MW-11-2, 4/26/2018 1:45:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.79	ug/L	2.0	0.70	EPA-200.8	1.0	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	300	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:25	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:36	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:25	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-10	Client Sample Name: JPL, MW-11-1, 4/26/2018 2:20:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-10	Client Sample Name: JPL, MW-11-1, 4/26/2018 2:20:00PM, 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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-10	Client Sample Name: JPL, MW-11-1, 4/26/2018 2:20:00PM, 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)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	97.0	%	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	04/29/18 07:00	04/29/18 15:08	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-10	Client Sample Name: JPL, MW-11-1, 4/26/2018 2:20:00PM, 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	04/29/18 07:00	04/29/18 15:08	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, Perchlorate, and ortho-Phosphate as P.

Table with 9 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-8 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-10	Client Sample Name: JPL, MW-11-1, 4/26/2018 2:20:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.1	ug/L	2.0	0.70	EPA-200.8	1.0	J	2
Total Recoverable Chromium	0.91	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	130	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.11	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:25	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 13:39	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 20:27	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-11	Client Sample Name: JPL, MW-6, 4/26/2018 8:08:00AM, 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	0.84	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	0.19	ug/L	0.50	0.15	EPA-524.2	ND	J	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	0.22	ug/L	0.50	0.17	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-11	Client Sample Name: JPL, MW-6, 4/26/2018 8:08:00AM, 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	0.98	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	4.5	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-11	Client Sample Name: JPL, MW-6, 4/26/2018 8:08:00AM, 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)	96.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.2	%	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	04/29/18 07:00	04/29/18 09:24	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-11	Client Sample Name: JPL, MW-6, 4/26/2018 8:08:00AM, 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	04/29/18 07:00	04/29/18 09:24	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-11		Client Sample Name: JPL, MW-6, 4/26/2018 8:08:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	150	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	50	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	38	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.6	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	250	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	210	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	120	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	13	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	200	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.47	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	840	mg/L	50	50	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	2.2	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 19:42		JRG	PE-OP2	1	B013320
2	SM-2320B	05/04/18 12:00	05/04/18 19:12		MEV	MET-1	2	B010273
3	EPA-300.0	04/27/18 19:00	04/28/18 00:23		SAV	IC5	1	B012201
4	EPA-150.1	05/04/18 12:00	05/04/18 19:12		MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	5	B012479
6	EPA-353.2	04/27/18 09:19	04/27/18 09:21		MC1	KONE-1	1	B012763
7	EPA-314.0	05/12/18 22:00	05/13/18 02:55		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-11	Client Sample Name: JPL, MW-6, 4/26/2018 8:08:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0016	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	1.0		2
Total Recoverable Chromium	24	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	250	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:19	MC1	KONE-1	1	B012325
2	EPA-200.8	05/02/18 08:00	05/03/18 12:36	MH1	PE-EL2	1	B012531
3	EPA-200.7	05/09/18 08:00	05/09/18 19:42	JRG	PE-OP2	1	B013320

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-12 Client Sample Name: JPL, MW-5, 4/26/2018 9:05:00AM, 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
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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-12	Client Sample Name: JPL, MW-5, 4/26/2018 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-12	Client Sample Name: JPL, MW-5, 4/26/2018 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)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	100	%	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	04/29/18 07:00	04/29/18 15:31	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-12	Client Sample Name: JPL, MW-5, 4/26/2018 9:05:00AM, 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	04/29/18 07:00	04/29/18 15:31	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-12		Client Sample Name: JPL, MW-5, 4/26/2018 9:05:00AM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	41	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	13	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	14	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.0	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	170	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	140	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	8.7	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.5	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	29	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.36	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	260	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.88	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/16/18 08:30	05/16/18 16:28		JRG	PE-OP2	1	B013972
2	SM-2320B	05/04/18 12:00	05/04/18 19:35		MEV	MET-1	1	B010273
3	EPA-300.0	04/27/18 23:00	04/28/18 00:41		SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 19:35		MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012480
6	EPA-353.2	04/27/18 09:19	04/27/18 09:56		MC1	KONE-1	1	B012765
7	EPA-314.0	05/12/18 22:00	05/13/18 04:27		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-12	Client Sample Name: JPL, MW-5, 4/26/2018 9:05:00AM, Blaine Tech
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.69	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:38	MC1	KONE-1	1	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 17:40	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 17:08	JRG	PE-OP2	1	B013499

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-13	Client Sample Name: JPL, MW-13, 4/26/2018 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	0.49	ug/L	0.50	0.20	EPA-524.2	ND	J	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	0.43	ug/L	0.50	0.17	EPA-524.2	ND	J	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	3.9	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	0.21	ug/L	0.50	0.15	EPA-524.2	ND	J	1
1,2-Dichloroethane	0.21	ug/L	0.50	0.17	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-13	Client Sample Name: JPL, MW-13, 4/26/2018 10:20:00AM, 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	0.58	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-13	Client Sample Name: JPL, MW-13, 4/26/2018 10:20:00AM, 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)	96.0	%	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	04/29/18 07:00	04/29/18 15:54	MGC	MS-V5	1	B012137

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-13	Client Sample Name: JPL, MW-13, 4/26/2018 10:20:00AM, 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	04/29/18 07:00	04/29/18 15:54	MGC	MS-V5	1	B012137

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

BCL Sample ID: 1813498-13	Client Sample Name: JPL, MW-13, 4/26/2018 10:20:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,4-Dioxane	ND	ug/L	1.0	0.10	EPA-8270D	ND		1
Naphthalene-d8 (Surrogate)	97.3	%	70 - 130 (LCL - UCL)		EPA-8270D			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270D	04/30/18 12:00	05/04/18 18:27	RSM	MS-B4	0.990	B012923

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with 9 columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, Perchlorate, and ortho-Phosphate as P.

Table with 8 columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-8 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-13	Client Sample Name: JPL, MW-13, 4/26/2018 10:20:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	170	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	2100	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.46	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:38	MC1	KONE-1	1	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 17:43	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 17:19	JRG	PE-OP2	1	B013499

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-14	Client Sample Name: JPL, MW-8, 4/26/2018 11:20:00AM, 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
Chloroform	0.41	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-14	Client Sample Name: JPL, MW-8, 4/26/2018 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	0.74	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-14	Client Sample Name: JPL, MW-8, 4/26/2018 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)	93.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.2	%	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	04/29/18 11:21	04/29/18 20:51	MGC	MS-V5	1	B012186

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-14	Client Sample Name: JPL, MW-8, 4/26/2018 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	04/29/18 11:21	04/29/18 20:51	MGC	MS-V5	1	B012186

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, Perchlorate, and ortho-Phosphate as P.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-8 detailing sample preparation and analysis parameters.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-14	Client Sample Name: JPL, MW-8, 4/26/2018 11:20:00AM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0012	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	0.86	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	4.6	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	37	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:33	MC1	KONE-1	1	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 16:07	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 16:52	JRG	PE-OP2	1	B013499

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-15	Client Sample Name: JPL, MW-15, 4/26/2018 12:35:00PM, 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
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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-15	Client Sample Name: JPL, MW-15, 4/26/2018 12:35:00PM, 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
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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-15	Client Sample Name: JPL, MW-15, 4/26/2018 12:35:00PM, 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)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.9	%	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	04/29/18 07:00	04/29/18 16:16	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-15	Client Sample Name: JPL, MW-15, 4/26/2018 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	04/29/18 07:00	04/29/18 16:16	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-15		Client Sample Name: JPL, MW-15, 4/26/2018 12:35:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	71	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	23	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	27	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	260	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	220	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	29	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.2	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	51	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.68	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	410	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	2.2	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/10/18 08:30	05/10/18 17:22		JRG	PE-OP2	1	B013499
2	SM-2320B	05/04/18 12:00	05/04/18 19:56		MEV	MET-1	1	B010273
3	EPA-300.0	04/27/18 23:00	04/28/18 01:35		SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 19:56		MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012480
6	EPA-353.2	04/27/18 09:19	04/27/18 09:56		MC1	KONE-1	1	B012765
7	EPA-314.0	05/12/18 22:00	05/13/18 06:29		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-15	Client Sample Name: JPL, MW-15, 4/26/2018 12:35:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.99	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	2.8	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	31	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:38	MC1	KONE-1	1	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 17:46	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 17:22	JRG	PE-OP2	1	B013499

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-16	Client Sample Name: JPL, MW-7, 4/26/2018 1:30:00PM, 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	0.42	ug/L	0.50	0.20	EPA-524.2	ND	J	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	3.7	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-16	Client Sample Name: JPL, MW-7, 4/26/2018 1:30:00PM, 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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-16	Client Sample Name: JPL, MW-7, 4/26/2018 1:30:00PM, 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)	108	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	98.9	%	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	04/29/18 07:00	04/29/18 16:39	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-16	Client Sample Name: JPL, MW-7, 4/26/2018 1:30:00PM, 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	04/29/18 07:00	04/29/18 16:39	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-16		Client Sample Name: JPL, MW-7, 4/26/2018 1:30:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	81	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	26	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	41	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	4.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	240	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	190	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	89	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.5	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	52	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.71	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	480	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	5.0	ug/L	4.0	0.58	EPA-314.0	ND		7
ortho-Phosphate as P	0.022	mg/L	0.050	0.017	EPA-365.1	ND	J	8

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-200.7	05/10/18 08:30	05/10/18 17:24	JRG	PE-OP2	1	B013499
2	SM-2320B	05/04/18 12:00	05/04/18 20:02	MEV	MET-1	1	B010273
3	EPA-300.0	04/27/18 23:00	04/28/18 01:52	SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 20:02	MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30	CAD	MANUAL	3.333	B012480
6	EPA-353.2	04/27/18 09:19	04/27/18 09:56	MC1	KONE-1	1	B012765
7	EPA-314.0	05/12/18 22:00	05/14/18 12:37	EMW	IC6	1	B013781
8	EPA-365.1	04/27/18 11:47	04/27/18 13:50	MC1	KONE-1	1	B012753

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-16	Client Sample Name: JPL, MW-7, 4/26/2018 1:30:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0040	0.0014	EPA-7196	ND	A07	1
Total Recoverable Arsenic	0.97	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	54	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	640	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 09:11	MC1	KONE-1	2	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 17:50	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 17:24	JRG	PE-OP2	1	B013499

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-17	Client Sample Name: JPL, MW-12-5, 4/26/2018 3:45:00PM, 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	0.28	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-17	Client Sample Name: JPL, MW-12-5, 4/26/2018 3:45:00PM, 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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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-17	Client Sample Name: JPL, MW-12-5, 4/26/2018 3:45:00PM, 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)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.5	%	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	04/29/18 07:00	04/29/18 17:02	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-17	Client Sample Name: JPL, MW-12-5, 4/26/2018 3:45:00PM, 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	04/29/18 07:00	04/29/18 17:02	MGC	MS-V5	1	B012137

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-17		Client Sample Name: JPL, MW-12-5, 4/26/2018 3:45:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	53	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	14	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	33	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.4	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	230	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	190	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	16	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.4	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	25	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.15	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	310	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.3	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/10/18 08:30	05/10/18 17:27		JRG	PE-OP2	1	B013499
2	SM-2320B	05/04/18 12:00	05/04/18 20:10		MEV	MET-1	1	B010273
3	EPA-300.0	04/27/18 23:00	04/28/18 02:10		SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 20:10		MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012480
6	EPA-353.2	04/27/18 09:19	04/27/18 09:56		MC1	KONE-1	1	B012765
7	EPA-314.0	05/12/18 22:00	05/13/18 07:00		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-17	Client Sample Name: JPL, MW-12-5, 4/26/2018 3:45:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.9	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	1.4	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	490	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.20	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:38	MC1	KONE-1	1	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 17:53	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 17:27	JRG	PE-OP2	1	B013499

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-18	Client Sample Name: JPL, MW-12-4, 4/26/2018 4:20:00PM, 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	0.26	ug/L	0.50	0.17	EPA-524.2	ND	J	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	0.32	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-18	Client Sample Name: JPL, MW-12-4, 4/26/2018 4:20:00PM, 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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813498-18	Client Sample Name: JPL, MW-12-4, 4/26/2018 4:20:00PM, 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)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	96.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.2	%	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	04/29/18 07:00	04/29/18 17:25	MGC	MS-V5	1	B012137

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813498-18	Client Sample Name: JPL, MW-12-4, 4/26/2018 4:20:00PM, 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	04/29/18 07:00	04/29/18 17:25	MGC	MS-V5	1	B012137

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813498-18		Client Sample Name: JPL, MW-12-4, 4/26/2018 4:20:00PM, Blaine Tech						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	63	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	15	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	24	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.3	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	240	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	200	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	14	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.3	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	32	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.18	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	340	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.4	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/10/18 08:30	05/10/18 17:30		JRG	PE-OP2	1	B013499
2	SM-2320B	05/04/18 12:00	05/04/18 20:15		MEV	MET-1	1	B010273
3	EPA-300.0	04/27/18 23:00	04/28/18 02:28		SAV	IC5	1	B012202
4	EPA-150.1	05/04/18 12:00	05/04/18 20:15		MEV	MET-1	1	B010273
5	EPA-160.1	05/01/18 16:30	05/01/18 16:30		CAD	MANUAL	2	B012480
6	EPA-353.2	04/27/18 09:19	04/27/18 09:56		MC1	KONE-1	1	B012765
7	EPA-314.0	05/12/18 22:00	05/13/18 07:15		EMW	IC6	1	B013781

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813498-18	Client Sample Name: JPL, MW-12-4, 4/26/2018 4:20:00PM, Blaine Tech							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.90	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	0.72	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	37	ug/L	50	30	EPA-200.7	ND	J	3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 07:43	04/27/18 08:38	MC1	KONE-1	1	B012326
2	EPA-200.8	05/03/18 08:00	05/03/18 17:57	MH1	PE-EL2	1	B012661
3	EPA-200.7	05/10/18 08:30	05/10/18 17:30	JRG	PE-OP2	1	B013499

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012137						
Benzene	B012137-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012137-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012137-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012137-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012137-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012137-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012137-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012137-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012137-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012137-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012137-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012137-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012137-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012137-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012137-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012137-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012137-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012137-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012137-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012137-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012137-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012137-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012137-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012137-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012137-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012137-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012137-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012137-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012137-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012137-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012137-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012137-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012137-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012137-BLK1	ND	ug/L	0.50	0.14	

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Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012137						
trans-1,3-Dichloropropene	B012137-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012137-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012137-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012137-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012137-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012137-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012137-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012137-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012137-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012137-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012137-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012137-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012137-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012137-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012137-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012137-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012137-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012137-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012137-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012137-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012137-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012137-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012137-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012137-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012137-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012137-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012137-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012137-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012137-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012137-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012137-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012137-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012137-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012137-BLK1	ND	ug/L	4.0	1.3	

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012137

Ethyl t-butyl ether	B012137-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012137-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012137-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012137-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012137-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012137-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012137-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012137-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012137-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012137-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012137-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012137-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012137-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012137-BLK1	104	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012137-BLK1	99.5	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012137-BLK1	97.9	%	80 - 120 (LCL - UCL)		

QC Batch ID: B012186

Benzene	B012186-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012186-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012186-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012186-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012186-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012186-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012186-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012186-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012186-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012186-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012186-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012186-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012186-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012186-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012186-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012186-BLK1	ND	ug/L	0.50	0.093	

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012186						
Dibromochloromethane	B012186-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012186-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012186-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012186-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012186-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012186-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012186-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012186-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012186-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012186-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012186-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012186-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012186-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012186-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012186-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012186-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012186-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012186-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B012186-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012186-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012186-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012186-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012186-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012186-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012186-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012186-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012186-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012186-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012186-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012186-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012186-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012186-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012186-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012186-BLK1	ND	ug/L	0.50	0.15	

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012186						
1,1,1-Trichloroethane	B012186-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012186-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012186-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012186-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012186-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012186-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012186-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012186-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012186-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012186-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012186-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012186-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012186-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012186-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012186-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012186-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012186-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012186-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B012186-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012186-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012186-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012186-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012186-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012186-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012186-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012186-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012186-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012186-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012186-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012186-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012186-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012186-BLK1	105	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012186-BLK1	96.1	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012186-BLK1	104	%	80 - 120 (LCL - UCL)		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012137										
Benzene	B012137-BS1	LCS	25.030	25.000	ug/L	100		70 - 130		
Bromodichloromethane	B012137-BS1	LCS	27.040	25.000	ug/L	108		70 - 130		
Chlorobenzene	B012137-BS1	LCS	26.260	25.000	ug/L	105		70 - 130		
Chloroethane	B012137-BS1	LCS	19.090	25.000	ug/L	76.4		70 - 130		
1,4-Dichlorobenzene	B012137-BS1	LCS	26.380	25.000	ug/L	106		70 - 130		
1,1-Dichloroethane	B012137-BS1	LCS	25.510	25.000	ug/L	102		70 - 130		
1,1-Dichloroethene	B012137-BS1	LCS	25.760	25.000	ug/L	103		70 - 130		
Toluene	B012137-BS1	LCS	24.050	25.000	ug/L	96.2		70 - 130		
Trichloroethene	B012137-BS1	LCS	24.690	25.000	ug/L	98.8		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012137-BS1	LCS	10.700	10.000	ug/L	107		75 - 125		
Toluene-d8 (Surrogate)	B012137-BS1	LCS	9.4900	10.000	ug/L	94.9		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012137-BS1	LCS	10.410	10.000	ug/L	104		80 - 120		
QC Batch ID: B012186										
Benzene	B012186-BS1	LCS	23.860	25.000	ug/L	95.4		70 - 130		
Bromodichloromethane	B012186-BS1	LCS	26.510	25.000	ug/L	106		70 - 130		
Chlorobenzene	B012186-BS1	LCS	26.060	25.000	ug/L	104		70 - 130		
Chloroethane	B012186-BS1	LCS	19.470	25.000	ug/L	77.9		70 - 130		
1,4-Dichlorobenzene	B012186-BS1	LCS	25.340	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	B012186-BS1	LCS	25.070	25.000	ug/L	100		70 - 130		
1,1-Dichloroethene	B012186-BS1	LCS	26.940	25.000	ug/L	108		70 - 130		
Toluene	B012186-BS1	LCS	24.220	25.000	ug/L	96.9		70 - 130		
Trichloroethene	B012186-BS1	LCS	27.220	25.000	ug/L	109		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012186-BS1	LCS	10.180	10.000	ug/L	102		75 - 125		
Toluene-d8 (Surrogate)	B012186-BS1	LCS	9.7400	10.000	ug/L	97.4		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012186-BS1	LCS	10.360	10.000	ug/L	104		80 - 120		

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012137 and Used client sample: Y - Description: MW-6, 04/26/2018 08:08.

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: B012186 and Used client sample: Y - Description: MW-8, 04/26/2018 11:20.

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012186		Used client sample: Y - Description: MW-8, 04/26/2018 11:20								
1,1-Dichloroethene	MS	1813498-14	ND	27.740	25.000	ug/L		111		70 - 130
	MSD	1813498-14	ND	28.910	25.000	ug/L	4.1	116	20	70 - 130
Toluene	MS	1813498-14	ND	25.670	25.000	ug/L		103		70 - 130
	MSD	1813498-14	ND	26.170	25.000	ug/L	1.9	105	20	70 - 130
Trichloroethene	MS	1813498-14	ND	25.140	25.000	ug/L		101		70 - 130
	MSD	1813498-14	ND	25.980	25.000	ug/L	3.3	104	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1813498-14	ND	10.480	10.000	ug/L		105		75 - 125
	MSD	1813498-14	ND	10.360	10.000	ug/L	1.2	104		75 - 125
Toluene-d8 (Surrogate)	MS	1813498-14	ND	9.8400	10.000	ug/L		98.4		80 - 120
	MSD	1813498-14	ND	10.180	10.000	ug/L	3.4	102		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1813498-14	ND	9.6300	10.000	ug/L		96.3		80 - 120
	MSD	1813498-14	ND	9.8000	10.000	ug/L	1.7	98.0		80 - 120

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012137						
Chloroacetonitrile	B012137-BLK1	0	ug/L			
1-Chlorobutane	B012137-BLK1	0	ug/L			
1,1-Dichloropropanone	B012137-BLK1	0	ug/L			
Methyl acrylate	B012137-BLK1	0	ug/L			
Nitrobenzene	B012137-BLK1	0	ug/L			
2-Nitropropane	B012137-BLK1	0	ug/L			
QC Batch ID: B012186						
Chloroacetonitrile	B012186-BLK1	0	ug/L			
1-Chlorobutane	B012186-BLK1	0	ug/L			
1,1-Dichloropropanone	B012186-BLK1	0	ug/L			
Methyl acrylate	B012186-BLK1	0	ug/L			
Nitrobenzene	B012186-BLK1	0	ug/L			
2-Nitropropane	B012186-BLK1	0	ug/L			

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012923						
1,4-Dioxane	B012923-BLK1	ND	ug/L	1.0	0.10	
Naphthalene-d8 (Surrogate)	B012923-BLK1	93.4	%	70 - 130 (LCL - UCL)		

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

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		
QC Batch ID: B012923											
1,4-Dioxane	B012923-BS1	LCS	41.370	50.000	ug/L	82.7		70	130		
Naphthalene-d8 (Surrogate)	B012923-BS1	LCS	40.560	40.000	ug/L	101		70	130		

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: B012923		Used client sample: N								
1,4-Dioxane	MS	1810833-66	ND	41.560	50.000	ug/L		83.1		70 - 130
	MSD	1810833-66	ND	38.314	50.000	ug/L	8.1	76.6	30	70 - 130
Naphthalene-d8 (Surrogate)	MS	1810833-66	ND	37.947	40.000	ug/L		94.9		70 - 130
	MSD	1810833-66	ND	37.696	40.000	ug/L	0.7	94.2		70 - 130

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B010272						
Bicarbonate	B010272-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010272-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010272-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010273						
Bicarbonate	B010273-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010273-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010273-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010274						
Bicarbonate	B010274-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010274-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010274-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B012201						
Chloride	B012201-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B012201-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B012201-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B012202						
Chloride	B012202-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B012202-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B012202-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B012479						
Total Dissolved Solids @ 180 C	B012479-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012480						
Total Dissolved Solids @ 180 C	B012480-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012753						
ortho-Phosphate as P	B012753-BLK1	ND	mg/L	0.050	0.017	
QC Batch ID: B012763						
Nitrite as N	B012763-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B012765						
Nitrite as N	B012765-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B013320						

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B013320						
Total Recoverable Calcium	B013320-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B013320-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B013320-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B013320-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013499						
Total Recoverable Calcium	B013499-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B013499-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B013499-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B013499-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013781						
Perchlorate	B013781-BLK1	ND	ug/L	4.0	0.58	
QC Batch ID: B013782						
Perchlorate	B013782-BLK1	ND	ug/L	4.0	0.58	
QC Batch ID: B013972						
Total Recoverable Calcium	B013972-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B013972-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B013972-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B013972-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B014182						
Perchlorate	B014182-BLK1	ND	ug/L	4.0	0.58	

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B010272										
Total Alkalinity as CaCO3	B010272-BS3	LCS	102.69	100.00	mg/L	103		90 - 110		
pH	B010272-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B010273										
Total Alkalinity as CaCO3	B010273-BS3	LCS	102.69	100.00	mg/L	103		90 - 110		
pH	B010273-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B010274										
Total Alkalinity as CaCO3	B010274-BS3	LCS	105.73	100.00	mg/L	106		90 - 110		
pH	B010274-BS2	LCS	7.0300	7.0000	pH Units	100		95 - 105		
QC Batch ID: B012201										
Chloride	B012201-BS1	LCS	50.431	50.000	mg/L	101		90 - 110		
Nitrate as N	B012201-BS1	LCS	5.0320	5.0000	mg/L	101		90 - 110		
Sulfate	B012201-BS1	LCS	101.92	100.00	mg/L	102		90 - 110		
QC Batch ID: B012202										
Chloride	B012202-BS1	LCS	50.766	50.000	mg/L	102		90 - 110		
Nitrate as N	B012202-BS1	LCS	5.0530	5.0000	mg/L	101		90 - 110		
Sulfate	B012202-BS1	LCS	102.26	100.00	mg/L	102		90 - 110		
QC Batch ID: B012479										
Total Dissolved Solids @ 180 C	B012479-BS1	LCS	600.00	586.00	mg/L	102		90 - 110		
QC Batch ID: B012480										
Total Dissolved Solids @ 180 C	B012480-BS1	LCS	575.00	586.00	mg/L	98.1		90 - 110		
QC Batch ID: B012753										
ortho-Phosphate as P	B012753-BS1	LCS	0.20008	0.20000	mg/L	100		90 - 110		
QC Batch ID: B012763										
Nitrite as N	B012763-BS1	LCS	0.54066	0.50000	mg/L	108		90 - 110		
QC Batch ID: B012765										
Nitrite as N	B012765-BS1	LCS	0.53797	0.50000	mg/L	108		90 - 110		
QC Batch ID: B013320										
Total Recoverable Calcium	B013320-BS1	LCS	11.004	10.000	mg/L	110		85 - 115		
Total Recoverable Magnesium	B013320-BS1	LCS	11.239	10.000	mg/L	112		85 - 115		
Total Recoverable Sodium	B013320-BS1	LCS	10.638	10.000	mg/L	106		85 - 115		
Total Recoverable Potassium	B013320-BS1	LCS	10.419	10.000	mg/L	104		85 - 115		
QC Batch ID: B013499										

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Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	Control Limits		Lab
							RPD	RPD	
QC Batch ID: B013499									
Total Recoverable Calcium	B013499-BS1	LCS	10.951	10.000	mg/L	110		85 - 115	
Total Recoverable Magnesium	B013499-BS1	LCS	10.938	10.000	mg/L	109		85 - 115	
Total Recoverable Sodium	B013499-BS1	LCS	10.449	10.000	mg/L	104		85 - 115	
Total Recoverable Potassium	B013499-BS1	LCS	10.578	10.000	mg/L	106		85 - 115	
QC Batch ID: B013781									
Perchlorate	B013781-BS1	LCS	9.8033	10.000	ug/L	98.0		85 - 115	
QC Batch ID: B013782									
Perchlorate	B013782-BS1	LCS	10.225	10.000	ug/L	102		85 - 115	
QC Batch ID: B013972									
Total Recoverable Calcium	B013972-BS1	LCS	11.009	10.000	mg/L	110		85 - 115	
Total Recoverable Magnesium	B013972-BS1	LCS	10.751	10.000	mg/L	108		85 - 115	
Total Recoverable Sodium	B013972-BS1	LCS	10.337	10.000	mg/L	103		85 - 115	
Total Recoverable Potassium	B013972-BS1	LCS	10.655	10.000	mg/L	107		85 - 115	
QC Batch ID: B014182									
Perchlorate	B014182-BS1	LCS	8.5421	10.000	ug/L	85.4		85 - 115	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 B010272, B010273, B010274, B012201, B012202, and B012479.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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, Percent Recovery, Lab Quals. Includes multiple QC batches (B012479, B012480, B012753, B012763, B012765, B013320, B013499) and various chemical tests like Total Dissolved Solids, Nitrite as N, and Total Recoverable Calcium/Magnesium/Sodium/Potassium.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Quails. Includes sections for QC Batch IDs B013499, B013781, B013782, B013972, and B014182.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012325						
Hexavalent Chromium	B012325-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012326						
Hexavalent Chromium	B012326-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012531						
Total Recoverable Arsenic	B012531-BLK1	1.0470	ug/L	2.0	0.70	J
Total Recoverable Chromium	B012531-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012531-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012661						
Total Recoverable Arsenic	B012661-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012661-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012661-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B013320						
Total Recoverable Iron	B013320-BLK1	ND	ug/L	50	30	
QC Batch ID: B013499						
Total Recoverable Iron	B013499-BLK1	ND	ug/L	50	30	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012325										
Hexavalent Chromium	B012325-BS1	LCS	0.048868	0.050000	mg/L	97.7		85 - 115		
QC Batch ID: B012326										
Hexavalent Chromium	B012326-BS1	LCS	0.049182	0.050000	mg/L	98.4		85 - 115		
QC Batch ID: B012531										
Total Recoverable Arsenic	B012531-BS1	LCS	101.55	100.00	ug/L	102		85 - 115		
Total Recoverable Chromium	B012531-BS1	LCS	41.698	40.000	ug/L	104		85 - 115		
Total Recoverable Lead	B012531-BS1	LCS	105.59	100.00	ug/L	106		85 - 115		
QC Batch ID: B012661										
Total Recoverable Arsenic	B012661-BS1	LCS	100.08	100.00	ug/L	100		85 - 115		
Total Recoverable Chromium	B012661-BS1	LCS	41.590	40.000	ug/L	104		85 - 115		
Total Recoverable Lead	B012661-BS1	LCS	101.26	100.00	ug/L	101		85 - 115		
QC Batch ID: B013320										
Total Recoverable Iron	B013320-BS1	LCS	1131.5	1000.0	ug/L	113		85 - 115		
QC Batch ID: B013499										
Total Recoverable Iron	B013499-BS1	LCS	1143.3	1000.0	ug/L	114		85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

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 multiple QC batches (B012325, B012326, B012531, B012661, B013320, B013499) and various metal measurements like Hexavalent Chromium, Arsenic, Chromium, Lead, and Iron.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/30/2018 11:53
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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.
- A03 The sample concentration is more than 4 times the spike level.
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- Q01 Sample precision is not within the control limits.
- S05 The sample holding time was exceeded.

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Date of Report: 05/25/2018

David Conner

Tidewater Inc.

3761 Attucks Drive

Powell, OH 43065

Client Project: 2Q18

BCL Project: JPL- GW Monitoring Wells

BCL Work Order: 1813628

Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 4/27/2018. 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 2

18-13628

Required Fields

Report For: Client: Tidewater, Inc. Attn: David Cormier
 Street Address: 3761 Attucks Drive City: Powell State: OH Zip: 43065
 Phone: 626 298 5715 Fax: 614 792 2897
 Email Address: david.cormier@tidel20.net Submission #:

Project Description: JPL-GW Monitoring Project Code: 2018
 Sampler(s): Blaine Tech *Think Hoos*

Analysis Requested

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr, Pb, As, Ca, Mg, K	Na, Fe	Hexavalent Cr6 - 7196 (mg/L)	Cl, NO3, NO2, SO4, Perch.	CO3, HCO3, Alk, TDS, pH	Orthophosphate 365.1	1,4 Dioxane 82703M	NDMA 1625M
-1	TS-042718	04/27/18	0700	GW	X	X	X	X	X	X	X	X	X
-2	MW-20-5		0735	GW	X	X	X	X	X	X	X	X	X
-3	MW-20-4		0810	GW	X	X	X	X	X	X	X	X	X
-4	MW-20-3		0845	GW	X	X	X	X	X	X	X	X	X
-5	MW-20-2		0915	GW	X	X	X	X	X	X	X	X	X
-6	PUP-7-2618		0935	GW	X	X	X	X	X	X	X	X	X
-7	EB-8-042718		1030	GW	X	X	X	X	X	X	X	X	X
-8	MW-12-3		1130	GW	X	X	X	X	X	X	X	X	X
-9	RJP-8-2618		1140	GW	X	X	X	X	X	X	X	X	X
-10	MW-12-2		1230	GW	X	X	X	X	X	X	X	X	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)

Lab TAT Approval: _____ *Additional Charges May Apply

Analysis Requested

Standard Turnaround = 30

SHORT TURNING TIME

CR6 (NO2) (NO3) OP SS

DO Cl2 BOD MBAS COT

Level IV

CHK BY: DISTRIBUTION

18-13628

Billing

Client: Tidewater
 Attn: David Cormier
 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

Cost Center:

1. Relinquished By: _____ Date: 04/27/18 Time: 1600
 2. Relinquished By: _____ Date: 4/27/18 Time: 1630
 3. Relinquished By: _____ Date: 4-27-18 Time: 2038

Global ID:

1. Received By: _____ Date: 4/27/18 Time: 1600
 2. Received By: _____ Date: 4-27-18 Time: 1630
 3. Received By: _____ Date: 4-27-18 Time: 2038

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)

MBU Site
 CVX RCRA
 Geotracker 5 File (CA Default)
 Geotracker 2 File
 Other (Specify) _____

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

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Chain of Custody Form



Page 2 of 2

18-13628

Required Fields

Report To: Tidewater, Inc.
 Client: David Conner
 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@tideh2o.net

Project Description: JPL-GW Monitoring
 Project Code: 2Q18
 Sampler(s): Blaine Tech
Thibault

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

Sample #	Sample Description	Date	Time	Matrix*
-11	WW-12-1	04/27/18	1300	WW
-12	WW-9		0845	WW
-13	WW-1		1030	WW
-14	WW-16		1145	WW
-15	WW-10		1310	WW

Analysis Requested

Analysis	-11	-12	-13	-14	-15
VOCs EPA 524.2	X	X	X	X	X
TRM: Cr, Pb, As, Ca, Mg, K	X	X	X	X	X
Na, Fe	X	X	X	X	X
Hexavalent Cr6 - 7196 (mg/L)	X	X	X	X	X
Cl, NO3, NO2, SO4, Perch.	X	X	X	X	X
CO3, HCO3, Alk., TDS, pH	X	X	X	X	X
Orthophosphate 365.1					
1,4 Dioxane B270SIM					
NDMA 1625M					

Notes
MSMSD
MSMSD

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: 4/27/18 Time: 1400
 2. Requisitioned By: *Nicola* Date: 4/27/18 Time: 1650
 3. Requisitioned By: _____ Date: 4-27-18 Time: 1650

Global ID:
 1. Received By: _____ Date: 4/27/18 Time: 1600
 2. Received By: _____ Date: 4-27-18 Time: 1630
 3. Received By: _____ Date: 4-27-18 Time: 1630

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

MBU Site:
 MBU Site
 CVX RCDA
 Geotracker 5 File (CA Default)
 Geotracker 2 File
 Other (Specify): _____

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 #: 18-2079

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 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: 0.95 Container: 1005 Thermometer ID: 208 Date/Time: 4/27/10 2:55

Temperature: (A) 0.10 °C / (C) 0.3 °C Analyst Init: [Signature]

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	D	D	D	D	D	D	D	
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶⁺										
QT INORGANIC CHEMICAL METALS		E	E	E	E	E	E	E	E	
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	A	APX	APX	APX	APX	APX	APX	APX	APX	
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 503/603/8080										
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: _____ Date/Time: 4/27/10 2:55

Sample Numbering Completed By: [Signature]

A = Actual / C = Corrected

Rev 21 05/23/2016 [5:\WPDoc\WordPerfect\LAB_COCPFORMS\SI\AMR\Rev 201



Page 4 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM

Submission #: 18-120785

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 checked="" type="checkbox"/> <u>W</u> <u>S</u>
---	---	--

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: 0.05 Container: PE Thermometer ID: 209 Date/Time: 4/27/18 2:55
 Temperature: (A) 1.9 °C / (C) 24 °C Analyst Init: VP

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶⁺										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	<u>E</u>	<u>E</u>	<u>I</u>	<u>I</u>						
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	<u>ABX</u>	<u>ABX</u>	<u>A-F</u>	<u>A-F</u>	<u>ABX</u>					
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 518/03/8089										
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										
3oz / 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: _____ Date/Time: 4/27/18 2:55

A = Actual / C = Corrected

Rev 21 05/23/2016
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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813628-01	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: TB-8-042718 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 07:00 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): TB-8-042718 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-02	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-20-5 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 07:35 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-03	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-20-4 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 08:10 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813628-04	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-20-3 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 08:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-05	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-20-2 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 09:15 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-20-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-06	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: Dup-7-2Q18 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 09:25 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): Dup-7-2Q18 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813628-07	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: EB-8-042718 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 10:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): EB-8-042718 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-08	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-12-3 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 11:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-12-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-09	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: DUP-8-2Q18 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 11:40 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): DUP-8-2Q18 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813628-10	COC Number: ---	Receive Date: 04/27/2018 21:35
	Project Number: NASA/JPL	Sampling Date: 04/27/2018 12:30
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-12-2	Lab Matrix: Water
	Sampled By: Think Hoang of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-12-2
		Matrix: W
		Sample QC Type (SACode): CS
		Cooler ID:

1813628-11	COC Number: ---	Receive Date: 04/27/2018 21:35
	Project Number: NASA/JPL	Sampling Date: 04/27/2018 13:00
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-12-1	Lab Matrix: Water
	Sampled By: Think Hoang of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-12-1
		Matrix: W
		Sample QC Type (SACode): CS
		Cooler ID:

1813628-12	COC Number: ---	Receive Date: 04/27/2018 21:35
	Project Number: NASA/JPL	Sampling Date: 04/27/2018 08:45
	Sampling Location: ---	Sample Depth: ---
	Sampling Point: MW-9	Lab Matrix: Water
	Sampled By: Think Hoang of BAT	Sample Type: Groundwater
		Delivery Work Order:
		Global ID: 0000000000
		Location ID (FieldPoint): MW-9
		Matrix: W
		Sample QC Type (SACode): CS
		Cooler ID:

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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1813628-13	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-1 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 10:30 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-14	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-16 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 11:45 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-16 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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1813628-15	COC Number: --- Project Number: NASA/JPL Sampling Location: --- Sampling Point: MW-10 Sampled By: Think Hoang of BAT	Receive Date: 04/27/2018 21:35 Sampling Date: 04/27/2018 13:10 Sample Depth: --- Lab Matrix: Water Sample Type: Groundwater Delivery Work Order: Global ID: 0000000000 Location ID (FieldPoint): MW-10 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-01	Client Sample Name: NASA/JPL, TB-8-042718, 4/27/2018 7:00:00AM, Tinh Hoang
----------------------------------	---

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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-01	Client Sample Name: NASA/JPL, TB-8-042718, 4/27/2018 7:00:00AM, Tinh Hoang
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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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-01	Client Sample Name: NASA/JPL, TB-8-042718, 4/27/2018 7:00:00AM, Tinh Hoang
----------------------------------	---

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)	95.9	%	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	05/01/18 07:00	05/01/18 11:12	MGC	MS-V5	1	B012389

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-01	Client Sample Name: NASA/JPL, TB-8-042718, 4/27/2018 7:00:00AM, Thinh Hoang
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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	05/01/18 07:00	05/01/18 11:12	MGC	MS-V5	1	B012389

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-02	Client Sample Name: NASA/JPL, MW-20-5, 4/27/2018 7:35:00AM, Thinh Hoang
----------------------------------	--

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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-02 Client Sample Name: NASA/JPL, MW-20-5, 4/27/2018 7:35:00AM, Thinh Hoang

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	0.17	ug/L	0.50	0.12	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-02 **Client Sample Name:** NASA/JPL, MW-20-5, 4/27/2018 7:35:00AM, Thinh Hoang

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)	97.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	99.2	%	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	05/01/18 07:00	05/01/18 11:35	MGC	MS-V5	1	B012389

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-02	Client Sample Name: NASA/JPL, MW-20-5, 4/27/2018 7:35:00AM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 11:35	MGC	MS-V5	1	B012389

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-02		Client Sample Name: NASA/JPL, MW-20-5, 4/27/2018 7:35:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	6.9	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	2.2	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	59	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.5	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	130	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	8.4	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	120	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	8.0	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	4.1	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.73	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	190	mg/L	10	10	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 21:00		JRG	PE-OP2	1	B013330
2	SM-2320B	05/08/18 16:00	05/08/18 19:57		MEV	MET-1	1	B012966
3	EPA-300.0	04/28/18 22:00	04/28/18 23:43		SAV	IC2	1	B012204
4	EPA-150.1	05/08/18 16:00	05/08/18 19:57		MEV	MET-1	1	B012966
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30		CAD	MANUAL	1	B012552
6	EPA-353.2	04/27/18 16:13	04/28/18 00:30		SAV	KONE-1	1	B012769
7	EPA-314.0	05/14/18 17:00	05/15/18 07:06		EMW	IC6	1	B013802

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-02	Client Sample Name: NASA/JPL, MW-20-5, 4/27/2018 7:35:00AM, Thanh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.7	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:51	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 11:52	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:00	JRG	PE-OP2	1	B013330

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-03	Client Sample Name: NASA/JPL, MW-20-4, 4/27/2018 8:10:00AM, Thinh Hoang
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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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-03 Client Sample Name: NASA/JPL, MW-20-4, 4/27/2018 8:10:00AM, Thinh Hoang

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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-03 **Client Sample Name:** NASA/JPL, MW-20-4, 4/27/2018 8:10:00AM, Thinh Hoang

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)	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	05/01/18 07:00	05/01/18 11:58	MGC	MS-V5	1	B012389

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-03	Client Sample Name: NASA/JPL, MW-20-4, 4/27/2018 8:10:00AM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 11:58	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-03		Client Sample Name: NASA/JPL, MW-20-4, 4/27/2018 8:10:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	7.8	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	2.9	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	68	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	0.86	mg/L	1.0	0.10	EPA-200.7	ND	J	1
Bicarbonate	120	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	15	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	130	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	9.7	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	ND	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	8.8	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.90	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	220	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 21:11		JRG	PE-OP2	1	B013330
2	SM-2320B	05/07/18 07:30	05/07/18 11:49		MEV	MET-1	1	B010276
3	EPA-300.0	04/28/18 22:00	04/29/18 00:04		SAV	IC2	1	B012204
4	EPA-150.1	05/07/18 07:30	05/07/18 11:49		MEV	MET-1	1	B010276
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30		CAD	MANUAL	2	B012552
6	EPA-353.2	04/27/18 16:13	04/28/18 00:30		SAV	KONE-1	1	B012769
7	EPA-314.0	05/14/18 17:00	05/15/18 07:22		EMW	IC6	1	B013802

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-03	Client Sample Name: NASA/JPL, MW-20-4, 4/27/2018 8:10:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.4	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	78	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:51	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 11:56	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:11	JRG	PE-OP2	1	B013330

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-04	Client Sample Name: NASA/JPL, MW-20-3, 4/27/2018 8:45:00AM, Thinh Hoang
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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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-04		Client Sample Name: NASA/JPL, MW-20-3, 4/27/2018 8:45:00AM, Tinh Hoang						
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	0.34	ug/L	0.50	0.12	EPA-524.2	ND	J	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	0.31	ug/L	0.50	0.23	EPA-524.2	ND	J	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	0.90	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-04	Client Sample Name: NASA/JPL, MW-20-3, 4/27/2018 8:45:00AM, Thinh Hoang
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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)	99.9	%	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	05/01/18 07:00	05/01/18 12:21	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-04	Client Sample Name: NASA/JPL, MW-20-3, 4/27/2018 8:45:00AM, Tinh Hoang
----------------------------------	---

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	05/01/18 07:00	05/01/18 12:21	MGC	MS-V5	1	B012389

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-04		Client Sample Name: NASA/JPL, MW-20-3, 4/27/2018 8:45:00AM, Thanh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	6.6	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	6.2	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	48	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	1.8	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	74	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	11	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	78	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	42	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.17	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	5.0	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.86	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	190	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.4	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 21:13		JRG	PE-OP2	1	B013330
2	SM-2320B	05/07/18 07:30	05/07/18 11:56		MEV	MET-1	1	B010276
3	EPA-300.0	04/28/18 22:00	04/29/18 00:25		SAV	IC2	1	B012204
4	EPA-150.1	05/07/18 07:30	05/07/18 11:56		MEV	MET-1	1	B010276
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30		CAD	MANUAL	2	B012552
6	EPA-353.2	04/27/18 16:13	04/28/18 00:30		SAV	KONE-1	1	B012769
7	EPA-314.0	05/14/18 17:00	05/15/18 07:37		EMW	IC6	1	B013802

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-04	Client Sample Name: NASA/JPL, MW-20-3, 4/27/2018 8:45:00AM, Thanh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.3	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	0.66	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:51	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 11:59	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:13	JRG	PE-OP2	1	B013330

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-05 **Client Sample Name:** NASA/JPL, MW-20-2, 4/27/2018 9:15:00AM, Thinh Hoang

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	0.15	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-05 Client Sample Name: NASA/JPL, MW-20-2, 4/27/2018 9:15:00AM, Thinh Hoang

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	0.55	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	0.84	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-05	Client Sample Name: NASA/JPL, MW-20-2, 4/27/2018 9:15:00AM, Thinh Hoang
----------------------------------	--

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)	97.9	%	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	05/01/18 07:00	05/01/18 12:44	MGC	MS-V5	1	B012389

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Tidewater Inc.
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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-05	Client Sample Name: NASA/JPL, MW-20-2, 4/27/2018 9:15:00AM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 12:44	MGC	MS-V5	1	B012389

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-05		Client Sample Name: NASA/JPL, MW-20-2, 4/27/2018 9:15:00AM, Thanh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	75	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	30	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	22	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.2	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	250	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	200	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	39	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.6	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	62	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.03	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	430	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	1.7	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 21:16		JRG	PE-OP2	1	B013330
2	SM-2320B	05/07/18 07:30	05/07/18 12:02		MEV	MET-1	1	B010276
3	EPA-300.0	04/28/18 22:00	04/29/18 00:45		SAV	IC2	1	B012204
4	EPA-150.1	05/07/18 07:30	05/07/18 12:02		MEV	MET-1	1	B010276
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30		CAD	MANUAL	2	B012552
6	EPA-353.2	04/27/18 16:13	04/28/18 00:30		SAV	KONE-1	1	B012769
7	EPA-314.0	05/14/18 17:00	05/15/18 08:38		EMW	IC6	1	B013802

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-05	Client Sample Name: NASA/JPL, MW-20-2, 4/27/2018 9:15:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.64	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	160	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:51	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 12:03	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:16	JRG	PE-OP2	1	B013330

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-06 Client Sample Name: NASA/JPL, Dup-7-2Q18, 4/27/2018 9:25:00AM, Tinh Hoang

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	0.23	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Quads, Run #. Lists various chemical constituents and their analysis results.

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-06	Client Sample Name: NASA/JPL, Dup-7-2Q18, 4/27/2018 9:25:00AM, Tinh Hoang
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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)	95.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	110	%	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	05/01/18 07:00	05/01/18 13:07	MGC	MS-V5	1	B012389

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-06	Client Sample Name: NASA/JPL, Dup-7-2Q18, 4/27/2018 9:25:00AM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 13:07	MGC	MS-V5	1	B012389

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-06		Client Sample Name: NASA/JPL, Dup-7-2Q18, 4/27/2018 9:25:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	69	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	28	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	21	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.9	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	240	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	200	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	38	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.6	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	63	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.01	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	430	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 21:19		JRG	PE-OP2	1	B013330
2	SM-2320B	05/07/18 07:30	05/07/18 12:10		MEV	MET-1	1	B010276
3	EPA-300.0	04/28/18 22:00	04/29/18 01:06		SAV	IC2	1	B012204
4	EPA-150.1	05/07/18 07:30	05/07/18 12:10		MEV	MET-1	1	B010276
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30		CAD	MANUAL	2	B012552
6	EPA-353.2	04/27/18 16:13	04/28/18 00:36		SAV	KONE-1	1	B012769
7	EPA-314.0	05/14/18 17:00	05/15/18 08:54		EMW	IC6	1	B013802

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-06	Client Sample Name: NASA/JPL, Dup-7-2Q18, 4/27/2018 9:25:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	77	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:58	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 12:06	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:19	JRG	PE-OP2	1	B013330

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-07 Client Sample Name: NASA/JPL, EB-8-042718, 4/27/2018 10:30:00AM, Tinh Hoang

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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-07		Client Sample Name: NASA/JPL, EB-8-042718, 4/27/2018 10:30:00AM, Tinh Hoang						
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	0.49	ug/L	1.0	0.48	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-07	Client Sample Name: NASA/JPL, EB-8-042718, 4/27/2018 10:30:00AM, Thinh Hoang
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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)	96.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	97.2	%	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	05/01/18 07:00	05/01/18 13:30	MGC	MS-V5	1	B012389

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-07	Client Sample Name: NASA/JPL, EB-8-042718, 4/27/2018 10:30:00AM, Thinh Hoang
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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	05/01/18 07:00	05/01/18 13:30	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the analysis runs.

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-07	Client Sample Name: NASA/JPL, EB-8-042718, 4/27/2018 10:30:00AM, Thinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.76	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:58	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 12:10	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:21	JRG	PE-OP2	1	B013330

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-08		Client Sample Name: NASA/JPL, MW-12-3, 4/27/2018 11:30:00AM, Thanh Hoang						
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	0.56	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-08	Client Sample Name: NASA/JPL, MW-12-3, 4/27/2018 11:30:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-08	Client Sample Name: NASA/JPL, MW-12-3, 4/27/2018 11:30:00AM, Thanh Hoang
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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)	97.2	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	95.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.8	%	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	05/01/18 07:00	05/01/18 13:52	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-08	Client Sample Name: NASA/JPL, MW-12-3, 4/27/2018 11:30:00AM, Thanh Hoang
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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	05/01/18 07:00	05/01/18 13:52	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows correspond to runs 1 through 7.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-08	Client Sample Name: NASA/JPL, MW-12-3, 4/27/2018 11:30:00AM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	0.98	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	240	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:58	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 12:13	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:24	JRG	PE-OP2	1	B013330

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-09	Client Sample Name: NASA/JPL, DUP-8-2Q18, 4/27/2018 11:40:00AM, Tinh Hoang
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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	0.49	ug/L	0.50	0.14	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-09	Client Sample Name: NASA/JPL, DUP-8-2Q18, 4/27/2018 11:40:00AM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-09	Client Sample Name: NASA/JPL, DUP-8-2Q18, 4/27/2018 11:40:00AM, Tinh Hoang
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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)	98.3	%	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	05/01/18 07:00	05/01/18 14:15	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-09	Client Sample Name: NASA/JPL, DUP-8-2Q18, 4/27/2018 11:40:00AM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 14:15	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-09		Client Sample Name: NASA/JPL, DUP-8-2Q18, 4/27/2018 11:40:00AM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	41	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	15	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	25	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	2.9	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	200	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	160	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	16	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	0.085	mg/L	0.10	0.021	EPA-300.0	ND	J	3
Sulfate	29	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	8.10	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	280	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	0.81	ug/L	4.0	0.58	EPA-314.0	ND	J	7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 21:27		JRG	PE-OP2	1	B013330
2	SM-2320B	05/07/18 07:30	05/07/18 12:27		MEV	MET-1	1	B010276
3	EPA-300.0	04/28/18 22:00	04/29/18 03:30		SAV	IC2	1	B012204
4	EPA-150.1	05/07/18 07:30	05/07/18 12:27		MEV	MET-1	1	B010276
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30		CAD	MANUAL	2	B012552
6	EPA-353.2	04/27/18 16:13	04/28/18 00:36		SAV	KONE-1	1	B012769
7	EPA-314.0	05/14/18 17:00	05/15/18 23:46		SAV	IC6	1	B013802

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-09	Client Sample Name: NASA/JPL, DUP-8-2Q18, 4/27/2018 11:40:00AM, Tinh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.53	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	240	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:58	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 12:17	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:27	JRG	PE-OP2	1	B013330

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-10	Client Sample Name: NASA/JPL, MW-12-2, 4/27/2018 12:30:00PM, Tinh Hoang
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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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-10	Client Sample Name: NASA/JPL, MW-12-2, 4/27/2018 12:30:00PM, Tinh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-10	Client Sample Name: NASA/JPL, MW-12-2, 4/27/2018 12:30:00PM, Tinh Hoang
----------------------------------	--

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)	97.1	%	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	05/01/18 07:00	05/01/18 14:38	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-10	Client Sample Name: NASA/JPL, MW-12-2, 4/27/2018 12:30:00PM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 14:38	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-10	Client Sample Name: NASA/JPL, MW-12-2, 4/27/2018 12:30:00PM, Tinh Hoang
----------------------------------	--

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	0.99	ug/L	3.0	0.50	EPA-200.8	ND	J	2
Total Recoverable Iron	910	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:58	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 12:20	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 21:29	JRG	PE-OP2	1	B013330

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-11	Client Sample Name: NASA/JPL, MW-12-1, 4/27/2018 1:00:00PM, Tinh Hoang
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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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1813628-11) and Client Sample Name (NASA/JPL, MW-12-1, 4/27/2018 1:00:00PM, Tinh Hoang)

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

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-11	Client Sample Name: NASA/JPL, MW-12-1, 4/27/2018 1:00:00PM, Tinh Hoang
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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)	95.3	%	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	05/01/18 07:00	05/01/18 15:01	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-11	Client Sample Name: NASA/JPL, MW-12-1, 4/27/2018 1:00:00PM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 15:01	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-11		Client Sample Name: NASA/JPL, MW-12-1, 4/27/2018 1:00:00PM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	71	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	24	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	27	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.6	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	250	mg/L	5.0	5.0	SM-2320B	ND		2
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		2
Total Alkalinity as CaCO3	210	mg/L	4.1	4.1	SM-2320B	ND		2
Chloride	30	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	1.2	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	61	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.64	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	390	mg/L	20	20	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18	14:13	JRG	PE-OP2	1	B013335
2	SM-2320B	05/07/18 07:30	05/07/18	13:08	MEV	MET-1	1	B010277
3	EPA-300.0	04/28/18 23:30	04/29/18	04:11	SAV	IC2	1	B012205
4	EPA-150.1	05/07/18 07:30	05/07/18	13:08	MEV	MET-1	1	B010277
5	EPA-160.1	05/02/18 13:30	05/02/18	13:30	CAD	MANUAL	2	B012553
6	EPA-353.2	04/27/18 16:13	04/28/18	00:39	SAV	KONE-1	1	B012771
7	EPA-314.0	05/14/18 17:00	05/15/18	22:14	SAV	IC6	1	B013802

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-11	Client Sample Name: NASA/JPL, MW-12-1, 4/27/2018 1:00:00PM, Tinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	88	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:59	SAV	KONE-1	1	B012328
2	EPA-200.8	05/04/18 08:00	05/07/18 09:49	ARD	PE-EL2	1	B012759
3	EPA-200.7	05/09/18 08:00	05/09/18 14:13	JRG	PE-OP2	1	B013335

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-12	Client Sample Name: NASA/JPL, MW-9, 4/27/2018 8:45:00AM, Thanh Hoang
----------------------------------	---

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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-12	Client Sample Name: NASA/JPL, MW-9, 4/27/2018 8:45:00AM, Thanh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-12	Client Sample Name: NASA/JPL, MW-9, 4/27/2018 8:45:00AM, Thanh Hoang
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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)	96.5	%	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	05/01/18 07:00	05/01/18 08:55	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-12	Client Sample Name: NASA/JPL, MW-9, 4/27/2018 8:45:00AM, Tinh Hoang
----------------------------------	--

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	05/01/18 07:00	05/01/18 08:55	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 corresponding to the main analysis table.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-12	Client Sample Name: NASA/JPL, MW-9, 4/27/2018 8:45:00AM, Thanh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	3.0	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	320	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	0.14	ug/L	1.0	0.10	EPA-200.8	ND	J	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:51	SAV	KONE-1	1	B012327
2	EPA-200.8	05/03/18 08:00	05/09/18 11:18	MH1	PE-EL2	1	B012665
3	EPA-200.7	05/09/18 08:00	05/09/18 20:44	JRG	PE-OP2	1	B013330

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-13	Client Sample Name: NASA/JPL, MW-1, 4/27/2018 10:30:00AM, Tinh Hoang
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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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

Table with 2 columns: BCL Sample ID (1813628-13) and Client Sample Name (NASA/JPL, MW-1, 4/27/2018 10:30:00AM, Tinh Hoang)

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

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-13 Client Sample Name: NASA/JPL, MW-1, 4/27/2018 10:30:00AM, Tinh Hoang

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)	97.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	93.4	%	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	05/01/18 13:00	05/01/18 15:47	MGC	MS-V5	1	B012390

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-13	Client Sample Name: NASA/JPL, MW-1, 4/27/2018 10:30:00AM, Tinh Hoang
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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	05/01/18 13:00	05/01/18 15:47	MGC	MS-V5	1	B012390

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

Table with columns: BCL Sample ID, Client Sample Name, Constituent, Result, Units, PQL, MDL, Method, MB Bias, Lab Quals, Run #. Rows include Total Recoverable Calcium, Magnesium, Sodium, Potassium, Bicarbonate, Carbonate, Total Alkalinity as CaCO3, Chloride, Nitrate as N, Sulfate, pH, Total Dissolved Solids @ 180 C, Nitrite as N, and Perchlorate.

Table with columns: Run #, Method, Prep Date, Run Date/Time, Analyst, Instrument, Dilution, QC Batch ID. Rows 1-7 detailing sample preparation and analysis parameters.

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-13	Client Sample Name: NASA/JPL, MW-1, 4/27/2018 10:30:00AM, Tinh Hoang
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	ND	mg/L	0.0020	0.00070	EPA-7196	ND		1
Total Recoverable Arsenic	1.3	ug/L	2.0	0.70	EPA-200.8	ND	J	2
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	ND	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:58	SAV	KONE-1	1	B012328
2	EPA-200.8	05/04/18 08:00	05/07/18 09:10	ARD	PE-EL2	1	B012759
3	EPA-200.7	05/09/18 08:00	05/09/18 13:38	JRG	PE-OP2	1	B013335

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID:	1813628-14	Client Sample Name:	NASA/JPL, MW-16, 4/27/2018 11:45:00AM, Thanh Hoang						
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	3.6	ug/L	0.50	0.20	EPA-524.2	ND		1	
Bromoform	2.4	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	3.0	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	2.2	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-14	Client Sample Name: NASA/JPL, MW-16, 4/27/2018 11:45:00AM, Thanh Hoang
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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.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-14	Client Sample Name: NASA/JPL, MW-16, 4/27/2018 11:45:00AM, Thanh Hoang
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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)	96.6	%	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	05/01/18 07:00	05/01/18 16:10	MGC	MS-V5	1	B012389

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-14	Client Sample Name: NASA/JPL, MW-16, 4/27/2018 11:45:00AM, Thanh Hoang
----------------------------------	---

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	05/01/18 07:00	05/01/18 16:10	MGC	MS-V5	1	B012389

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

BCL Sample ID: 1813628-14	Client Sample Name: NASA/JPL, MW-16, 4/27/2018 11:45:00AM, Thanh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
1,4-Dioxane	ND	ug/L	1.0	0.10	EPA-8270D	ND		1
Naphthalene-d8 (Surrogate)	94.8	%	70 - 130 (LCL - UCL)		EPA-8270D			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270D	05/02/18 21:30	05/09/18 18:25	RSM	MS-B4	0.990	B013462

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-14		Client Sample Name: NASA/JPL, MW-16, 4/27/2018 11:45:00AM, Thanh Hoang							
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Bicarbonate	240	mg/L	5.0	5.0	SM-2320B	ND		1	
Carbonate	ND	mg/L	2.5	2.5	SM-2320B	ND		1	
Total Alkalinity as CaCO3	200	mg/L	4.1	4.1	SM-2320B	ND		1	
Chloride	99	mg/L	0.50	0.077	EPA-300.0	ND		2	
Nitrate as N	1.4	mg/L	0.10	0.021	EPA-300.0	ND		2	
Sulfate	55	mg/L	1.0	0.13	EPA-300.0	ND		2	
pH	7.75	pH Units	0.05	0.05	EPA-150.1		S05	3	
Total Dissolved Solids @ 180 C	470	mg/L	33	33	EPA-160.1	ND		4	
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		5	
Perchlorate	ND	ug/L	4.0	0.58	EPA-314.0	ND		6	
ortho-Phosphate as P	0.24	mg/L	0.050	0.017	EPA-365.1	ND		7	

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	SM-2320B	05/07/18 07:30	05/07/18	13:14	MEV	MET-1	1	B010277
2	EPA-300.0	04/28/18 23:30	04/29/18	07:58	SAV	IC2	1	B012205
3	EPA-150.1	05/07/18 07:30	05/07/18	13:14	MEV	MET-1	1	B010277
4	EPA-160.1	05/02/18 13:30	05/02/18	13:30	CAD	MANUAL	3.333	B012553
5	EPA-353.2	04/27/18 16:13	04/28/18	00:39	SAV	KONE-1	1	B012771
6	EPA-314.0	05/14/18 17:00	05/15/18	23:15	SAV	IC6	1	B013802
7	EPA-365.1	04/28/18 01:38	04/28/18	01:53	SAV	KONE-1	1	B012753

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-15 Client Sample Name: NASA/JPL, MW-10, 4/27/2018 1:10:00PM, Tinh Hoang

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	0.75	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	0.16	ug/L	0.50	0.15	EPA-524.2	ND	J	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	0.27	ug/L	0.50	0.27	EPA-524.2	ND	J	1
trans-1,2-Dichloroethene	0.29	ug/L	0.50	0.17	EPA-524.2	ND	J	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-15	Client Sample Name: NASA/JPL, MW-10, 4/27/2018 1:10:00PM, Thinh Hoang
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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	0.75	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	6.1	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: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 1813628-15	Client Sample Name: NASA/JPL, MW-10, 4/27/2018 1:10:00PM, Tinh Hoang
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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)	95.6	%	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	05/01/18 07:00	05/01/18 16:33	MGC	MS-V5	1	B012389

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 1813628-15	Client Sample Name: NASA/JPL, MW-10, 4/27/2018 1:10:00PM, Tinh Hoang
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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	05/01/18 07:00	05/01/18 16:33	MGC	MS-V5	1	B012389

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 1813628-15		Client Sample Name: NASA/JPL, MW-10, 4/27/2018 1:10:00PM, Tinh Hoang						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Recoverable Calcium	130	mg/L	0.10	0.014	EPA-200.7	ND		1
Total Recoverable Magnesium	44	mg/L	0.050	0.019	EPA-200.7	ND		1
Total Recoverable Sodium	34	mg/L	0.50	0.051	EPA-200.7	ND		1
Total Recoverable Potassium	3.1	mg/L	1.0	0.10	EPA-200.7	ND		1
Bicarbonate	270	mg/L	10	10	SM-2320B	ND	A07	2
Carbonate	ND	mg/L	5.0	5.0	SM-2320B	ND	A07	2
Total Alkalinity as CaCO3	220	mg/L	8.2	8.2	SM-2320B	ND	A07	2
Chloride	110	mg/L	0.50	0.077	EPA-300.0	ND		3
Nitrate as N	13	mg/L	0.10	0.021	EPA-300.0	ND		3
Sulfate	170	mg/L	1.0	0.13	EPA-300.0	ND		3
pH	7.31	pH Units	0.05	0.05	EPA-150.1		S05	4
Total Dissolved Solids @ 180 C	740	mg/L	33	33	EPA-160.1	ND		5
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		6
Perchlorate	4.6	ug/L	4.0	0.58	EPA-314.0	ND		7

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC
			Date/Time					Batch ID
1	EPA-200.7	05/09/18 08:00	05/09/18 14:16	JRG	PE-OP2	1	B013335	
2	SM-2320B	05/07/18 07:30	05/07/18 13:20	MEV	MET-1	2	B010277	
3	EPA-300.0	04/28/18 23:30	04/29/18 08:19	SAV	IC2	1	B012205	
4	EPA-150.1	05/07/18 07:30	05/07/18 13:20	MEV	MET-1	1	B010277	
5	EPA-160.1	05/02/18 13:30	05/02/18 13:30	CAD	MANUAL	3.333	B012553	
6	EPA-353.2	04/27/18 16:13	04/28/18 00:39	SAV	KONE-1	1	B012771	
7	EPA-314.0	05/14/18 17:00	05/15/18 23:31	SAV	IC6	1	B013802	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 1813628-15	Client Sample Name: NASA/JPL, MW-10, 4/27/2018 1:10:00PM, Thinh Hoang
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	0.0013	mg/L	0.0020	0.00070	EPA-7196	ND	J	1
Total Recoverable Arsenic	ND	ug/L	2.0	0.70	EPA-200.8	ND		2
Total Recoverable Chromium	10	ug/L	3.0	0.50	EPA-200.8	ND		2
Total Recoverable Iron	64	ug/L	50	30	EPA-200.7	ND		3
Total Recoverable Lead	ND	ug/L	1.0	0.10	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	04/27/18 23:28	04/27/18 23:59	SAV	KONE-1	1	B012328
2	EPA-200.8	05/04/18 08:00	05/07/18 09:53	ARD	PE-EL2	1	B012759
3	EPA-200.7	05/09/18 08:00	05/09/18 14:16	JRG	PE-OP2	1	B013335

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012389						
Benzene	B012389-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012389-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012389-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012389-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012389-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012389-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012389-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012389-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012389-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012389-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012389-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012389-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012389-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012389-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012389-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012389-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B012389-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012389-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012389-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012389-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012389-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012389-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012389-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012389-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012389-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012389-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012389-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012389-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012389-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012389-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012389-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012389-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012389-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012389-BLK1	ND	ug/L	0.50	0.14	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012389						
trans-1,3-Dichloropropene	B012389-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012389-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012389-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012389-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012389-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012389-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012389-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012389-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012389-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012389-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012389-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012389-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012389-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012389-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012389-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012389-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B012389-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012389-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012389-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012389-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012389-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012389-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012389-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012389-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012389-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012389-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012389-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012389-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012389-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012389-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012389-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012389-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012389-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012389-BLK1	ND	ug/L	4.0	1.3	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012389

Ethyl t-butyl ether	B012389-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012389-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012389-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012389-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012389-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012389-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012389-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012389-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012389-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012389-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012389-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012389-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012389-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012389-BLK1	96.2	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012389-BLK1	98.8	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012389-BLK1	100	%	80 - 120 (LCL - UCL)		

QC Batch ID: B012390

Benzene	B012390-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B012390-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B012390-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B012390-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B012390-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B012390-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B012390-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B012390-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B012390-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B012390-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B012390-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B012390-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B012390-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B012390-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B012390-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B012390-BLK1	ND	ug/L	0.50	0.093	

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012390						
Dibromochloromethane	B012390-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B012390-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B012390-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B012390-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B012390-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B012390-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B012390-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B012390-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B012390-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B012390-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B012390-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B012390-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B012390-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B012390-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B012390-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B012390-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B012390-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B012390-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B012390-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B012390-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B012390-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B012390-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B012390-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B012390-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B012390-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B012390-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B012390-BLK1	ND	ug/L	0.50	0.12	
Styrene	B012390-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B012390-BLK1	ND	ug/L	0.50	0.21	
1,1,1,2,2-Tetrachloroethane	B012390-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B012390-BLK1	ND	ug/L	0.50	0.23	
Toluene	B012390-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B012390-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B012390-BLK1	ND	ug/L	0.50	0.15	

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012390						
1,1,1-Trichloroethane	B012390-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B012390-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B012390-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B012390-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B012390-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B012390-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B012390-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B012390-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B012390-BLK1	ND	ug/L	0.50	0.18	
Acetone	B012390-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B012390-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B012390-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B012390-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B012390-BLK1	ND	ug/L	10	9.4	
Carbon disulfide	B012390-BLK1	ND	ug/L	1.0	0.48	
trans-1,4-Dichloro-2-butene	B012390-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B012390-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B012390-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B012390-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B012390-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B012390-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B012390-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B012390-BLK1	ND	ug/L	10	3.3	
Methyl iodide	B012390-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B012390-BLK1	ND	ug/L	10	2.4	
Methyl methacrylate	B012390-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B012390-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B012390-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B012390-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B012390-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B012390-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	B012390-BLK1	108	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	B012390-BLK1	98.2	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B012390-BLK1	98.6	%	80 - 120 (LCL - UCL)		

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012389										
Benzene	B012389-BS1	LCS	26.880	25.000	ug/L	108		70 - 130		
Bromodichloromethane	B012389-BS1	LCS	29.450	25.000	ug/L	118		70 - 130		
Chlorobenzene	B012389-BS1	LCS	27.880	25.000	ug/L	112		70 - 130		
Chloroethane	B012389-BS1	LCS	21.810	25.000	ug/L	87.2		70 - 130		
1,4-Dichlorobenzene	B012389-BS1	LCS	28.840	25.000	ug/L	115		70 - 130		
1,1-Dichloroethane	B012389-BS1	LCS	27.500	25.000	ug/L	110		70 - 130		
1,1-Dichloroethene	B012389-BS1	LCS	29.110	25.000	ug/L	116		70 - 130		
Toluene	B012389-BS1	LCS	28.490	25.000	ug/L	114		70 - 130		
Trichloroethene	B012389-BS1	LCS	28.860	25.000	ug/L	115		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012389-BS1	LCS	9.7200	10.000	ug/L	97.2		75 - 125		
Toluene-d8 (Surrogate)	B012389-BS1	LCS	9.7900	10.000	ug/L	97.9		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012389-BS1	LCS	10.000	10.000	ug/L	100		80 - 120		

QC Batch ID: B012390										
Benzene	B012390-BS1	LCS	24.390	25.000	ug/L	97.6		70 - 130		
Bromodichloromethane	B012390-BS1	LCS	27.120	25.000	ug/L	108		70 - 130		
Chlorobenzene	B012390-BS1	LCS	24.420	25.000	ug/L	97.7		70 - 130		
Chloroethane	B012390-BS1	LCS	20.010	25.000	ug/L	80.0		70 - 130		
1,4-Dichlorobenzene	B012390-BS1	LCS	24.960	25.000	ug/L	99.8		70 - 130		
1,1-Dichloroethane	B012390-BS1	LCS	24.800	25.000	ug/L	99.2		70 - 130		
1,1-Dichloroethene	B012390-BS1	LCS	26.040	25.000	ug/L	104		70 - 130		
Toluene	B012390-BS1	LCS	25.810	25.000	ug/L	103		70 - 130		
Trichloroethene	B012390-BS1	LCS	26.930	25.000	ug/L	108		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B012390-BS1	LCS	10.680	10.000	ug/L	107		75 - 125		
Toluene-d8 (Surrogate)	B012390-BS1	LCS	9.8400	10.000	ug/L	98.4		80 - 120		
4-Bromofluorobenzene (Surrogate)	B012390-BS1	LCS	9.6800	10.000	ug/L	96.8		80 - 120		

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Qualls. Includes QC Batch ID: B012389 and Used client sample: Y - Description: MW-9, 04/27/2018 08:45.

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 Qualls. Includes QC Batch ID: B012390 and Used client sample: Y - Description: MW-1, 04/27/2018 10:30.

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012390		Used client sample: Y - Description: MW-1, 04/27/2018 10:30								
1,1-Dichloroethene	MS	1813628-13	ND	27.740	25.000	ug/L		111		70 - 130
	MSD	1813628-13	ND	26.840	25.000	ug/L	3.3	107	20	70 - 130
Toluene	MS	1813628-13	ND	25.690	25.000	ug/L		103		70 - 130
	MSD	1813628-13	ND	26.970	25.000	ug/L	4.9	108	20	70 - 130
Trichloroethene	MS	1813628-13	ND	26.410	25.000	ug/L		106		70 - 130
	MSD	1813628-13	ND	26.890	25.000	ug/L	1.8	108	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1813628-13	ND	10.220	10.000	ug/L		102		75 - 125
	MSD	1813628-13	ND	10.480	10.000	ug/L	2.5	105		75 - 125
Toluene-d8 (Surrogate)	MS	1813628-13	ND	9.6900	10.000	ug/L		96.9		80 - 120
	MSD	1813628-13	ND	10.070	10.000	ug/L	3.8	101		80 - 120
4-Bromofluorobenzene (Surrogate)	MS	1813628-13	ND	10.030	10.000	ug/L		100		80 - 120
	MSD	1813628-13	ND	9.8700	10.000	ug/L	1.6	98.7		80 - 120

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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: B012389						
Chloroacetonitrile	B012389-BLK1	0	ug/L			
1-Chlorobutane	B012389-BLK1	0	ug/L			
1,1-Dichloropropanone	B012389-BLK1	0	ug/L			
Methyl acrylate	B012389-BLK1	0	ug/L			
Nitrobenzene	B012389-BLK1	0	ug/L			
2-Nitropropane	B012389-BLK1	0	ug/L			
QC Batch ID: B012390						
Chloroacetonitrile	B012390-BLK1	0	ug/L			
1-Chlorobutane	B012390-BLK1	0	ug/L			
1,1-Dichloropropanone	B012390-BLK1	0	ug/L			
Methyl acrylate	B012390-BLK1	0	ug/L			
Nitrobenzene	B012390-BLK1	0	ug/L			
2-Nitropropane	B012390-BLK1	0	ug/L			

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B013462						
1,4-Dioxane	B013462-BLK1	ND	ug/L	1.0	0.10	
Naphthalene-d8 (Surrogate)	B013462-BLK1	116	%	70 - 130 (LCL - UCL)		

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

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		
QC Batch ID: B013462											
1,4-Dioxane	B013462-BS1	LCS	39.966	50.000	ug/L	79.9		70 - 130			
Naphthalene-d8 (Surrogate)	B013462-BS1	LCS	43.472	40.000	ug/L	109		70 - 130			

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

1,4-Dioxane (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals	
								Percent Recovery	RPD		Percent Recovery
QC Batch ID: B013462		Used client sample: N									
1,4-Dioxane	MS	1810833-55	ND	45.580	50.000	ug/L		91.2		70 - 130	
	MSD	1810833-55	ND	43.880	50.000	ug/L	3.8	87.8	30	70 - 130	
Naphthalene-d8 (Surrogate)	MS	1810833-55	ND	57.710	40.000	ug/L		144		70 - 130	S09
	MSD	1810833-55	ND	46.510	40.000	ug/L	21.5	116		70 - 130	

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B010276						
Bicarbonate	B010276-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010276-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010276-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010277						
Bicarbonate	B010277-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010277-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010277-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B010278						
Bicarbonate	B010278-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B010278-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B010278-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B012204						
Chloride	B012204-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B012204-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B012204-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B012205						
Chloride	B012205-BLK1	ND	mg/L	0.50	0.077	
Nitrate as N	B012205-BLK1	ND	mg/L	0.10	0.021	
Sulfate	B012205-BLK1	ND	mg/L	1.0	0.13	
QC Batch ID: B012552						
Total Dissolved Solids @ 180 C	B012552-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012553						
Total Dissolved Solids @ 180 C	B012553-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: B012753						
ortho-Phosphate as P	B012753-BLK1	ND	mg/L	0.050	0.017	
QC Batch ID: B012769						
Nitrite as N	B012769-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B012771						
Nitrite as N	B012771-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B012966						

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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
QC Batch ID: B012966						
Bicarbonate	B012966-BLK1	ND	mg/L	5.0	5.0	
Carbonate	B012966-BLK1	ND	mg/L	2.5	2.5	
Total Alkalinity as CaCO3	B012966-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: B013330						
Total Recoverable Calcium	B013330-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B013330-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B013330-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B013330-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013335						
Total Recoverable Calcium	B013335-BLK1	ND	mg/L	0.10	0.014	
Total Recoverable Magnesium	B013335-BLK1	ND	mg/L	0.050	0.019	
Total Recoverable Sodium	B013335-BLK1	ND	mg/L	0.50	0.051	
Total Recoverable Potassium	B013335-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: B013801						
Perchlorate	B013801-BLK1	ND	ug/L	4.0	0.58	
QC Batch ID: B013802						
Perchlorate	B013802-BLK1	ND	ug/L	4.0	0.58	

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B010276										
Total Alkalinity as CaCO3	B010276-BS3	LCS	101.93	100.00	mg/L	102		90 - 110		
pH	B010276-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B010277										
Total Alkalinity as CaCO3	B010277-BS3	LCS	102.08	100.00	mg/L	102		90 - 110		
pH	B010277-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B010278										
Total Alkalinity as CaCO3	B010278-BS3	LCS	99.650	100.00	mg/L	99.6		90 - 110		
pH	B010278-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B012204										
Chloride	B012204-BS1	LCS	49.442	50.000	mg/L	98.9		90 - 110		
Nitrate as N	B012204-BS1	LCS	4.9120	5.0000	mg/L	98.2		90 - 110		
Sulfate	B012204-BS1	LCS	95.396	100.00	mg/L	95.4		90 - 110		
QC Batch ID: B012205										
Chloride	B012205-BS1	LCS	50.347	50.000	mg/L	101		90 - 110		
Nitrate as N	B012205-BS1	LCS	4.8780	5.0000	mg/L	97.6		90 - 110		
Sulfate	B012205-BS1	LCS	96.503	100.00	mg/L	96.5		90 - 110		
QC Batch ID: B012552										
Total Dissolved Solids @ 180 C	B012552-BS1	LCS	595.00	586.00	mg/L	102		90 - 110		
QC Batch ID: B012553										
Total Dissolved Solids @ 180 C	B012553-BS1	LCS	600.00	586.00	mg/L	102		90 - 110		
QC Batch ID: B012753										
ortho-Phosphate as P	B012753-BS1	LCS	0.20008	0.20000	mg/L	100		90 - 110		
QC Batch ID: B012769										
Nitrite as N	B012769-BS1	LCS	0.47693	0.50000	mg/L	95.4		90 - 110		
QC Batch ID: B012771										
Nitrite as N	B012771-BS1	LCS	0.47020	0.50000	mg/L	94.0		90 - 110		
QC Batch ID: B012966										
Total Alkalinity as CaCO3	B012966-BS3	LCS	101.02	100.00	mg/L	101		90 - 110		
pH	B012966-BS2	LCS	7.0200	7.0000	pH Units	100		95 - 105		
QC Batch ID: B013330										
Total Recoverable Calcium	B013330-BS1	LCS	10.494	10.000	mg/L	105		85 - 115		
Total Recoverable Magnesium	B013330-BS1	LCS	10.820	10.000	mg/L	108		85 - 115		

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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B013330										
Total Recoverable Sodium	B013330-BS1	LCS	10.603	10.000	mg/L	106		85 - 115		
Total Recoverable Potassium	B013330-BS1	LCS	9.9810	10.000	mg/L	99.8		85 - 115		
QC Batch ID: B013335										
Total Recoverable Calcium	B013335-BS1	LCS	10.911	10.000	mg/L	109		85 - 115		
Total Recoverable Magnesium	B013335-BS1	LCS	11.132	10.000	mg/L	111		85 - 115		
Total Recoverable Sodium	B013335-BS1	LCS	10.603	10.000	mg/L	106		85 - 115		
Total Recoverable Potassium	B013335-BS1	LCS	10.399	10.000	mg/L	104		85 - 115		
QC Batch ID: B013801										
Perchlorate	B013801-BS1	LCS	10.449	10.000	ug/L	104		85 - 115		
QC Batch ID: B013802										
Perchlorate	B013802-BS1	LCS	8.5597	10.000	ug/L	85.6		85 - 115		

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 B010276, B010277, B010278, B012204, B012205, and B012552.

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Tidewater Inc.
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Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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 Qualls. Includes multiple QC batches (B012552, B012553, B012753, B012769, B012771, B012966, B013330) and their respective test results.

QC Batch ID: B013335 Used client sample: Y - Description: MW-1, 04/27/2018 10:30

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3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B013335		Used client sample: Y - Description: MW-1, 04/27/2018 10:30								
Total Recoverable Calcium	DUP	1813628-13	66.752	62.781		mg/L	6.1		20	
	MS	1813628-13	66.752	74.687	10.000	mg/L		79.4		75 - 125
	MSD	1813628-13	66.752	78.096	10.000	mg/L	4.5	113	20	75 - 125
Total Recoverable Magnesium	DUP	1813628-13	21.260	19.994		mg/L	6.1		20	
	MS	1813628-13	21.260	30.813	10.000	mg/L		95.5		75 - 125
	MSD	1813628-13	21.260	32.358	10.000	mg/L	4.9	111	20	75 - 125
Total Recoverable Sodium	DUP	1813628-13	32.324	30.316		mg/L	6.4		20	
	MS	1813628-13	32.324	40.976	10.000	mg/L		86.5		75 - 125
	MSD	1813628-13	32.324	43.502	10.000	mg/L	6.0	112	20	75 - 125
Total Recoverable Potassium	DUP	1813628-13	3.4248	3.1861		mg/L	7.2		20	
	MS	1813628-13	3.4248	13.247	10.000	mg/L		98.2		75 - 125
	MSD	1813628-13	3.4248	14.008	10.000	mg/L	5.6	106	20	75 - 125
QC Batch ID: B013801		Used client sample: Y - Description: MW-1, 04/27/2018 10:30								
Perchlorate	DUP	1813628-13	ND	ND		ug/L			15	
	MS	1813628-13	ND	9.0159	10.101	ug/L		89.3		80 - 120
	MSD	1813628-13	ND	9.6453	10.101	ug/L	6.7	95.5	15	80 - 120
QC Batch ID: B013802		Used client sample: Y - Description: MW-20-3, 04/27/2018 08:45								
Perchlorate	DUP	1813628-04	1.3800	1.2125		ug/L	12.9		15	J
	MS	1813628-04	1.3800	10.505	10.101	ug/L		90.3		80 - 120
	MSD	1813628-04	1.3800	10.457	10.101	ug/L	0.5	89.9	15	80 - 120

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
Project Manager: David Conner

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B012327						
Hexavalent Chromium	B012327-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012328						
Hexavalent Chromium	B012328-BLK1	ND	mg/L	0.0020	0.00070	
QC Batch ID: B012665						
Total Recoverable Arsenic	B012665-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012665-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012665-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B012759						
Total Recoverable Arsenic	B012759-BLK1	ND	ug/L	2.0	0.70	
Total Recoverable Chromium	B012759-BLK1	ND	ug/L	3.0	0.50	
Total Recoverable Lead	B012759-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: B013330						
Total Recoverable Iron	B013330-BLK1	ND	ug/L	50	30	
QC Batch ID: B013335						
Total Recoverable Iron	B013335-BLK1	ND	ug/L	50	30	

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Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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	
QC Batch ID: B012327										
Hexavalent Chromium	B012327-BS1	LCS	0.050364	0.050000	mg/L	101		85 - 115		
QC Batch ID: B012328										
Hexavalent Chromium	B012328-BS1	LCS	0.052128	0.050000	mg/L	104		85 - 115		
QC Batch ID: B012665										
Total Recoverable Arsenic	B012665-BS1	LCS	103.69	100.00	ug/L	104		85 - 115		
Total Recoverable Chromium	B012665-BS1	LCS	42.307	40.000	ug/L	106		85 - 115		
Total Recoverable Lead	B012665-BS1	LCS	104.49	100.00	ug/L	104		85 - 115		
QC Batch ID: B012759										
Total Recoverable Arsenic	B012759-BS1	LCS	97.348	100.00	ug/L	97.3		85 - 115		
Total Recoverable Chromium	B012759-BS1	LCS	39.420	40.000	ug/L	98.6		85 - 115		
Total Recoverable Lead	B012759-BS1	LCS	102.28	100.00	ug/L	102		85 - 115		
QC Batch ID: B013330										
Total Recoverable Iron	B013330-BS1	LCS	1095.4	1000.0	ug/L	110		85 - 115		
QC Batch ID: B013335										
Total Recoverable Iron	B013335-BS1	LCS	1120.8	1000.0	ug/L	112		85 - 115		

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Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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Metals Analysis

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 Qualls. Includes QC Batch IDs B012327, B012328, B012665, B012759, B013330, and B013335.

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Certificate of Analysis

FINAL REPORT

Work Orders: 8E04020

Project: 1813628

Attn: BC Laboratories
Client: BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308

Report Date: 5/14/2018
Received Date: 5/4/2018
Turnaround Time: Normal
Phones: (661) 327-4911
Fax: (661) 327-1918
P.O. #:
Billing Code:

Dear BC Laboratories,

Enclosed are the results of analyses for samples received 5/04/18 with the Chain-of-Custody document. The samples were received in good condition, at 2.6 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Sample Results

Sample: 1813628-14	Sampled: 04/27/18 11:45 by Client					
8E04020-01 (Water)						
Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA 1625M N-Nitrosodimethylamine	Batch ID: W8E0257 Instr: GCMS09 ND	Prepared: 05/04/18 08:35 2.0	ng/l	1	Analyst: mld 05/10/18 04:44	

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WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Quality Control Results

Nitrosamines by isotopic dilution GC/MS CI Mode

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	RPD	Limit	Qualifier
Batch: W8E0257 - EPA 3535/SPE									
Blank (W8E0257-BLK1)				Prepared: 05/04/18 Analyzed: 05/09/18					
N-Nitrosodimethylamine	ND	2.0	ng/l						
LCS (W8E0257-BS1)				Prepared: 05/04/18 Analyzed: 05/09/18					
N-Nitrosodimethylamine	2.52	2.0	ng/l	3.00		84	50-150		
LCS Dup (W8E0257-BS01)				Prepared: 05/04/18 Analyzed: 05/09/18					
N-Nitrosodimethylamine	2.63	2.0	ng/l	3.00		88	50-150	5	50

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WECK LABORATORIES, INC.

Certificate of Analysis

FINAL REPORT

Notes and Definitions

Item	Definition
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.
 An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)
 All results are expressed on wet weight basis unless otherwise specified.
 All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

Reviewed by:

Regina Giancola
Project Manager



DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 •
 LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.



Tidewater Inc.
3761 Attucks Drive
Powell, OH 43065

Reported: 05/25/2018 12:37
Project: JPL- GW Monitoring Wells
Project Number: 2Q18
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.
- A03 The sample concentration is more than 4 times the spike level.
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- S05 The sample holding time was exceeded.
- S09 The surrogate recovery on the sample for this compound was not within the control limits.

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