ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

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

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project: 4Q21
BCL Project: JPL- GW Monitoring Wells-CLP
BCL Work Order: 2133734
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 10/26/2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda
Client Service Rep

Stuart Buttram
Technical Director

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

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BC Laboratories, Inc. — Chain of Custody Form

*Required Fields

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Report To Client:* Tidewater, Inc.	Project Description:* JPL-GW Monitoring
Attn:* David Conner	
Street Address:* 3761 Attucks Drive	Project Code:* 4Q21
City:* Powell State:* OH Zip:* 43065	
Phone#:* (626) 298 - 5715 Fax#: (614) 792 - 2897	Sampler (s):* Blaine Tech
Email Address: david.conner@tideh2o.net	L. Henderson
Submission #: 21-33734	

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4		Orthophosphate 365.1			
-1	TB-1-102621	10/26/21	0900	W	X									
-2	MW-25-5		0950		X	X	X	X						
-3	MW-25-4		1025		X	X	X	X						
-4	MW-25-3		1100		X	X	X	X						
-5	MW-25-2		1140		X	X	X	X						
-6	MW-25-1		1200		X	X	X	X						
-7	MW-14-5		1325		X	X	X	X						
-8	MW-14-4		1400		X	X	X	X						
-9	MW-14-3		1430		X	X	X	X						
-10	MW-14-2		1530		X	X	X	X						
-11	EB-1-102621		1455		X	X	X	X						

Analysis Requested

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

Notes
CHK BY DISTRIBUTION
SUB OUT ☐
SHORT HOLDING TIME
Cr^{+6} NO_2 NO_3 OP SS
DO Cl_2 BOD MBAS COT
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)

☐ MBU Site
☐ CVX RCRA
☐ Geotracker S File (CA Default)
☐ Geotracker 2 File
☐ Other (Specify) _____

Cost Center: _____ Global ID: _____

	Relinquished By:	Date	Time	Received By:	Date	Time
1.		10/26/21	1620		10-26-21	1620
2.		10/26/21	1830		10/26/21	1830
3.		Date	Time		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 #: 21-33734

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	KW / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (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: PE Thermometer ID: 208

Temperature: (A) 1.0 °C / (C) 1.0 °C

Date/Time 10/26/21 1850

Analyst Init PPE

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	11 ✗	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										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: PPE Date/Time: 10/26/21 2210

A = Actual / C = Corrected

Rev 22 04/13/21

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BC LABORATORIES INC. · COOLER RECEIPT FORM · Page 2 Of 3

Submission #: 21-33734

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (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: RE Thermometer ID: 208 Date/Time 10/26/21 1830

Temperature: (A) 1.0 °C / (C) 1.0 °C Analyst Init PPE

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	9	2	3	4	5	6	7	8	9	10
QT PE UNPRES	I,J									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}	G,H									
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)	K,L									
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-F									
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: DDP Date/Time: 10/26/21 2210

Rev 22 04/13/21

Chain of Custody and Cooler Receipt Form for 2133734 Page 4 of 4

BC LABORATORIES INC. · COOLER RECEIPT FORM · Page 3 Of 3

Submission #: 21-33734

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☑ NO ☐ (W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (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: PE Thermometer ID: 208

Temperature: (A) 1.3 °C / (C) 1.3 °C

Date/Time 10/26/21 1830

Analyst Init PPE

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	E	E	E	E	E	E	E	E	E	E
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}	D	D	D	D	D	D	D	D	D	D
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (6oz)	F	F	F	F	F	F	F	F	F	F
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: PPE Date/Time: 10/26/21 2210

A = Actual / C = Corrected

Rev 22 04/13/21

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2133734-01	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 09:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-1-102621	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Trip Blank
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-1-102621	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-02	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 09:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-25-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-25-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-03	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 10:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-25-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-25-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2133734-04	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 11:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-25-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-25-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-05	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 11:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-25-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-25-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-06	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 12:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-25-1	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-25-1	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2133734-07	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 13:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-14-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-14-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-08	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 14:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-14-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-14-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-09	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 14:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-14-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-14-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2133734-10	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 15:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-14-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-14-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2133734-11	**COC Number:**	---	**Receive Date:**	10/26/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/26/2021 14:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-1-102621	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): EB-1-102621	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-01 | **Client Sample Name:** NASA/JPL, TB-1-102621, 10/26/2021 9:00:00AM

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	V11	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

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-01 | **Client Sample Name:** NASA/JPL, TB-1-102621, 10/26/2021 9:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-01 | **Client Sample Name:** NASA/JPL, TB-1-102621, 10/26/2021 9:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/30/21 23:46	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-01 | **Client Sample Name:** NASA/JPL, TB-1-102621, 10/26/2021 9:00:00AM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/30/21 23:46	MGC	MS-V5	1	B123822	EPA 524.2

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-02 | **Client Sample Name:** NASA/JPL, MW-25-5, 10/26/2021 9:50:00AM

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	V11	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-02 | **Client Sample Name:** NASA/JPL, MW-25-5, 10/26/2021 9:50:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-02 | **Client Sample Name:** NASA/JPL, MW-25-5, 10/26/2021 9:50:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 00:10	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-02 | **Client Sample Name:** NASA/JPL, MW-25-5, 10/26/2021 9:50:00AM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 00:10	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-02 | **Client Sample Name:** NASA/JPL, MW-25-5, 10/26/2021 9:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00015**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 13:17	SAV	IC-4	1	B123990	No Prep
2	EPA-200.8	11/02/21 23:35	11/03/21 13:08	ARD	PE-EL4	1	B124102	EPA 200.2

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Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-03 | **Client Sample Name:** NASA/JPL, MW-25-4, 10/26/2021 10:25:00AM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-03 | **Client Sample Name:** NASA/JPL, MW-25-4, 10/26/2021 10:25:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-03 | **Client Sample Name:** NASA/JPL, MW-25-4, 10/26/2021 10:25:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	117	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 00:34	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-03 | **Client Sample Name:** NASA/JPL, MW-25-4, 10/26/2021 10:25:00AM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 00:34	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-03 | **Client Sample Name:** NASA/JPL, MW-25-4, 10/26/2021 10:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00089**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030		1
Total Recoverable Chromium	**1.9**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 13:26	SAV	IC-4	1	B123990	No Prep
2	EPA-200.8	11/02/21 23:35	11/03/21 14:16	KHS	PE-EL4	1	B124103	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-04 | **Client Sample Name:** NASA/JPL, MW-25-3, 10/26/2021 11:00:00AM

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	V11	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	**0.35**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-04 | **Client Sample Name:** NASA/JPL, MW-25-3, 10/26/2021 11:00:00AM

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	**1.8**	**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	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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-04 | **Client Sample Name:** NASA/JPL, MW-25-3, 10/26/2021 11:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	104	%	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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 00:58	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-04 | **Client Sample Name:** NASA/JPL, MW-25-3, 10/26/2021 11:00:00AM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 00:58	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-04 | **Client Sample Name:** NASA/JPL, MW-25-3, 10/26/2021 11:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0031**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030		1
Total Recoverable Chromium	**3.5**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 13:36	SAV	IC-4	1	B123990	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 10:47	ARD	PE-EL4	1	B124207	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-05 | **Client Sample Name:** NASA/JPL, MW-25-2, 10/26/2021 11:40:00AM

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	V11	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	**0.14**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-05 | **Client Sample Name:** NASA/JPL, MW-25-2, 10/26/2021 11:40:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-05 | **Client Sample Name:** NASA/JPL, MW-25-2, 10/26/2021 11:40:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 01:22	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-05 | **Client Sample Name:** NASA/JPL, MW-25-2, 10/26/2021 11:40:00AM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 01:22	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-05 | **Client Sample Name:** NASA/JPL, MW-25-2, 10/26/2021 11:40:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0019**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030		1
Total Recoverable Chromium	**2.0**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 13:45	SAV	IC-4	1	B123990	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 13:03	KHS	PE-EL4	1	B124208	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-06 | **Client Sample Name:** NASA/JPL, MW-25-1, 10/26/2021 12:00:00PM

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	V11	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	**0.38**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-06 | **Client Sample Name:** NASA/JPL, MW-25-1, 10/26/2021 12:00:00PM

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	**0.36**	**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	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-06 | **Client Sample Name:** NASA/JPL, MW-25-1, 10/26/2021 12:00:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 01:47	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-06 | **Client Sample Name:** NASA/JPL, MW-25-1, 10/26/2021 12:00:00PM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 01:47	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-06 | **Client Sample Name:** NASA/JPL, MW-25-1, 10/26/2021 12:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00024**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030		1
Total Recoverable Chromium	**1.8**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 13:55	SAV	IC-4	1	B123990	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 11:05	ARD	PE-EL4	1	B124207	EPA 200.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-07 | **Client Sample Name:** NASA/JPL, MW-14-5, 10/26/2021 1:25:00PM

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	V11	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-07 | **Client Sample Name:** NASA/JPL, MW-14-5, 10/26/2021 1:25:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-07 | **Client Sample Name:** NASA/JPL, MW-14-5, 10/26/2021 1:25:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 02:11	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-07 | **Client Sample Name:** NASA/JPL, MW-14-5, 10/26/2021 1:25:00PM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 02:11	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-07 | **Client Sample Name:** NASA/JPL, MW-14-5, 10/26/2021 1:25:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00030**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**0.66**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 14:33	KB1	IC-4	1	B123991	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 11:07	ARD	PE-EL4	1	B124207	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-08 | **Client Sample Name:** NASA/JPL, MW-14-4, 10/26/2021 2:00:00PM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-08 | **Client Sample Name:** NASA/JPL, MW-14-4, 10/26/2021 2:00:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-08 | **Client Sample Name:** NASA/JPL, MW-14-4, 10/26/2021 2:00:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 02:35	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-08 | **Client Sample Name:** NASA/JPL, MW-14-4, 10/26/2021 2:00:00PM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 02:35	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-08 | **Client Sample Name:** NASA/JPL, MW-14-4, 10/26/2021 2:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0021**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**2.4**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 14:43	KB1	IC-4	1	B123991	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 11:09	ARD	PE-EL4	1	B124207	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-09 | **Client Sample Name:** NASA/JPL, MW-14-3, 10/26/2021 2:30:00PM

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	V11	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	**0.46**	**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	**0.34**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-09 | **Client Sample Name:** NASA/JPL, MW-14-3, 10/26/2021 2:30:00PM

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	**0.80**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-09 | **Client Sample Name:** NASA/JPL, MW-14-3, 10/26/2021 2:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/30/21 21:21	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-09 | **Client Sample Name:** NASA/JPL, MW-14-3, 10/26/2021 2:30:00PM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/30/21 21:21	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-09 | **Client Sample Name:** NASA/JPL, MW-14-3, 10/26/2021 2:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00058**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 11:50	SAV	IC-4	1	B123990	No Prep
2	EPA-200.8	11/02/21 22:35	11/03/21 11:42	KHS	PE-EL4	1	B124101	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-10 | **Client Sample Name:** NASA/JPL, MW-14-2, 10/26/2021 3:30:00PM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-10 | **Client Sample Name:** NASA/JPL, MW-14-2, 10/26/2021 3:30:00PM

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	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-10 | **Client Sample Name:** NASA/JPL, MW-14-2, 10/26/2021 3:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 02:59	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-10 | **Client Sample Name:** NASA/JPL, MW-14-2, 10/26/2021 3:30:00PM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 02:59	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-10 | **Client Sample Name:** NASA/JPL, MW-14-2, 10/26/2021 3:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00017**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	**0.53**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 14:53	KB1	IC-4	1	B123991	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 11:11	ARD	PE-EL4	1	B124207	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-11 | **Client Sample Name:** NASA/JPL, EB-1-102621, 10/26/2021 2:55:00PM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-11 | **Client Sample Name:** NASA/JPL, EB-1-102621, 10/26/2021 2:55:00PM

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	**0.42**	**ug/L**	**0.50**	**0.21**	**EPA-524.2**	ND	**J**	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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2133734-11 | **Client Sample Name:** NASA/JPL, EB-1-102621, 10/26/2021 2:55:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 03:23	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2133734-11 | **Client Sample Name:** NASA/JPL, EB-1-102621, 10/26/2021 2:55:00PM

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	Prep Method
1	EPA-524.2	10/30/21 07:00	10/31/21 03:23	MGC	MS-V5	1	B123822	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2133734-11 | **Client Sample Name:** NASA/JPL, EB-1-102621, 10/26/2021 2:55:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000079**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000030	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 08:00	11/02/21 14:24	KB1	IC-4	1	B123990	No Prep
2	EPA-200.8	11/03/21 17:35	11/04/21 11:13	ARD	PE-EL4	1	B124207	EPA 200.2

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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123822						
Benzene	B123822-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B123822-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B123822-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B123822-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B123822-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B123822-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B123822-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B123822-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B123822-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B123822-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B123822-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B123822-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B123822-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B123822-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B123822-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B123822-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B123822-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B123822-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B123822-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B123822-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B123822-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B123822-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B123822-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B123822-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B123822-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B123822-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B123822-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B123822-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B123822-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B123822-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B123822-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B123822-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B123822-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B123822-BLK1	ND	ug/L	0.50	0.14	

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123822						
trans-1,3-Dichloropropene	B123822-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B123822-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B123822-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B123822-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B123822-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B123822-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B123822-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B123822-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B123822-BLK1	ND	ug/L	0.50	0.12	
Styrene	B123822-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B123822-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B123822-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B123822-BLK1	ND	ug/L	0.50	0.23	
Toluene	B123822-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B123822-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B123822-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B123822-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B123822-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B123822-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B123822-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B123822-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B123822-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B123822-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B123822-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B123822-BLK1	ND	ug/L	0.50	0.18	
Acetone	B123822-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B123822-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B123822-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B123822-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B123822-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B123822-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B123822-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B123822-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B123822-BLK1	ND	ug/L	4.0	1.3	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123822						
Ethyl t-butyl ether	B123822-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B123822-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B123822-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B123822-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B123822-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B123822-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B123822-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B123822-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B123822-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B123822-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B123822-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B123822-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B123822-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B123822-BLK1**	**112**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B123822-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B123822-BLK1**	**97.9**	%	**80 - 120 (LCL - UCL)**		

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B123822										
Benzene	B123822-BS1	LCS	25.200	25.000	ug/L	101		70 - 130		
Bromodichloromethane	B123822-BS1	LCS	27.920	25.000	ug/L	112		70 - 130		
Chlorobenzene	B123822-BS1	LCS	25.040	25.000	ug/L	100		70 - 130		
Chloroethane	B123822-BS1	LCS	25.910	25.000	ug/L	104		70 - 130		
1,4-Dichlorobenzene	B123822-BS1	LCS	25.680	25.000	ug/L	103		70 - 130		
1,1-Dichloroethane	B123822-BS1	LCS	26.630	25.000	ug/L	107		70 - 130		
1,1-Dichloroethene	B123822-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
Toluene	B123822-BS1	LCS	25.390	25.000	ug/L	102		70 - 130		
Trichloroethene	B123822-BS1	LCS	25.250	25.000	ug/L	101		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B123822-BS1	LCS	11.070	10.000	ug/L	111		75 - 125		
Toluene-d8 (Surrogate)	B123822-BS1	LCS	10.590	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B123822-BS1	LCS	10.280	10.000	ug/L	103		80 - 120		

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123822	Used client sample: Y - Description: MW-14-3, 10/26/2021 14:30										
Benzene	MS	2133734-09	ND	26.010	25.000	ug/L		104		70 - 130	
	MSD	2133734-09	ND	25.740	25.000	ug/L	1.0	103	20	70 - 130	
Bromodichloromethane	MS	2133734-09	ND	28.930	25.000	ug/L		116		70 - 130	
	MSD	2133734-09	ND	28.950	25.000	ug/L	0.1	116	20	70 - 130	
Chlorobenzene	MS	2133734-09	ND	25.540	25.000	ug/L		102		70 - 130	
	MSD	2133734-09	ND	25.720	25.000	ug/L	0.7	103	20	70 - 130	
Chloroethane	MS	2133734-09	ND	26.160	25.000	ug/L		105		70 - 130	
	MSD	2133734-09	ND	26.520	25.000	ug/L	1.4	106	20	70 - 130	
1,4-Dichlorobenzene	MS	2133734-09	ND	26.540	25.000	ug/L		106		70 - 130	
	MSD	2133734-09	ND	27.270	25.000	ug/L	2.7	109	20	70 - 130	
1,1-Dichloroethane	MS	2133734-09	0.34000	27.780	25.000	ug/L		110		70 - 130	
	MSD	2133734-09	0.34000	27.530	25.000	ug/L	0.9	109	20	70 - 130	
1,1-Dichloroethene	MS	2133734-09	ND	27.070	25.000	ug/L		108		70 - 130	
	MSD	2133734-09	ND	27.090	25.000	ug/L	0.1	108	20	70 - 130	
Toluene	MS	2133734-09	ND	25.780	25.000	ug/L		103		70 - 130	
	MSD	2133734-09	ND	25.920	25.000	ug/L	0.5	104	20	70 - 130	
Trichloroethene	MS	2133734-09	0.80000	27.010	25.000	ug/L		105		70 - 130	
	MSD	2133734-09	0.80000	27.110	25.000	ug/L	0.4	105	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2133734-09	ND	10.890	10.000	ug/L		109		75 - 125	
	MSD	2133734-09	ND	11.020	10.000	ug/L	1.2	110		75 - 125	
Toluene-d8 (Surrogate)	MS	2133734-09	ND	10.430	10.000	ug/L		104		80 - 120	
	MSD	2133734-09	ND	10.400	10.000	ug/L	0.3	104		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2133734-09	ND	10.130	10.000	ug/L		101		80 - 120	
	MSD	2133734-09	ND	10.320	10.000	ug/L	1.9	103		80 - 120	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123822						
Chloroacetonitrile	B123822-BLK1	0	ug/L			
1-Chlorobutane	B123822-BLK1	0	ug/L			
1,1-Dichloropropanone	B123822-BLK1	0	ug/L			
Methyl acrylate	B123822-BLK1	0	ug/L			
Nitrobenzene	B123822-BLK1	0	ug/L			
2-Nitropropane	B123822-BLK1	0	ug/L			

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123990						
Hexavalent Chromium	**B123990-BLK1**	**0.000030000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B123991						
Hexavalent Chromium	B123991-BLK1	ND	mg/L	0.00020	0.000020	
QC Batch ID: B124101						
Total Recoverable Chromium	B124101-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124102						
Total Recoverable Chromium	B124102-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124103						
Total Recoverable Chromium	B124103-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124207						
Total Recoverable Chromium	B124207-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124208						
Total Recoverable Chromium	B124208-BLK1	ND	ug/L	3.0	0.50	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B123990										
Hexavalent Chromium	B123990-BS1	LCS	0.021596	0.020000	mg/L	108		90 - 110		
QC Batch ID: B123991										
Hexavalent Chromium	B123991-BS1	LCS	0.021204	0.020000	mg/L	106		90 - 110		
QC Batch ID: B124101										
Total Recoverable Chromium	B124101-BS1	LCS	39.740	40.000	ug/L	99.4		85 - 115		
QC Batch ID: B124102										
Total Recoverable Chromium	B124102-BS1	LCS	40.059	40.000	ug/L	100		85 - 115		
QC Batch ID: B124103										
Total Recoverable Chromium	B124103-BS1	LCS	41.742	40.000	ug/L	104		85 - 115		
QC Batch ID: B124207										
Total Recoverable Chromium	B124207-BS1	LCS	42.098	40.000	ug/L	105		85 - 115		
QC Batch ID: B124208										
Total Recoverable Chromium	B124208-BS1	LCS	40.590	40.000	ug/L	101		85 - 115		

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:00
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123990	Used client sample: Y - Description: MW-14-3, 10/26/2021 14:30										
Hexavalent Chromium	DUP	**2133734-09**	**0.00058000**	**0.00052400**		**mg/L**	**10.1**		**10**		**A02**
	MS	**2133734-09**	**0.00058000**	**0.020019**	**0.020202**	**mg/L**		**96.2**		**90 - 110**	
	MSD	**2133734-09**	**0.00058000**	**0.022078**	**0.020202**	**mg/L**	**9.8**	**106**	**10**	**90 - 110**	
QC Batch ID: B123991	Used client sample: N										
Hexavalent Chromium	DUP	2133943-01	0.010453	0.010355		mg/L	0.9		10		
	MS	2133943-01	0.010453	0.031393	0.020202	mg/L		104		90 - 110	
	MSD	2133943-01	0.010453	0.029623	0.020202	mg/L	5.8	94.9	10	90 - 110	
QC Batch ID: B124101	Used client sample: Y - Description: MW-14-3, 10/26/2021 14:30										
Total Recoverable Chromium	DUP	2133734-09	ND	0.51000		ug/L			20		J
	MS	2133734-09	ND	37.355	40.000	ug/L		93.4		70 - 130	
	MSD	2133734-09	ND	37.214	40.000	ug/L	0.4	93.0	20	70 - 130	
QC Batch ID: B124102	Used client sample: Y - Description: MW-25-5, 10/26/2021 09:50										
Total Recoverable Chromium	DUP	2133734-02	ND	ND		ug/L			20		
	MS	2133734-02	ND	39.407	40.000	ug/L		98.5		70 - 130	
	MSD	2133734-02	ND	39.184	40.000	ug/L	0.6	98.0	20	70 - 130	
QC Batch ID: B124103	Used client sample: Y - Description: MW-25-4, 10/26/2021 10:25										
Total Recoverable Chromium	DUP	**2133734-03**	**1.8730**	**1.4860**		**ug/L**	**23.0**		**20**		**J,A02**
	MS	**2133734-03**	**1.8730**	**42.038**	**40.000**	**ug/L**		**100**		**70 - 130**	
	MSD	**2133734-03**	**1.8730**	**40.540**	**40.000**	**ug/L**	**3.6**	**96.7**	**20**	**70 - 130**	
QC Batch ID: B124207	Used client sample: Y - Description: MW-25-3, 10/26/2021 11:00										
Total Recoverable Chromium	DUP	2133734-04	3.4560	3.1660		ug/L	8.8		20		
	MS	2133734-04	3.4560	43.194	40.000	ug/L		99.3		70 - 130	
	MSD	2133734-04	3.4560	42.629	40.000	ug/L	1.3	97.9	20	70 - 130	
QC Batch ID: B124208	Used client sample: Y - Description: MW-25-2, 10/26/2021 11:40										
Total Recoverable Chromium	DUP	2133734-05	2.0080	2.2610		ug/L	11.9		20		J
	MS	2133734-05	2.0080	41.429	40.000	ug/L		98.6		70 - 130	
	MSD	2133734-05	2.0080	43.057	40.000	ug/L	3.9	103	20	70 - 130	

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-08-2021
EMAX Batch No.: 21K166

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2133734

Enclosed is the Laboratory report for samples received on 11/19/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Cal Date	Matrix	Analysis
2133734-02	K166-01	10/26/21	WATER	PERCHLORATE BY IC
2133734-03	K166-02	10/26/21	WATER	PERCHLORATE BY IC
2133734-04	K166-03	10/26/21	WATER	PERCHLORATE BY IC
2133734-05	K166-04	10/26/21	WATER	PERCHLORATE BY IC
2133734-06	K166-05	10/26/21	WATER	PERCHLORATE BY IC
2133734-07	K166-06	10/26/21	WATER	PERCHLORATE BY IC
2133734-08	K166-07	10/26/21	WATER	PERCHLORATE BY IC
2133734-09	K166-08	10/26/21	WATER	PERCHLORATE BY IC
2133734-10	K166-09	10/26/21	WATER	PERCHLORATE BY IC
2133734-11	K166-10	10/26/21	WATER	PERCHLORATE BY IC
2133734-09MS	K166-08M	10/26/21	WATER	PERCHLORATE BY IC
2133734-09MSD	K166-08S	10/26/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

REPORT ID: 21K166 Page 1 of 74

SUBCONTRACT ORDER

21K166

Cooler 4

BC Laboratories

2133734

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory SEMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

	Analysis	Due	Expires	Laboratory ID	Comments
					Need EDF
1	**Sample ID: 2133734-02**	**Water**	**Sampled: 10/26/21 09:50**		MW-25-5 (LEVEL III CLP ON ALL)
	314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 09:50		Global ID #00000000000/BTST
	Containers Supplied:				
2	**Sample ID: 2133734-03**	**Water**	**Sampled: 10/26/21 10:25**		MW-25-4
	314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 10:25		Global ID #0000000000/BTST
	Containers Supplied				
3	**Sample ID: 2133734-04**	**Water**	**Sampled: 10/26/21 11:00**		MW-25-3
	314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 11:00		Global ID #0000000000/BTST
	Containers Supplied:				
4	**Sample ID: 2133734-05**	**Water**	**Sampled: 10/26/21 11:40**		MW-25-2
	314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 11:40		Global ID #0000000000/BTST
	Containers Supplied:				
5	**Sample ID: 2133734-06**	**Water**	**Sampled: 10/26/21 12:00**		MW-25-1
	314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 12:00		Global ID #0000000000/BTST
	Containers Supplied:				

Released By — 11-18-21 Date — Received By — Date

Released By — Date — Received By — 11/19/21 10:00 Date

Temp: 3.5°

REPORT ID: 21K166

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SUBCONTRACT ORDER

21K166

BC Laboratories

2133734

	Analysis	Due	Expires	Laboratory ID	Comments
6	**Sample ID: 2133734-07**	**Water**	**Sampled:10/26/21 13:25**		**MW-14-5**
	i314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 13:25		Global ID #0000000000/BTST
	Containers Supplied:				
7	**Sample ID: 2133734-08**	**Water**	**Sampled:10/26/21 14:00**		**MW-14-4**
	i314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 14:00		Global ID #0000000000/BTST
	Containers Supplied:				
8	**Sample ID: 2133734-09**	**Water**	**Sampled:10/26/21 14:30**		**MW-14-3(MS/MSD)**
	i314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 14:30		Global ID #0000000000/BTST
	Containers Supplied:				
9	**Sample ID: 2133734-10**	**Water**	**Sampled:10/26/21 15:30**		**MW-14-2**
	i314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 15:30		Global ID #0000000000/BTST
	Containers Supplied:				
10	**Sample ID: 2133734-11**	**Water**	**Sampled:10/26/21 14:55**		**EB-1-102621**
	i314.0w Perchlorate (ug/L)	11/09/21 17:00	11/23/21 14:55		Global ID #0000000000/BTST
	Containers Supplied:				

Released By	Date	Received By	Date
[signature]	11-18-21		
Released By	Date	Received By	Date
		[signature]	11/19/21 10:00

JJ# 6/11

Page 2 of 2

REPORT ID: 21K166

Page 3 of 74

SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K166
☐ Fedex ☐ UPS ☐ GSO ☑ Others GLS	470571182137 1837669	Recipient Jocelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 11/19/21 Time 10:00

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, 6 °C but not frozen)	☐ Cooler 1 _____ °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☑ Cooler 4 3.5 °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 210191066	*B - S/N* 210271396	*C - S/N* _____	*D - S/N*	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	Client Sample Label ID / Information	Corrective Action
1-10	1-10	D1		R1

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: Sample 0 indicates MS/MSD on COC, only received 1 container.

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
(D1)	Analysis is not indicated in 10b01
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
(R1)	Proceed as indicated in COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:
Sample Labeling Jocelyne Solis-Ramos Date 11/19/21
SRF Date 11/19/21
PM Date 11/22/21

REPORT ID: 21K166 *EMAX* Laboratories, Inc. 3051 Fujita St., Torrance, CA 90505 Page 4 of 74

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

PACE ANALYTICAL

2133734

METHOD E314.0
PERCHLORATE

SDG#: 21K166

REPORT ID: 21K166 Page 6 of 74

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2133734

SDG : 21K166

METHOD E314.0
PERCHLORATE

A total of ten(10) water samples were received on 11/19/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. PCK002WB and PCK005WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. PCK002WL/PCK002WC and PCK005WL/PCK005WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD, and one(1) MS were analyzed.
- Percent recovery was within MS QC limits in K166-06M.
- Percent recovery was within MS/MSD limits in K166-08M/K166-08S.
- Sample duplicate was analyzed and RPD was within expected value.
Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

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METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2133734
Batch No. : 21K166

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	PCX002WB	ND	1	NA	2.00	0.500	1.00	11/19/2109:54	NA	21JK19005	21JK19004	PCX002W	NA	NA
LCS1W	PCX002WL	24.5	1	NA	2.00	0.500	1.00	11/19/2110:38	NA	21JK19007	21JK19004	PCX002W	NA	NA
LCD1W	PCX002WC	24.0	1	NA	2.00	0.500	1.00	11/19/2111:00	NA	21JK19008	21JK19004	PCX002W	NA	NA
2133734-02	K166-01	ND	1	NA	2.00	0.500	1.00	11/19/2115:17	NA	21JK19019	21JK19009	PCX002W	10/26/2109:50	11/19/21
2133734-03	K166-02	8.99	1	NA	2.00	0.500	1.00	11/19/2116:14	NA	21JK19021	21JK19020	PCX002W	10/26/2110:25	11/19/21
2133734-04	K166-03	10.2	1	NA	2.00	0.500	1.00	11/19/2116:38	NA	21JK19022	21JK19020	PCX002W	10/26/2111:00	11/19/21
2133734-05	K166-04	12.0	1	NA	2.00	0.500	1.00	11/19/2116:59	NA	21JK19023	21JK19020	PCX002W	10/26/2111:40	11/19/21
2133734-06	K166-05	7.62	1	NA	2.00	0.500	1.00	11/19/2117:21	NA	21JK19024	21JK19020	PCX002W	10/26/2112:00	11/19/21
2133734-07	K166-06	ND	1	NA	2.00	0.500	1.00	11/19/2117:44	NA	21JK19025	21JK19020	PCX002W	10/26/2113:25	11/19/21
2133734-07MS	K166-06M	14.6	1	NA	2.00	0.500	1.00	11/19/2118:49	NA	21JK19026	21JK19020	PCX002W	10/26/2113:25	11/19/21
2133734-07DUP	K166-06D	ND	1	NA	2.00	0.500	1.00	11/19/2119:10	NA	21JK19027	21JK19020	PCX002W	10/26/2113:25	11/19/21
2133734-08	K166-07	4.56	1	NA	2.00	0.500	1.00	11/19/2119:31	NA	21JK19028	21JK19020	PCX002W	10/26/2114:00	11/19/21
2133734-10	K166-09	4.26	1	NA	2.00	0.500	1.00	11/19/2120:13	NA	21JK19030	21JK19020	PCX002W	10/26/2115:30	11/19/21
2133734-11	K166-10	ND	1	NA	2.00	0.500	1.00	11/19/2120:55	NA	21JK19032	21JK19031	PCX002W	10/26/2114:55	11/19/21
MBLK2W	PCX005WB	ND	1	NA	2.00	0.500	1.00	11/22/2117:38	NA	21JK22005	21JK22004	PCX005W	NA	NA
LCS2W	PCX005WL	24.9	1	NA	2.00	0.500	1.00	11/22/2118:20	NA	21JK22007	21JK22004	PCX005W	NA	NA
LCD2W	PCX005WC	25.0	1	NA	2.00	0.500	1.00	11/22/2118:41	NA	21JK22008	21JK22004	PCX005W	NA	NA
2133734-09	K166-08	5.06	1	NA	2.00	0.500	1.00	11/22/2119:23	NA	21JK22010	21JK22009	PCX005W	10/26/2114:30	11/19/21
2133734-09MS	K166-08M	20.1	1	NA	2.00	0.500	1.00	11/22/2119:44	NA	21JK22011	21JK22009	PCX005W	10/26/2114:30	11/19/21
2133734-09MSD	K166-08S	19.9	1	NA	2.00	0.500	1.00	11/22/2120:05	NA	21JK22012	21JK22009	PCX005W	10/26/2114:30	11/19/21

Note: Detection limits are reported relative to sample result significant figures.

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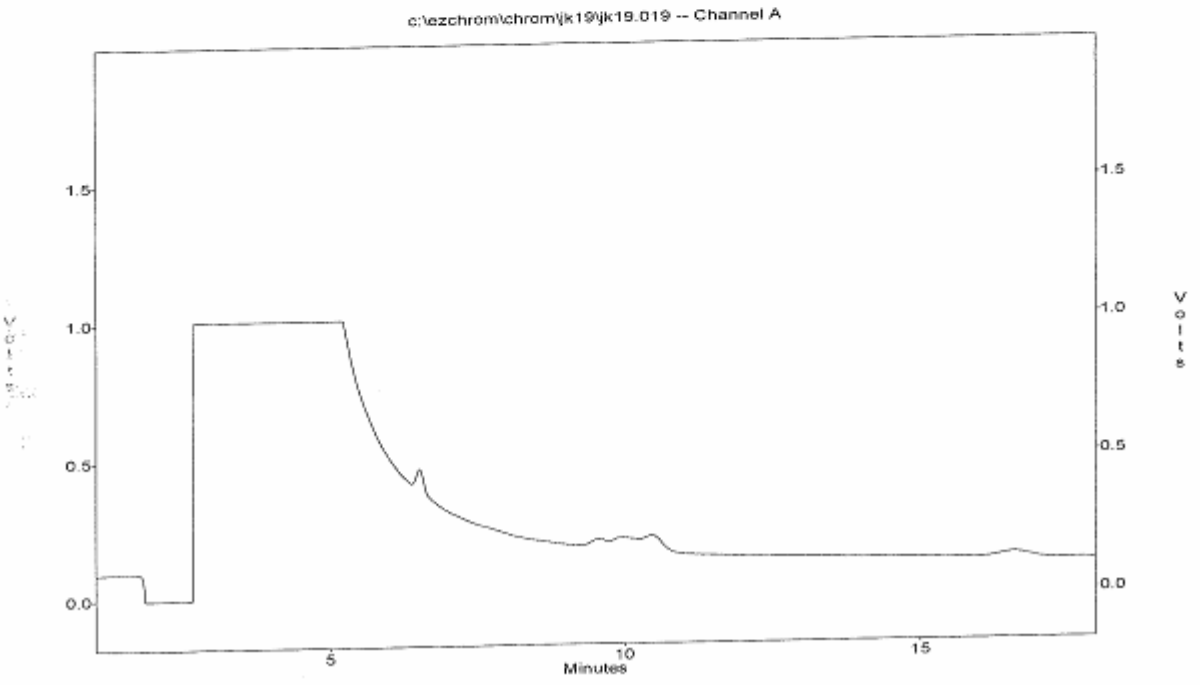
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.019
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-01
Acquired : Nov 19, 2021 15:17:12
Printed : Nov 22, 2021 11:44:03
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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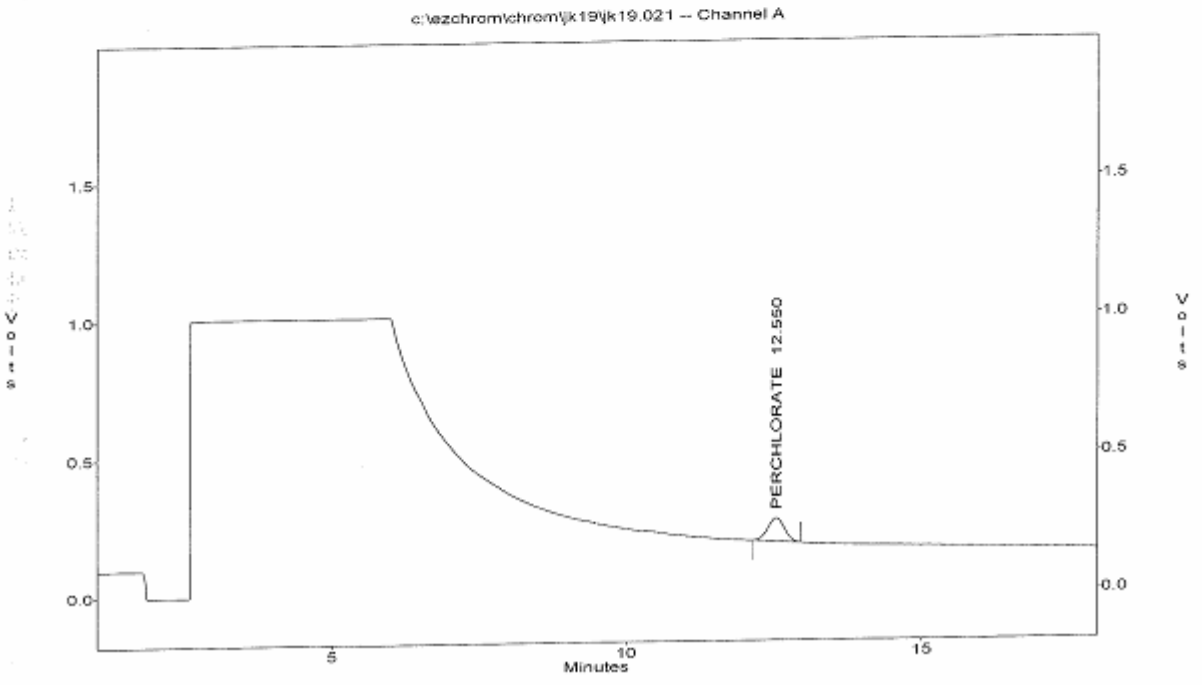
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.021
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-02
Acquired : Nov 19, 2021 16:14:26
Printed : Nov 22, 2021 11:45:40
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.55	1628708	83725	180791.531	8.990



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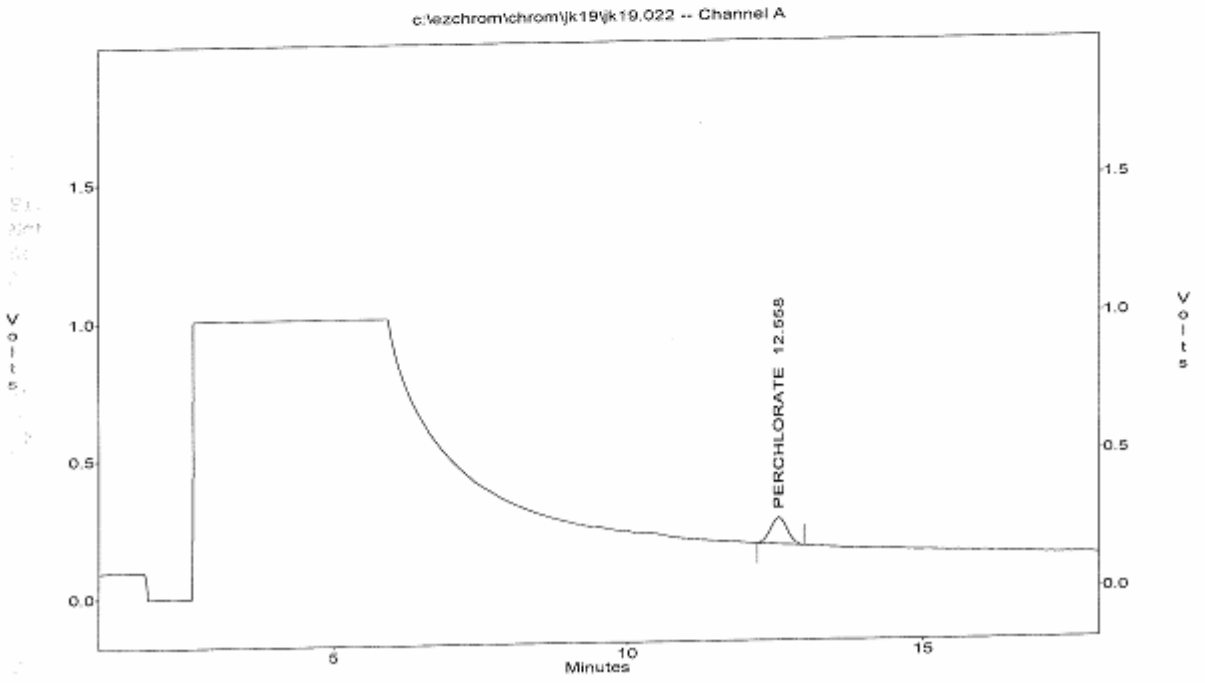
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.022
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-03
Acquired : Nov 19, 2021 16:38:06
Printed : Nov 22, 2021 11:46:56
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1857724	95000	180791.531	10.218



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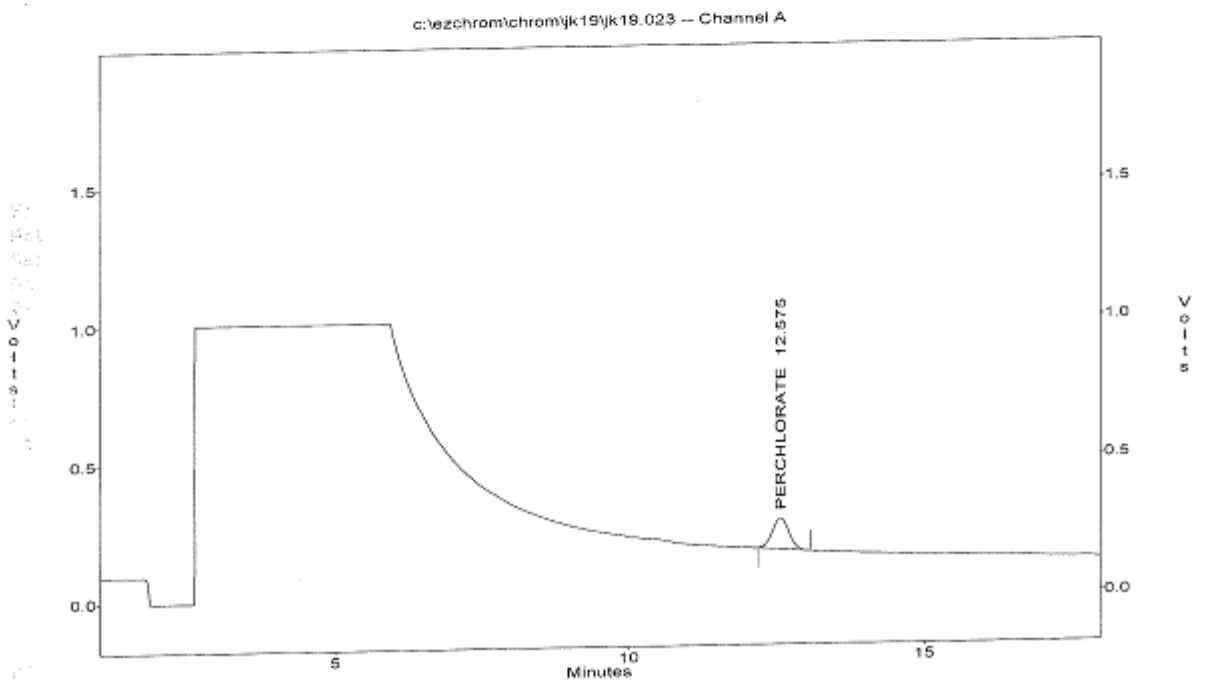
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.023
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-04
Acquired : Nov 19, 2021 16:59:21
Printed : Nov 22, 2021 11:47:07
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2193956	111411	180791.531	12.021



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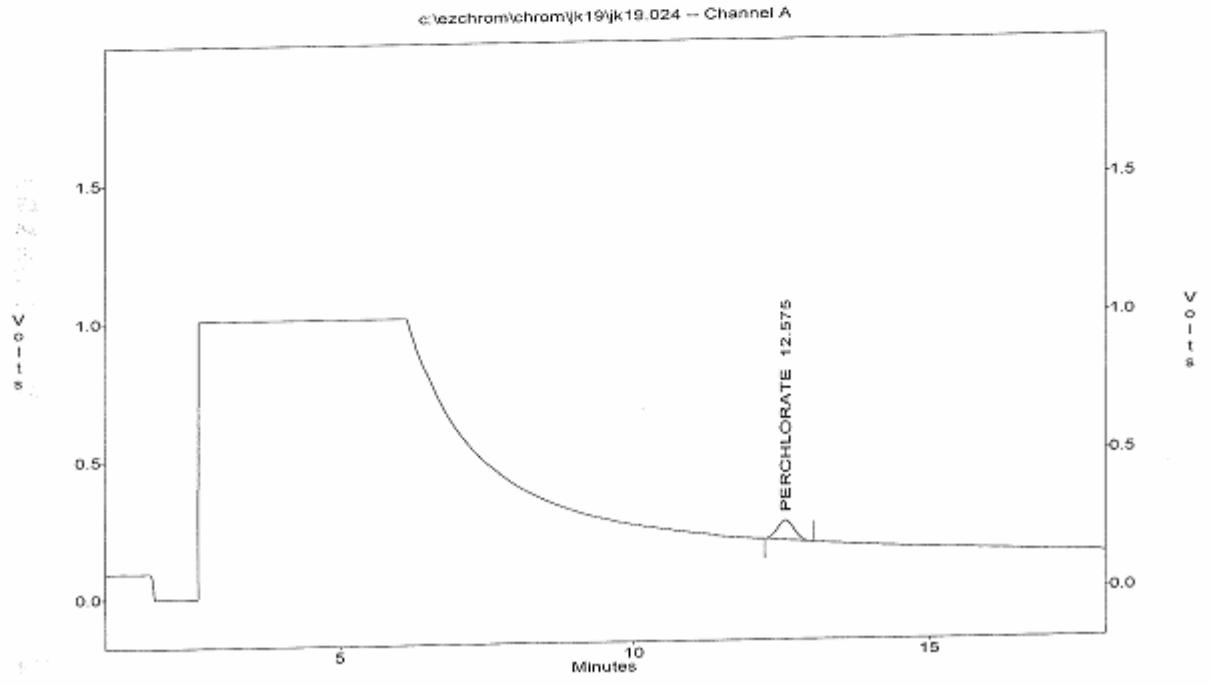
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.024
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-05
Acquired : Nov 19, 2021 17:21:06
Printed : Nov 22, 2021 11:47:19
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.57	1372991	70028	180791.531	7.619



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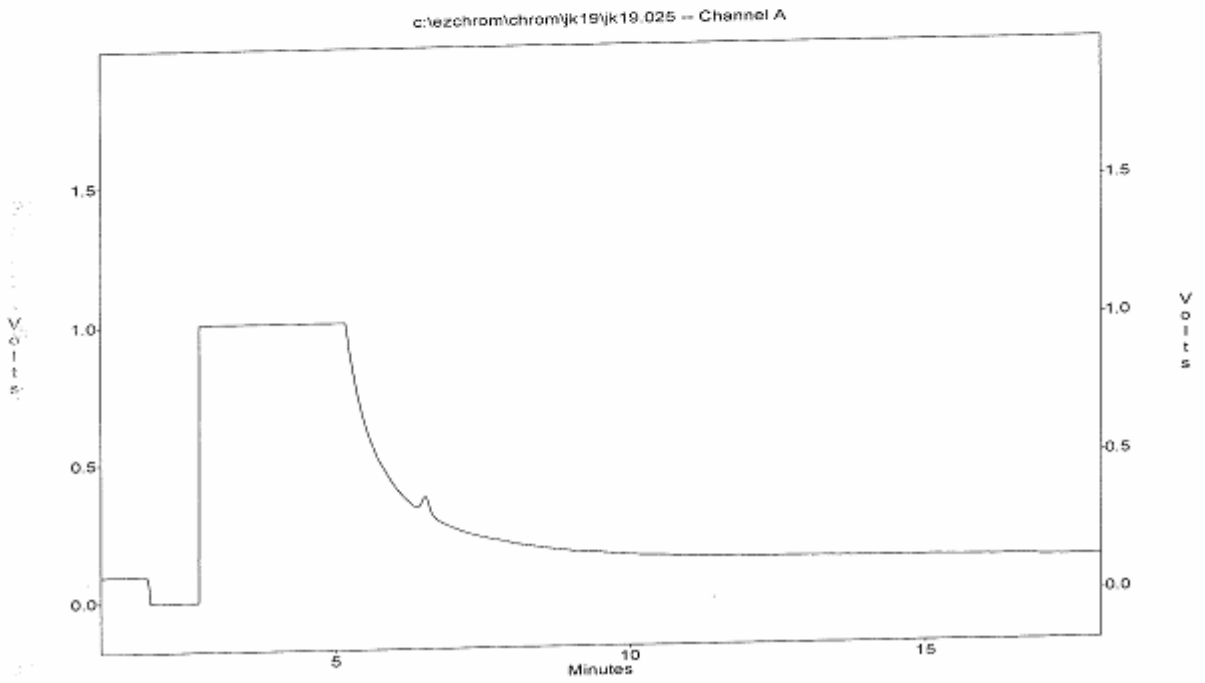
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.025
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-06
Acquired : Nov 19, 2021 17:44:11
Printed : Nov 22, 2021 11:47:37
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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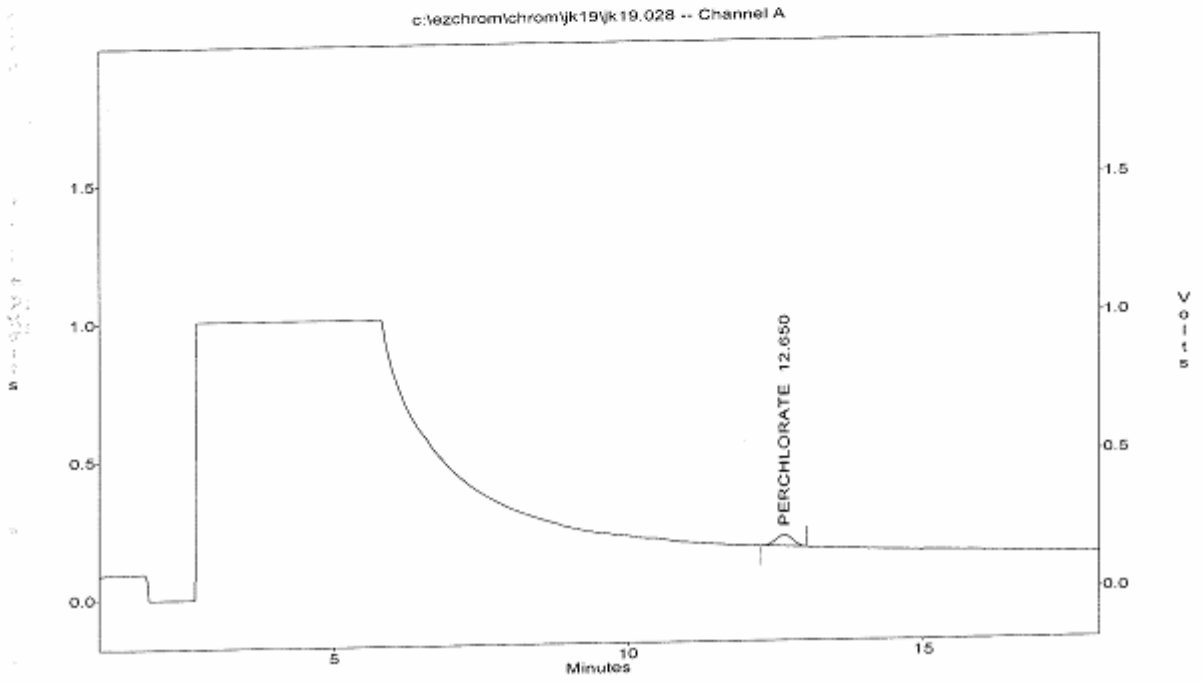
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.028
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-07
Acquired : Nov 19, 2021 19:31:28
Printed : Nov 22, 2021 11:48:58
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	802919	40343	180791.531	4.561



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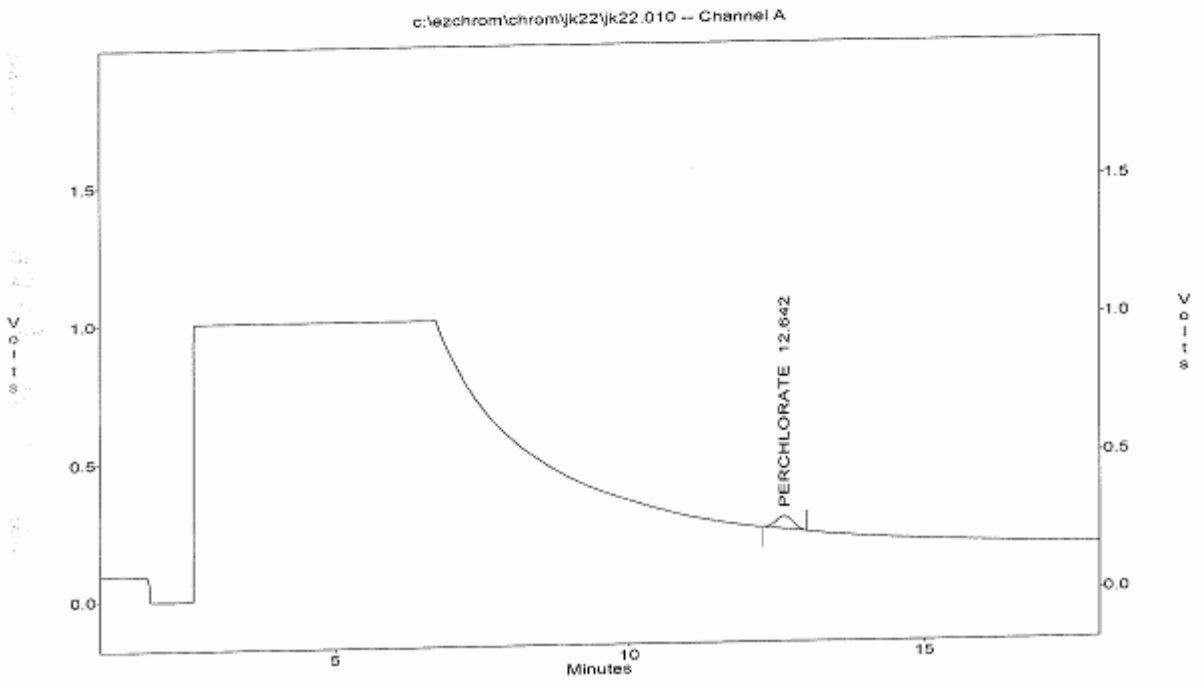
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.010
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-08
Acquired : Nov 22, 2021 19:23:13
Printed : Nov 23, 2021 07:59:55
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.64	895502	45252	180791.531	5.058



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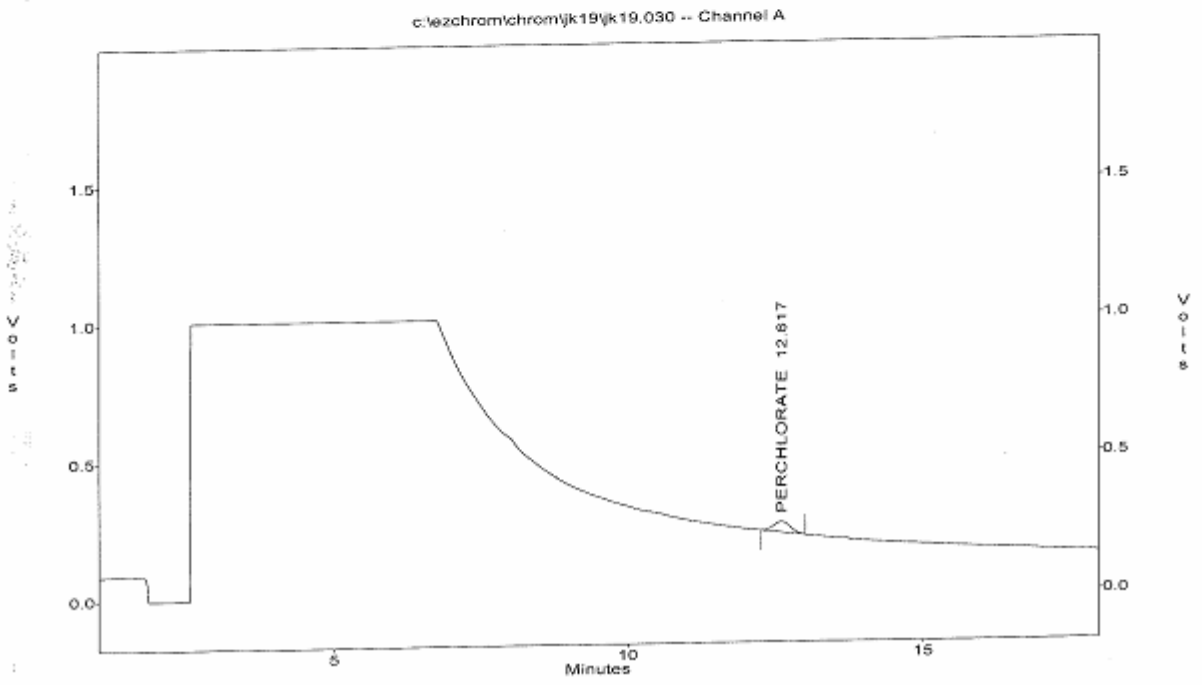
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.030
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-09
Acquired : Nov 19, 2021 20:13:31
Printed : Nov 22, 2021 11:49:28
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.62	747483	37840	180791.531	4.264



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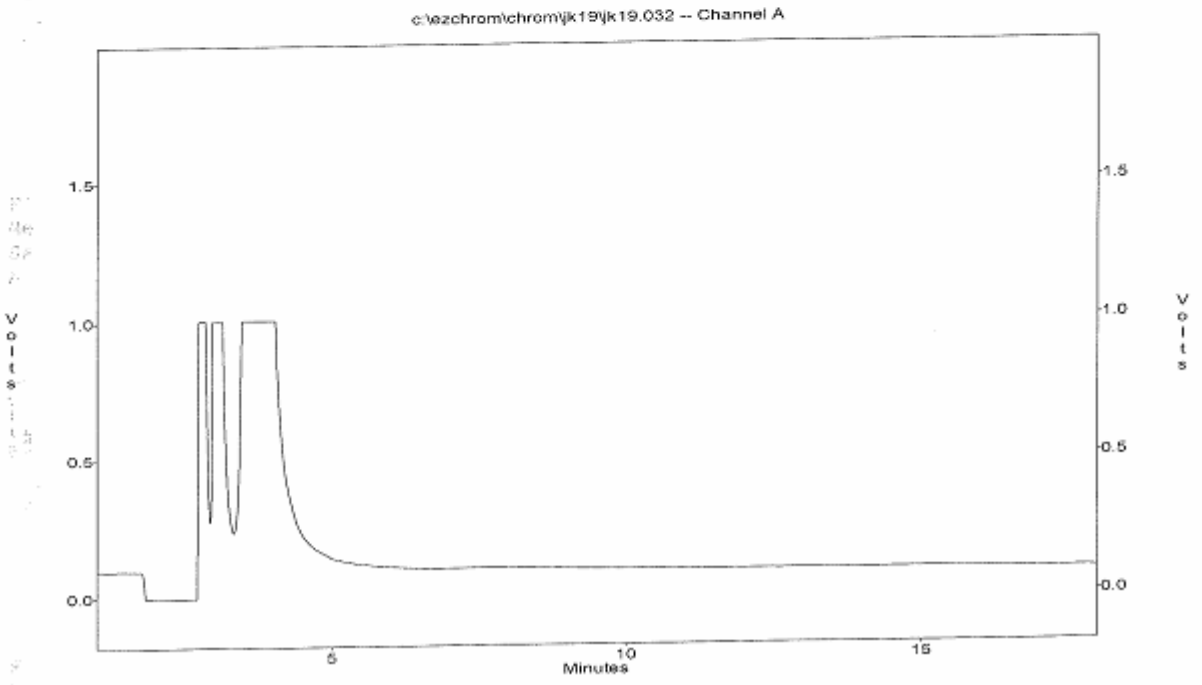
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.032
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-10
Acquired : Nov 19, 2021 20:55:32
Printed : Nov 22, 2021 11:49:57
User : YCabal

Channel A Results

	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2133734
BATCH NO. : 21K166
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK002WB	PCK002WL	PCK002WC
LAB FILE ID :	21JK19005	21JK19007	21JK19008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/19/2109:54	11/19/2110:38	11/19/2111:00
PREP BATCH :	PCK002W	PCK002W	PCK002W
CALIBRATION REF:	21JK19004	21JK19004	21JK19004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.5	98	25	24.0	96	2	85-115	15

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2133734
BATCH NO. : 21K166
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	PCK005WB	PCK005WL	PCK005WC
LAB FILE ID :	21JK22005	21JK22007	21JK22008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/22/2117:38	11/22/2118:20	11/22/2118:41
PREP BATCH :	PCK005W	PCK005W	PCK005W
CALIBRATION REF:	21JK22004	21JK22004	21JK22004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.9	100	25	25.0	100	0	85-115	15

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EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2133734
BATCH NO. : 21K166
METHOD : E314.0

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2133734-07	2133734-07MS
LAB SAMPLE ID	: K166-06	K166-06N
LAB FILE ID	: 21JK19025	21JK19026
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/19/2117:44	11/19/2118:49
PREP BATCH	: PCK002W	PCK002W
CALIBRATION REF	: 21JK19020	21JK19020

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Perchlorate	ND	15.00	14.6	97	80-120

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EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2133734
BATCH NO. : 21K166
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 2133734-09	2133734-09MS	2133734-09MSD
LAB SAMPLE ID	: K166-08	K166-08M	K166-08S
LAB FILE ID	: 21JK22010	21JK22011	21JK22012
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/22/2119:23	11/22/2119:44	11/22/2120:05
PREP BATCH	: PCK005W	PCK005W	PCK005W
CALIBRATION REF:	21JK22009	21JK22009	21JK22009

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	5.06	15.00	20.1	100	15.00	19.9	99	1	80-120	15

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EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2133734
BATCH NO. : 21K166
METHOD : E314.0

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2133734-07	2133734-07DUP
LAB SAMPLE ID	: K166-06	K166-06D
LAB FILE ID	: 21JK19025	21JK19027
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/19/2117:44	11/19/2119:10
PREP BATCH	: PCK002W	PCK002W
CALIBRATION REF	: 21JK19020	21JK19020

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	DUP RESULT (ug/L)	RPD (%)	MAX RPD (%)
Perchlorate	ND	ND	0	15

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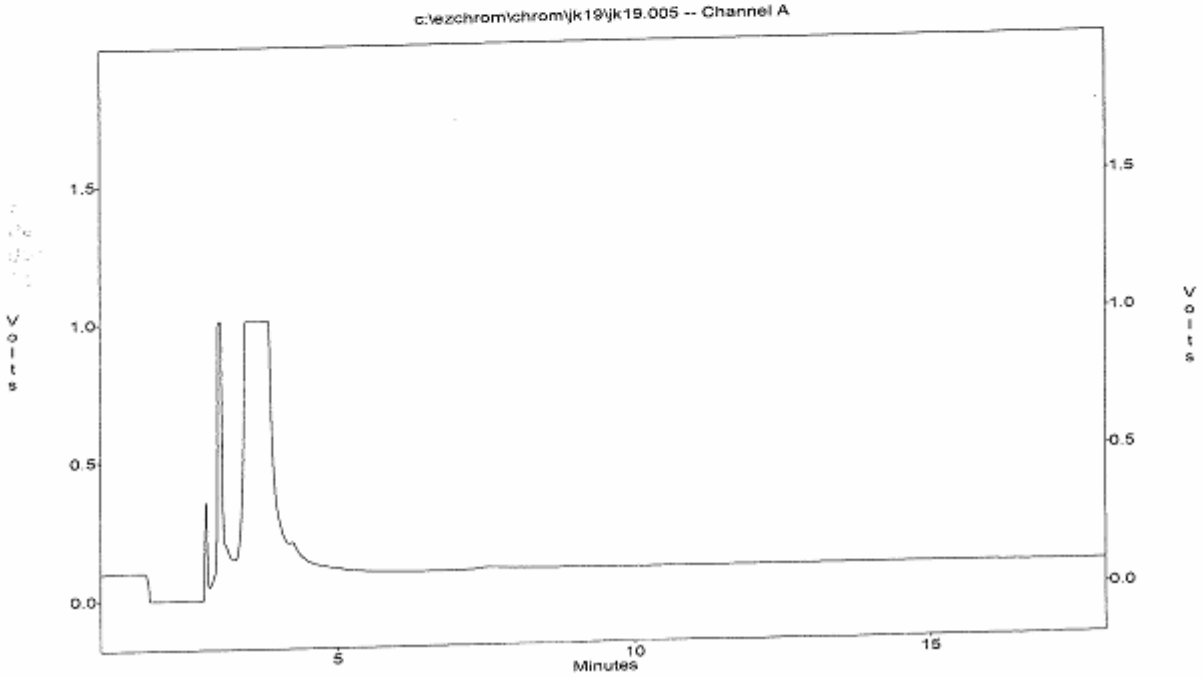
QC DATA

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK002WB
Acquired : Nov 19, 2021 09:54:36
Printed : Nov 22, 2021 11:30:03
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

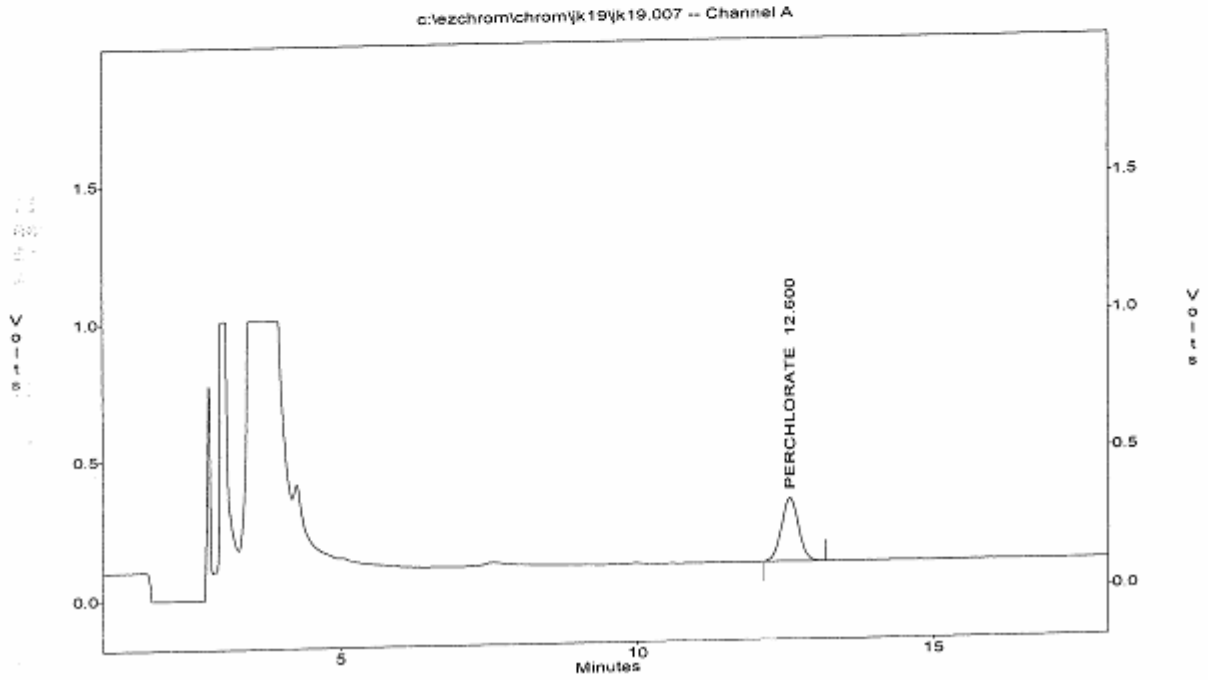
File : c:\ezchrom\chrom\jk19\jk19.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK002WL
Acquired : Nov 19, 2021 10:38:34
Printed : Nov 22, 2021 11:30:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	4521158	227240	180791.531	24.502

A|H
19.896 ✓

$$PD_{A|H} = \frac{|21.975 - 19.896|}{19.896} \times 100 = 11\%$$ ✓



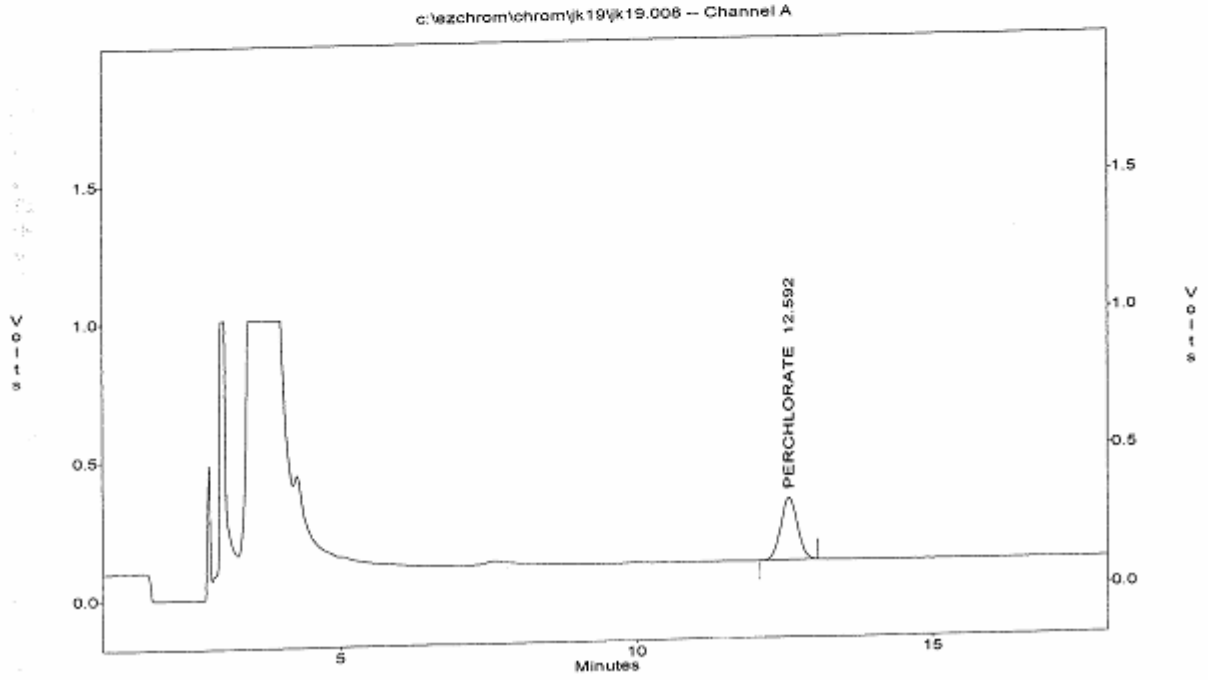
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK002WC
Acquired : Nov 19, 2021 11:00:00
Printed : Nov 22, 2021 11:31:34
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	4432821	224348	180791.531	24.028



REPORT ID: 21K166

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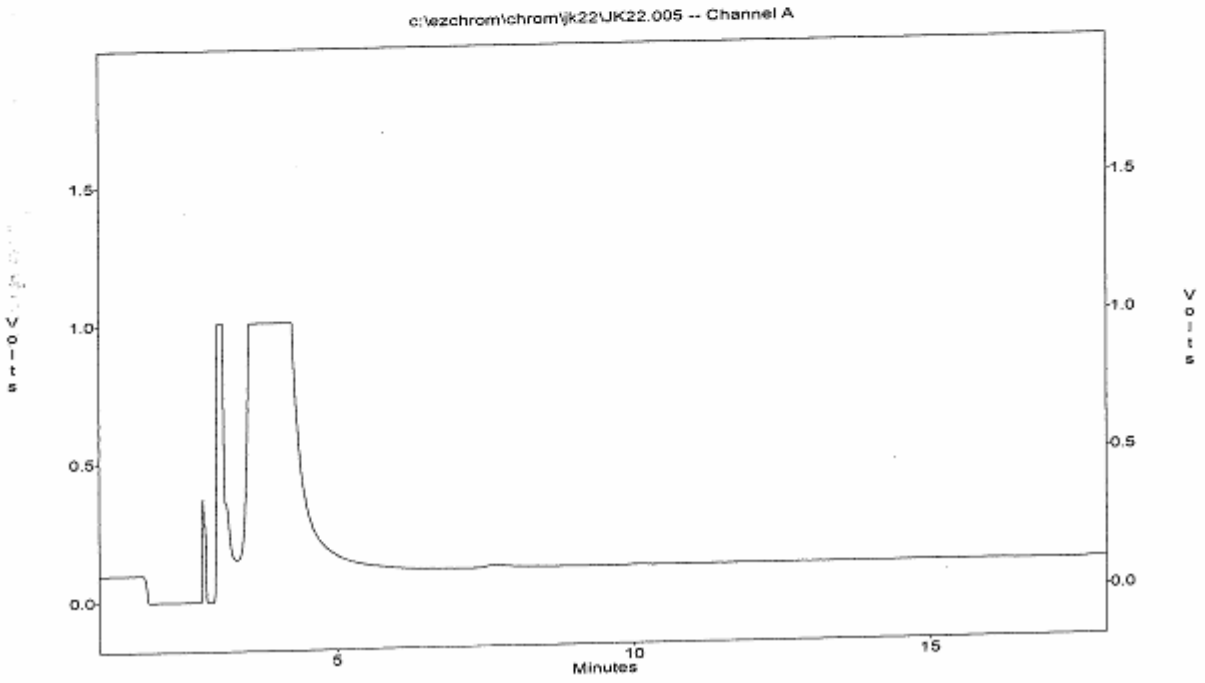
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WB
Acquired : Nov 22, 2021 17:38:07
Printed : Nov 23, 2021 09:21:51
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

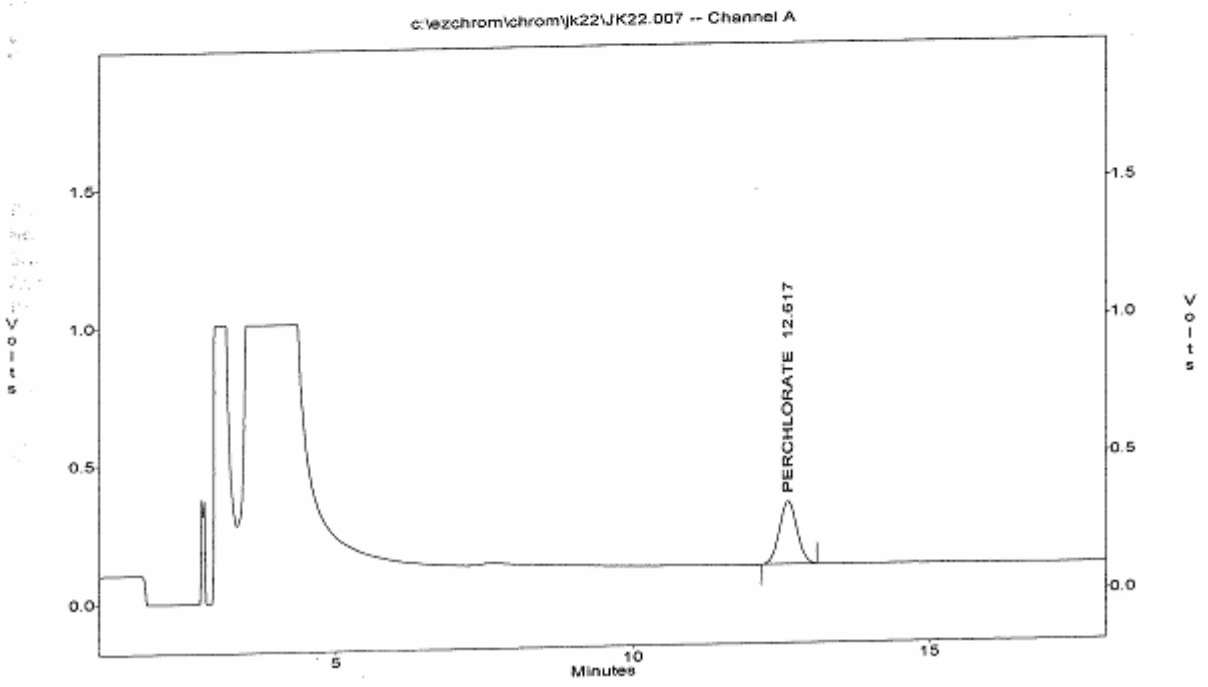
File : c:\ezchrom\chrom\jk22\JK22.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WL
Acquired : Nov 22, 2021 18:20:10
Printed : Nov 23, 2021 09:21:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.62	4602827	226928	180791.531	24.940

A|H
20.283 ✓

$$PD_{A|H} = \frac{|22.450 - 20.283|}{20.283} \times 100 = 11\%$$ ✓ JB



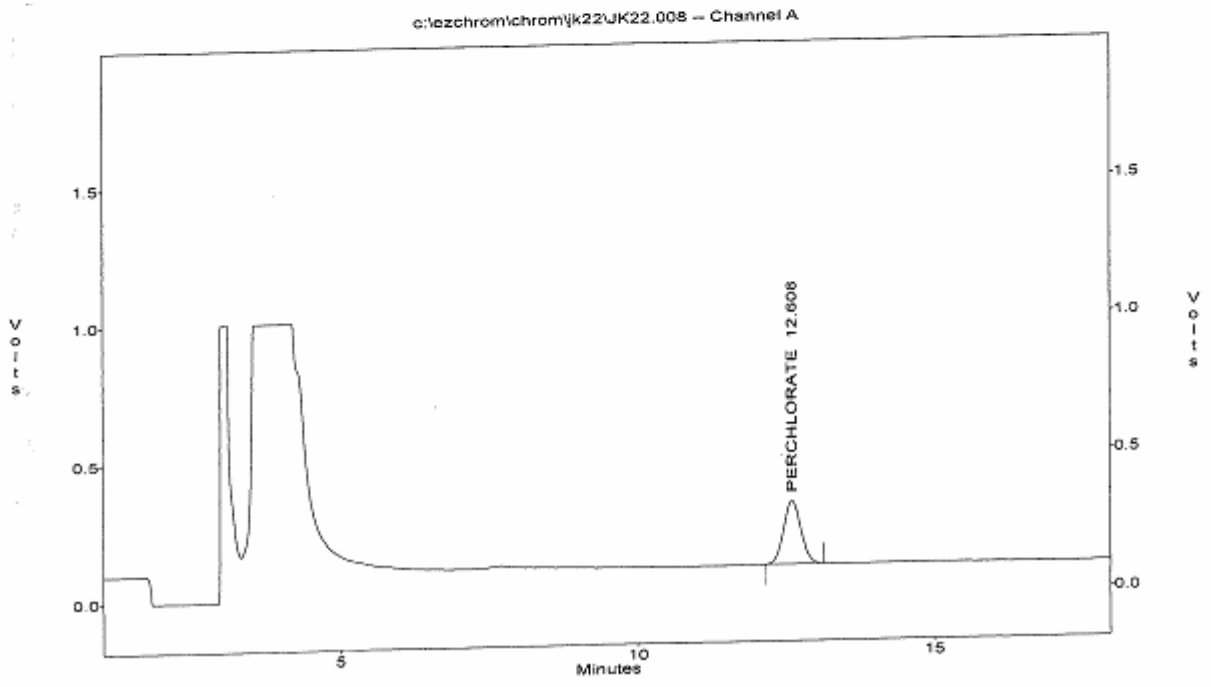
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WC
Acquired : Nov 22, 2021 18:41:10
Printed : Nov 23, 2021 09:21:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	4612770	228590	180791.531	24.993



REPORT ID: 21K166

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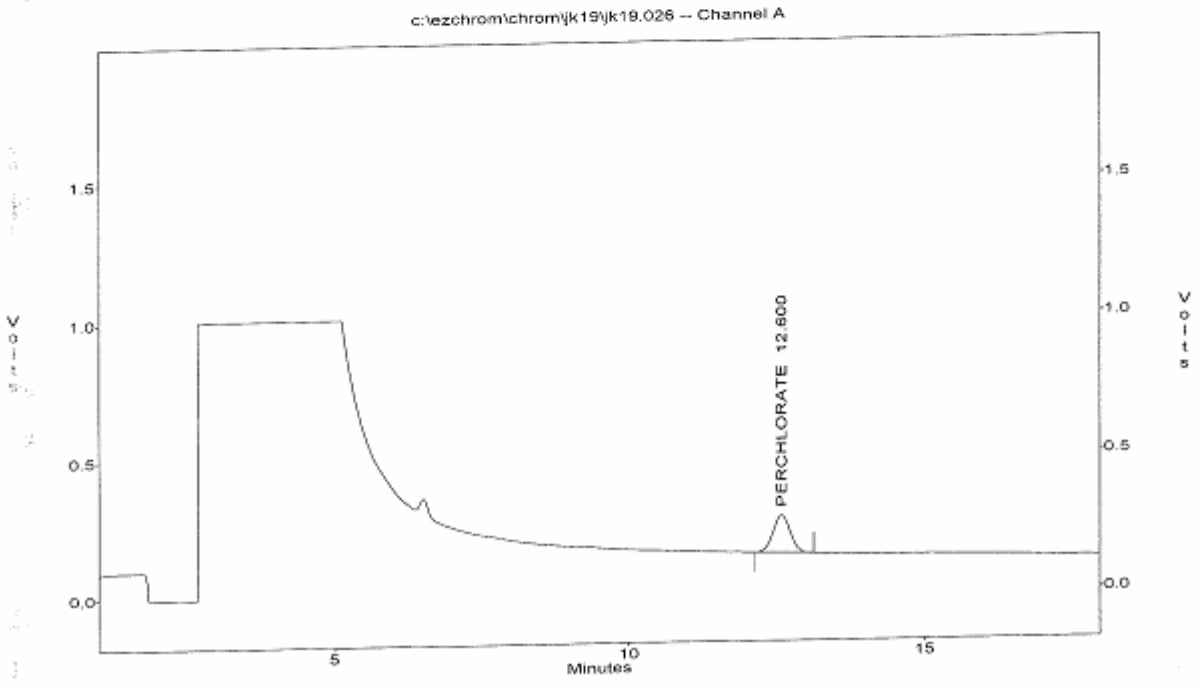
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.026
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-06M
Acquired : Nov 19, 2021 18:49:25
Printed : Nov 22, 2021 11:48:08
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	2678545	134552	180791.531	14.620



REPORT ID: 21K166

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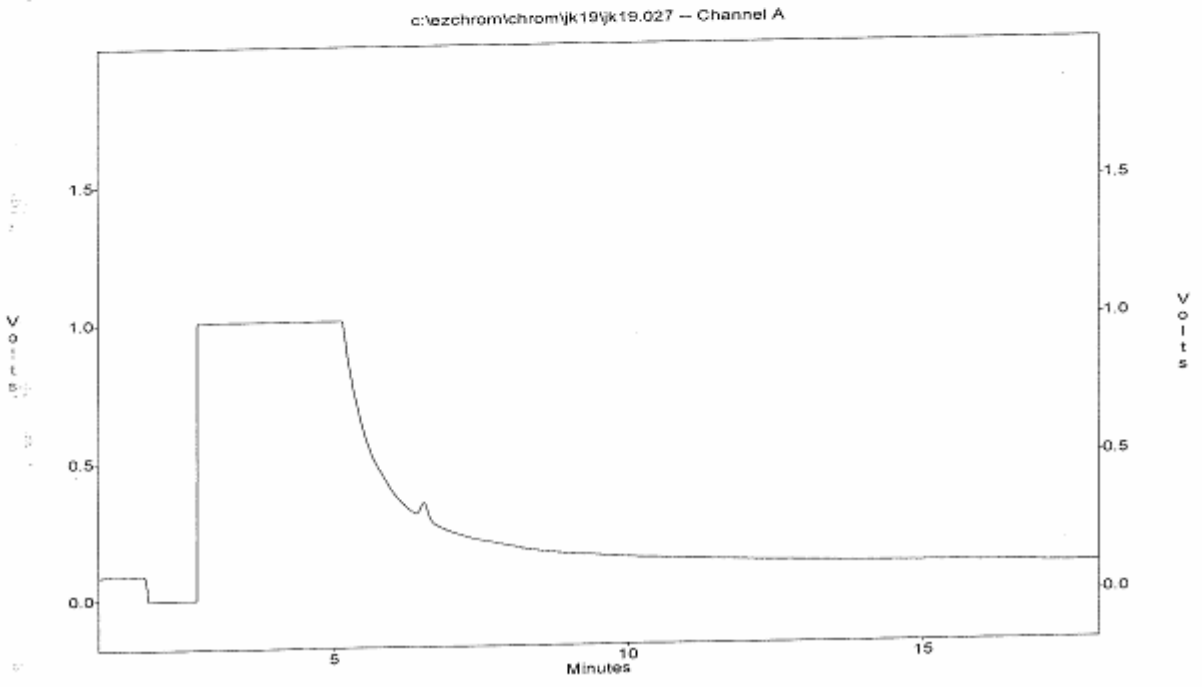
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.027
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-06D
Acquired : Nov 19, 2021 19:10:27
Printed : Nov 22, 2021 11:48:16
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K166

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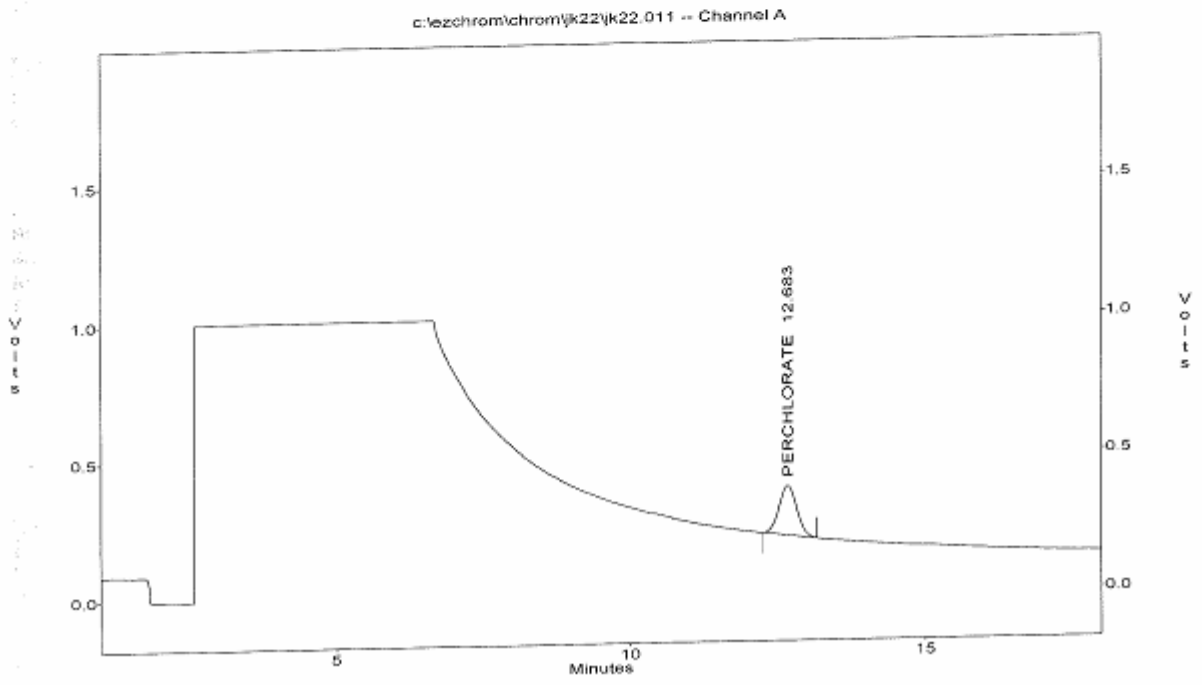
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.011
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-08M
Acquired : Nov 22, 2021 19:44:14
Printed : Nov 23, 2021 08:00:35
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.68	3698124	178804	180791.531	20.088



REPORT ID: 21K166

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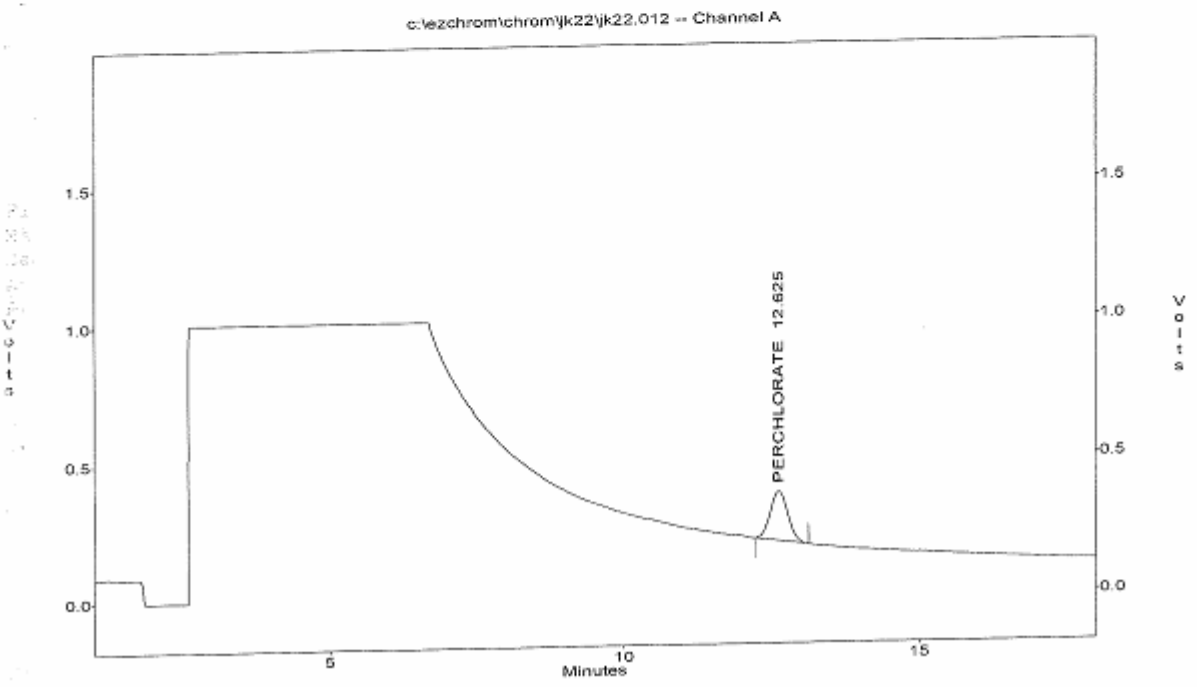
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.012
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K166-08S
Acquired : Nov 22, 2021 20:05:14
Printed : Nov 23, 2021 08:02:12
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	3663932	179399	180791.531	19.905



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INITIAL CALIBRATION

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

11/15/21

REPORT ID: 21K166

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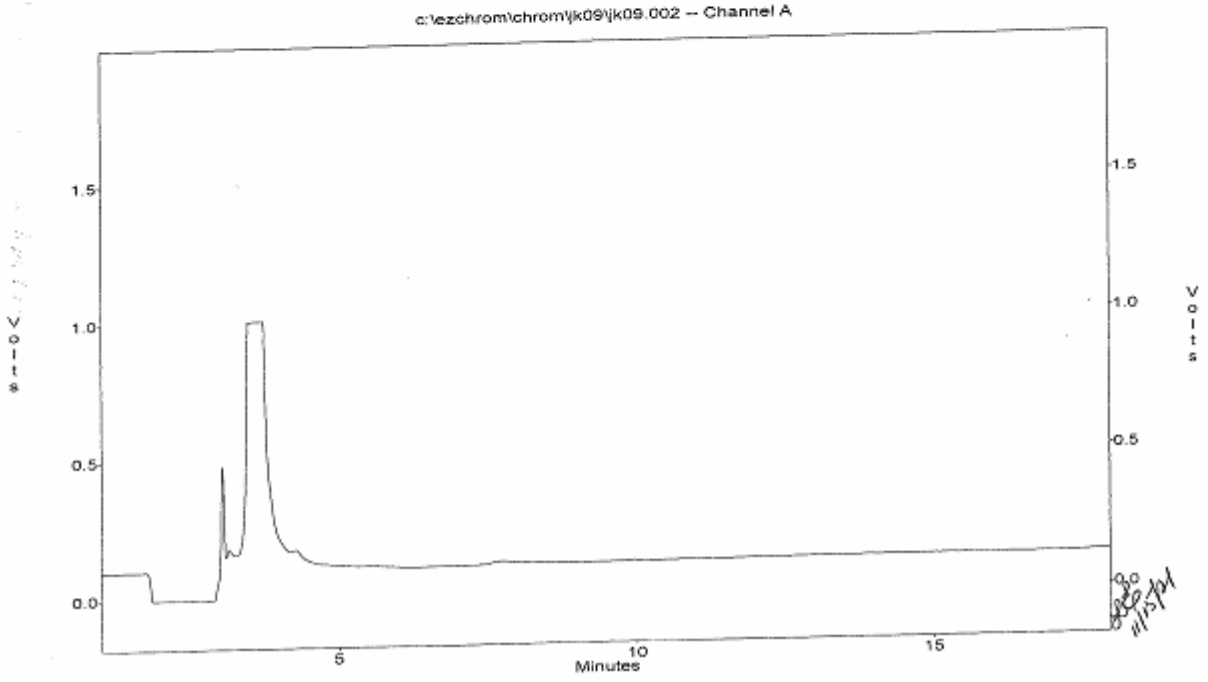
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K166

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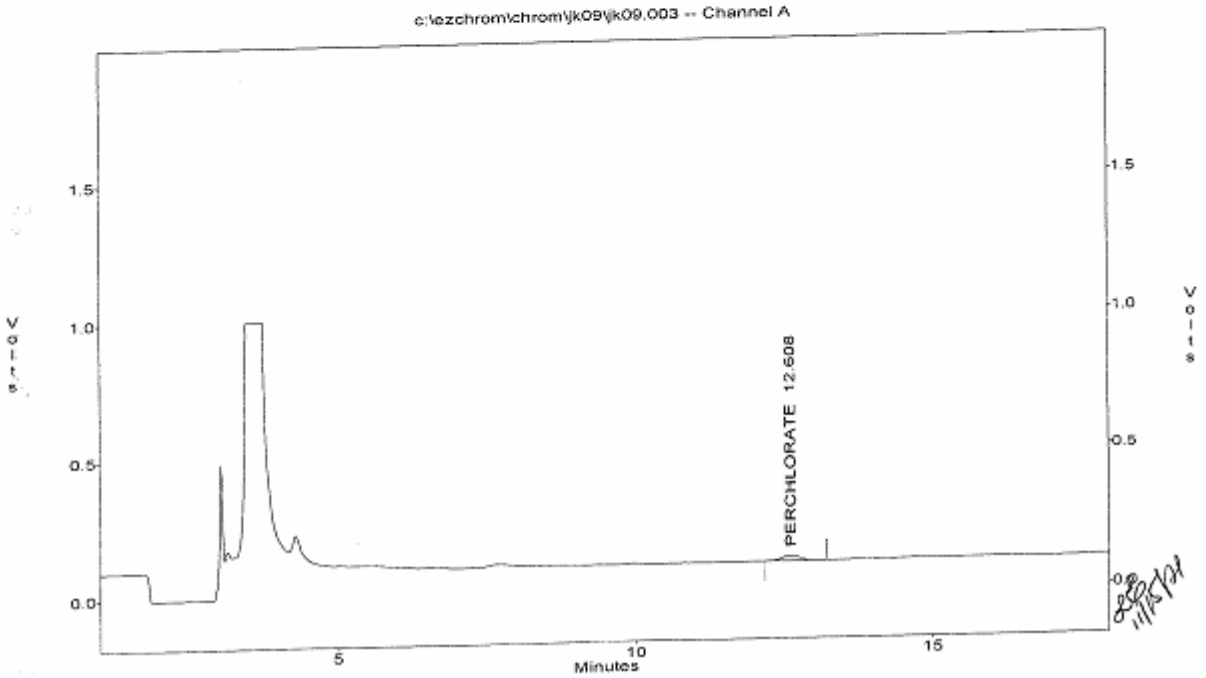
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



REPORT ID: 21K166

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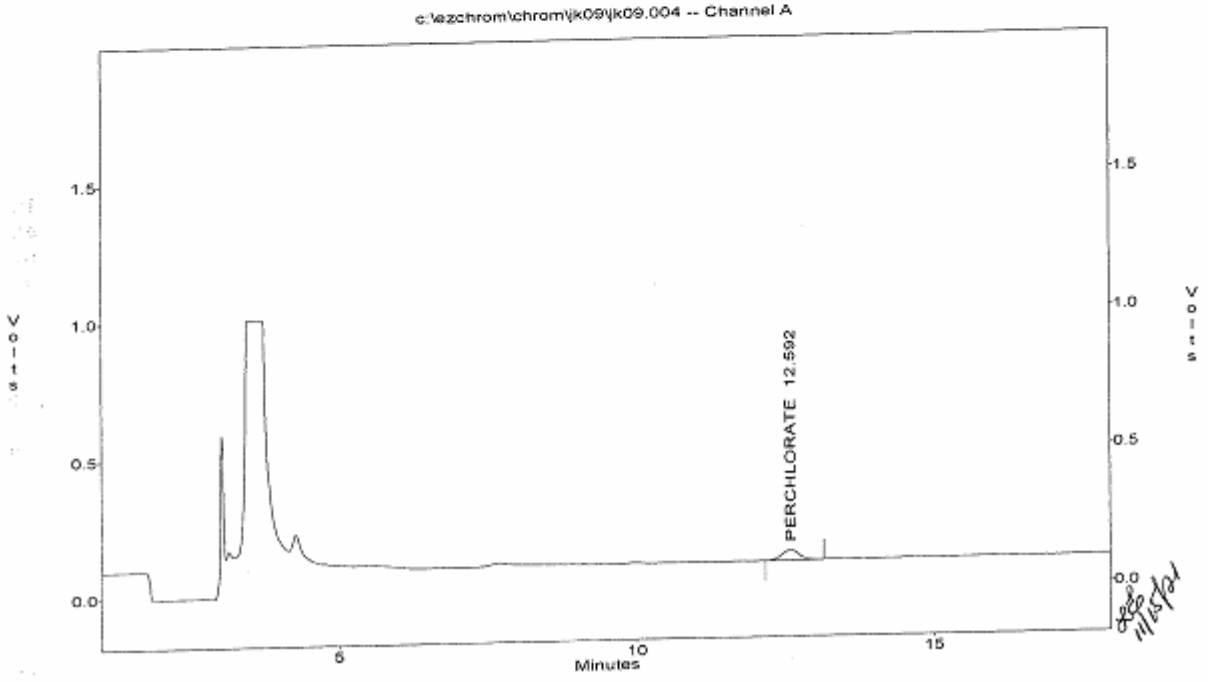
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



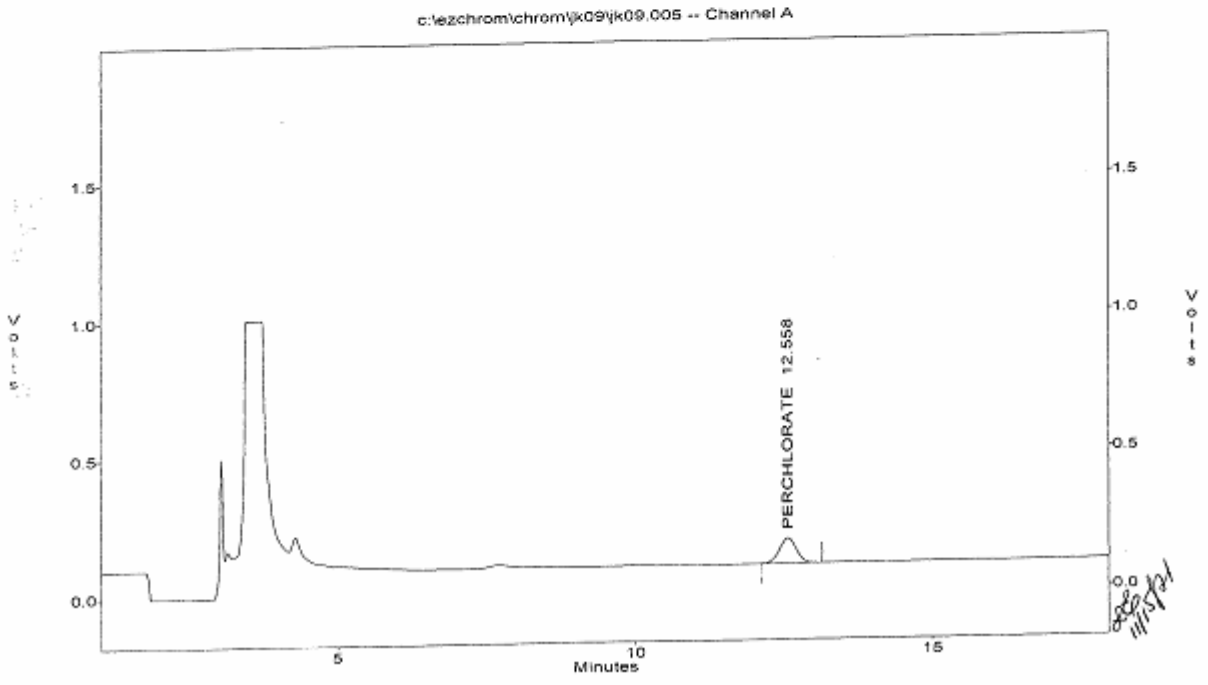
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



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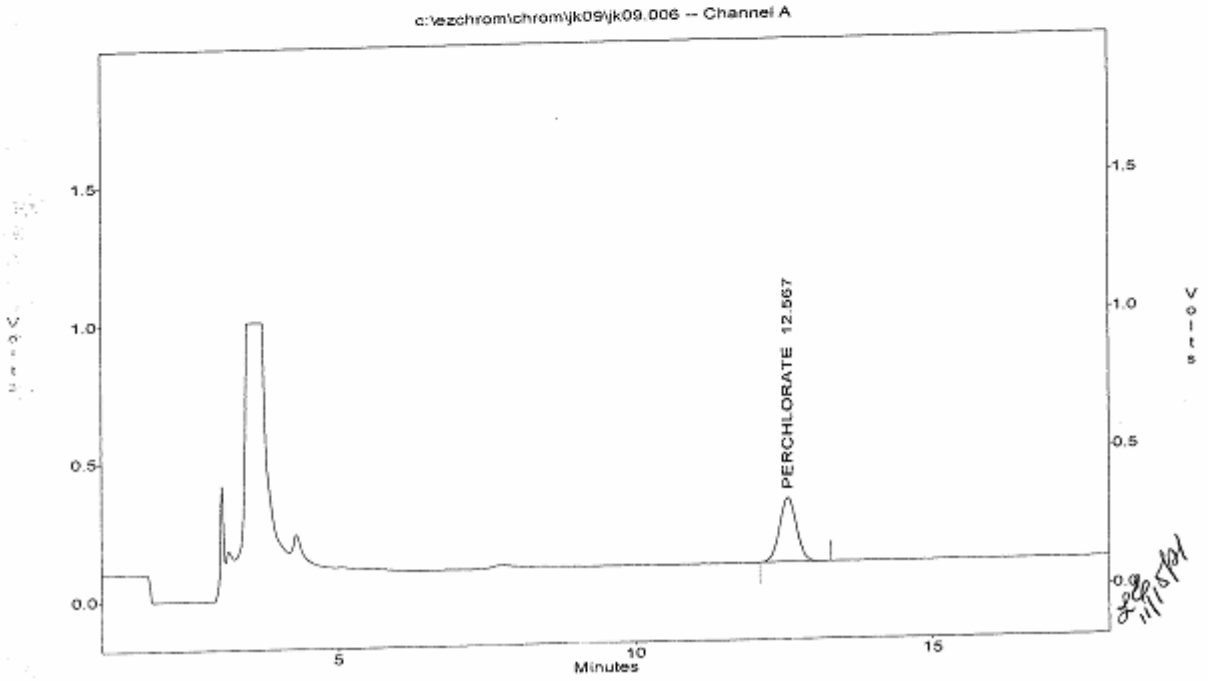
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



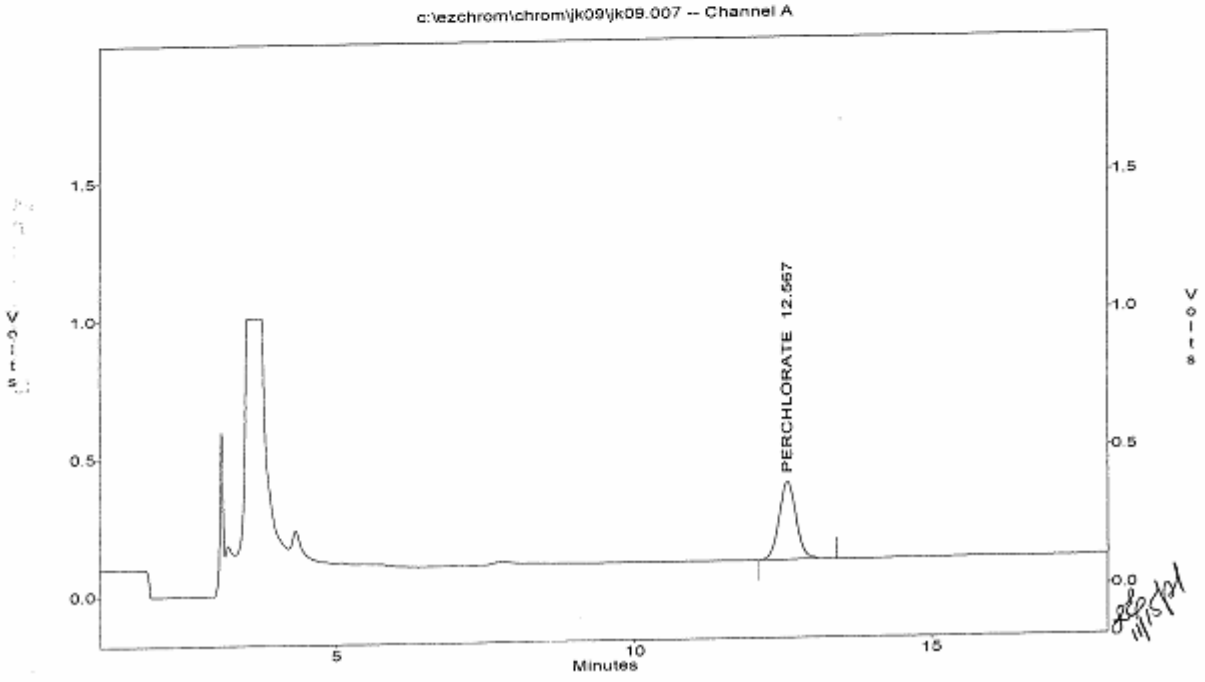
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



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* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

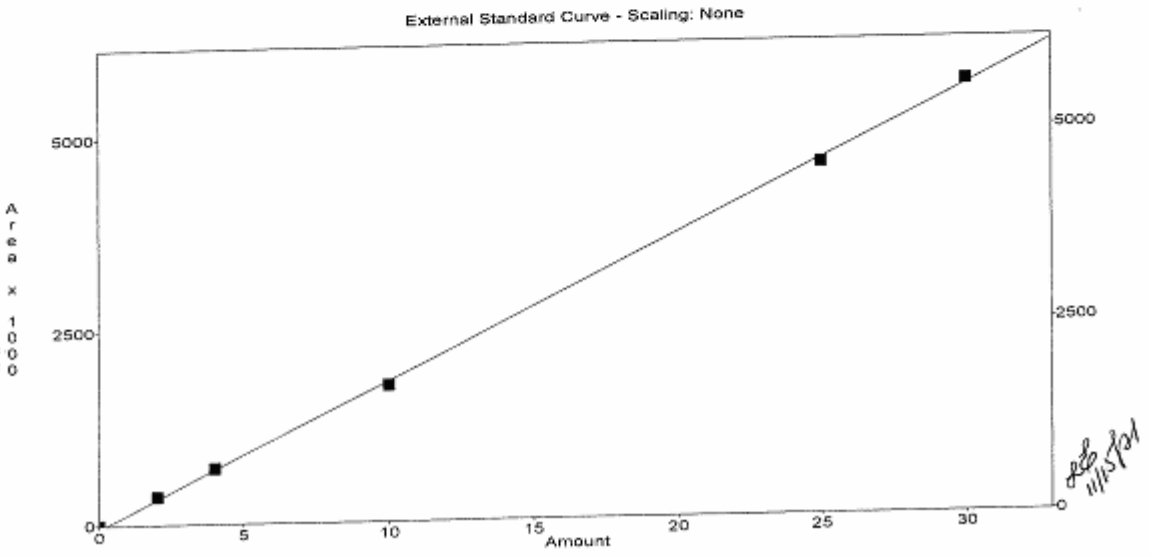
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36295e-006 x Area + 0.255269
R^2 = 0.999512



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SECOND SOURCE VERIFICATION

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IC RESULT FORM CalVersion: PCHLO314.KD8/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

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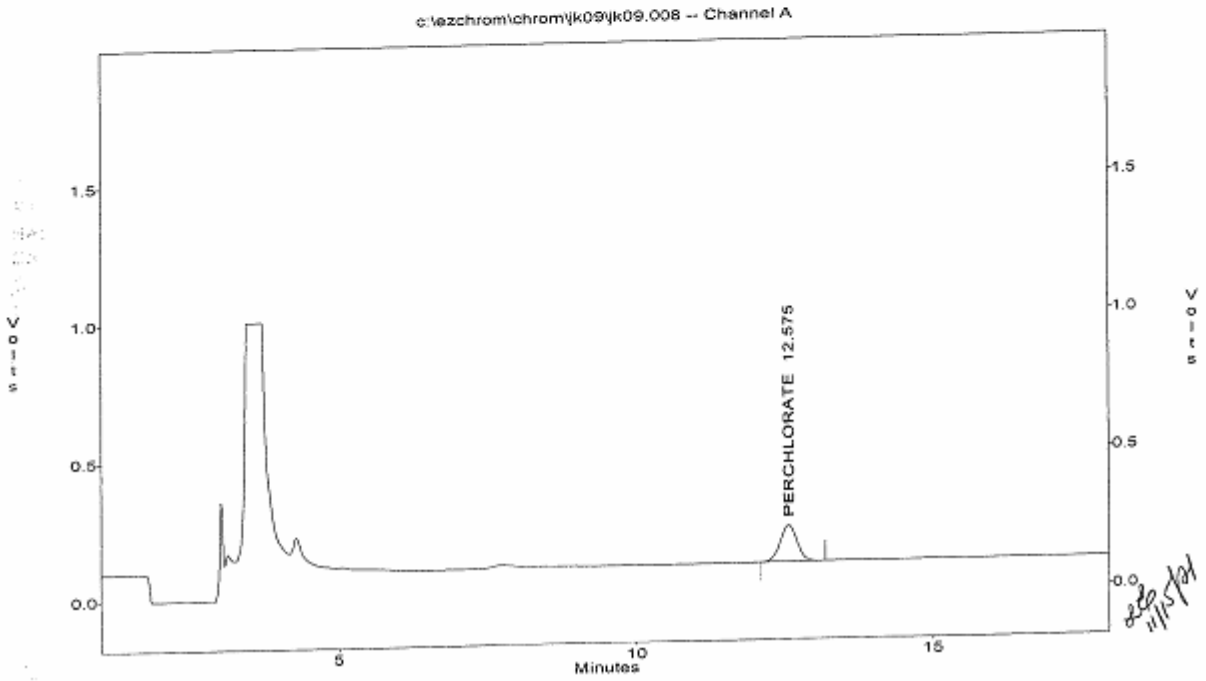
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



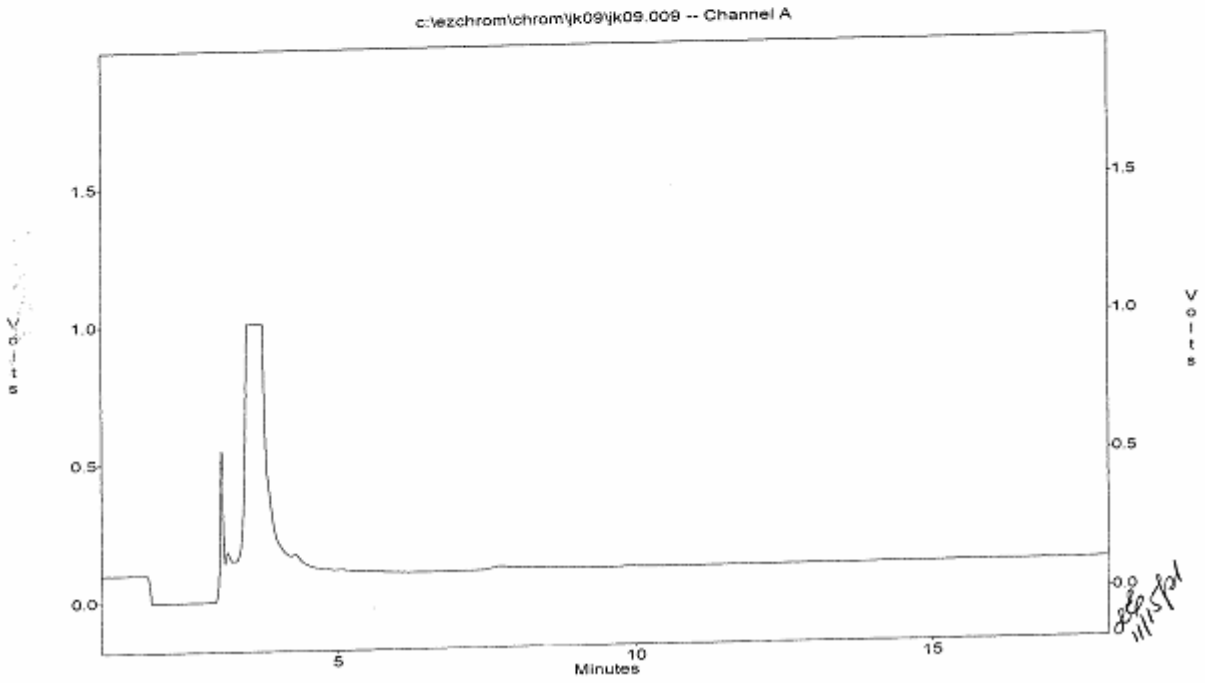
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2133734
SDG : 21K166
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK19009	CCV52-15	101	11/19/2111:21
21JK19020	CCV53-30	102	11/19/2115:38
21JK19031	CCV54-15	104	11/19/2120:34
21JK19036	CCV55-30	102	11/19/2122:19
21JK22009	CCV65-30	105	11/22/2119:02
21JK22019	CCV66-15	101	11/22/2122:32

CCV Acceptance Criteria: 85-115%

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK19001	RINSE	P	IC57K08	11/19/2108:27	1
JK19002	RINSE	P	IC57K08	11/19/2108:49	1
JK19003	RINSE	P	IC57K08	11/19/2109:10	1
JK19004	IPCS	P	IC57K08	11/19/2109:33	1
JK19005	PCK002WB	P	IC57K08	11/19/2109:54	1
JK19006	MRLK1901	P	IC57K08	11/19/2110:17	1
JK19007	PCK002WL	P	IC57K08	11/19/2110:38	1
JK19008	PCK002WC	P	IC57K08	11/19/2111:00	1
JK19009	CCV52-15	P	IC57K08	11/19/2111:21	1
JK19010	QC	P	IC57K08	11/19/2111:42	1
JK19011	QC	P	IC57K08	11/19/2112:18	1
JK19012	QC	P	IC57K08	11/19/2112:39	1
JK19013	K139-01	P	IC57K08	11/19/2113:01	1
JK19014	K140-01	P	IC57K08	11/19/2113:23	1
JK19015	K141-01	P	IC57K08	11/19/2113:44	1
JK19016	K141-01M	P	IC57K08	11/19/2114:07	1
JK19017	K141-01D	P	IC57K08	11/19/2114:28	1
JK19018	K168-01	P	IC57K08	11/19/2114:49	1
JK19019	K166-01	P	IC57K08	11/19/2115:17	1
JK19020	CCV53-30	P	IC57K08	11/19/2115:38	1
JK19021	K166-02	P	IC57K08	11/19/2116:14	1
JK19022	K166-03	P	IC57K08	11/19/2116:38	1
JK19023	K166-04	P	IC57K08	11/19/2116:59	1
JK19024	K166-05	P	IC57K08	11/19/2117:21	1
JK19025	K166-06	P	IC57K08	11/19/2117:44	1
JK19026	K166-06M	P	IC57K08	11/19/2118:49	1
JK19027	K166-06D	P	IC57K08	11/19/2119:10	1
JK19028	K166-07	P	IC57K08	11/19/2119:31	1
JK19029	TEST	P	IC57K08	11/19/2119:52	1
JK19030	K166-09	P	IC57K08	11/19/2120:13	1
JK19031	CCV54-15	P	IC57K08	11/19/2120:34	1
JK19032	K166-10	P	IC57K08	11/19/2120:55	1
JK19033	K190-01	P	IC57K08	11/19/2121:16	1
JK19034	K190-02	P	IC57K08	11/19/2121:37	1
JK19035	K191-01	P	IC57K08	11/19/2121:58	1
JK19036	CCV55-30	P	IC57K08	11/19/2122:19	1
JK19037	IPCS	P	IC57K08	11/19/2122:40	1
JK19038	PCK003WB	P	IC57K08	11/19/2123:01	1
JK19039	MRLK1902	P	IC57K08	11/19/2123:22	1
JK19040	PCK003WL	P	IC57K08	11/19/2123:43	1
JK19041	PCK003WC	P	IC57K08	11/20/2100:04	1
JK19042	CCV56-15	P	IC57K08	11/20/2100:25	1
JK19043	K167-01	P	IC57K08	11/20/2100:46	1
JK19044	K167-02	P	IC57K08	11/20/2101:07	1
JK19045	K167-03	P	IC57K08	11/20/2101:28	1
JK19046	TEST	P	IC57K08	11/20/2101:49	1
JK19047	K167-05	P	IC57K08	11/20/2102:10	1
JK19048	K167-06	P	IC57K08	11/20/2102:31	1
JK19049	K167-06M	P	IC57K08	11/20/2102:52	1
JK19050	K167-06D	P	IC57K08	11/20/2103:13	1
JK19051	K167-07	P	IC57K08	11/20/2103:34	1
JK19052	TEST	P	IC57K08	11/20/2103:55	1
JK19053	CCV57-30	P	IC57K08	11/20/2104:16	1
JK19054	K167-09	P	IC57K08	11/20/2104:37	1
JK19055	K167-10	P	IC57K08	11/20/2104:59	1
JK19056	K174-01	P	IC57K08	11/20/2105:20	1
JK19057	K174-01M	P	IC57K08	11/20/2105:41	1
JK19058	K174-01D	P	IC57K08	11/20/2106:02	1
JK19059	K174-02	P	IC57K08	11/20/2106:23	1
JK19060	K174-03	P	IC57K08	11/20/2106:44	1
JK19061	K174-04	P	IC57K08	11/20/2107:05	1
JK19062	K174-05	P	IC57K08	11/20/2107:26	1
JK19063	K174-06	P	IC57K08	11/20/2107:47	1
JK19064	CCV58-15	P	IC57K08	11/20/2108:08	1
JK19065	K169-01	P	IC57K08	11/20/2108:29	1
JK19066	K169-02	P	IC57K08	11/20/2108:50	1
JK19067	K169-03	P	IC57K08	11/20/2109:11	1
JK19068	K169-04	P	IC57K08	11/20/2109:32	1
JK19069	CCV59-30	P	IC57K08	11/20/2109:53	1

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK22001	RINSE	P	IC57K08	11/22/2116:14	1
JK22002	RINSE	P	IC57K08	11/22/2116:35	1
JK22003	RINSE	P	IC57K08	11/22/2116:56	1
JK22004	IPC5	P	IC57K08	11/22/2117:17	1
JK22005	PCK005WB	P	IC57K08	11/22/2117:38	1
JK22006	MRLK2201	P	IC57K08	11/22/2117:59	1
JK22007	PCK005WL	P	IC57K08	11/22/2118:20	1
JK22008	PCK005WC	P	IC57K08	11/22/2118:41	1
JK22009	CCV65-30	P	IC57K08	11/22/2119:02	1
JK22010	K166-08	P	IC57K08	11/22/2119:23	1
JK22011	K166-08N	P	IC57K08	11/22/2119:44	1
JK22012	K166-08S	P	IC57K08	11/22/2120:05	1
JK22013	K167-04	P	IC57K08	11/22/2120:26	1
JK22014	K167-04N	P	IC57K08	11/22/2120:47	1
JK22015	K167-04S	P	IC57K08	11/22/2121:08	1
JK22016	K167-08	P	IC57K08	11/22/2121:29	1
JK22017	K167-08N	P	IC57K08	11/22/2121:50	1
JK22018	K167-08S	P	IC57K08	11/22/2122:11	1
JK22019	CCV66-15	P	IC57K08	11/22/2122:32	1
JK22020	K173-08	P	IC57K08	11/22/2122:53	1
JK22021	K173-08N	P	IC57K08	11/22/2123:14	1
JK22022	K173-08S	P	IC57K08	11/22/2123:35	1
JK22023	CCV67-30	P	IC57K08	11/22/2123:56	1

REPORT ID: 21K166

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK19001	RINSE	P	.000	11/19/2108:27	1
JK19002	RINSE	P	.000	11/19/2108:49	1
JK19003	RINSE	P	.000	11/19/2109:10	1
JK19004	IPCS	P	94.8%	11/19/2109:33	1
JK19005	PCK002WB	P	.000	11/19/2109:54	1
JK19006	MRLK1901	P	99.2%	11/19/2110:17	1
JK19007	PCK002WL	P	24.5	11/19/2110:38	1
JK19008	PCK002WC	P	24	11/19/2111:00	1
JK19009	CCV52-15	P	101%	11/19/2111:21	1
JK19010	QC	P	.000	11/19/2111:42	1
JK19011	QC	P	.000	11/19/2112:18	1
JK19012	QC	P	.000	11/19/2112:39	1
JK19013	K139-01	P	29.6	11/19/2113:01	1
JK19014	K140-01	P	2.92	11/19/2113:23	1
JK19015	K141-01	P	1.34	11/19/2113:44	1
JK19016	K141-01M	P	15.7	11/19/2114:07	1
JK19017	K141-01D	P	1.2	11/19/2114:28	1
JK19018	K168-01	P	.000	11/19/2114:49	1
JK19019	K166-01	P	.000	11/19/2115:17	1
JK19020	CCV53-30	P	102%	11/19/2115:38	1
JK19021	K166-02	P	8.99	11/19/2116:14	1
JK19022	K166-03	P	10.2	11/19/2116:38	1
JK19023	K166-04	P	12	11/19/2116:59	1
JK19024	K166-05	P	7.62	11/19/2117:21	1
JK19025	K166-06	P	.000	11/19/2117:44	1
JK19026	K166-06M	P	14.6	11/19/2118:49	1
JK19027	K166-06D	P	.000	11/19/2119:10	1
JK19028	K166-07	P	4.56	11/19/2119:31	1
JK19029	TEST	P	5.29	11/19/2119:52	1
JK19030	K166-09	P	4.26	11/19/2120:13	1
JK19031	CCV54-15	P	104%	11/19/2120:34	1
JK19032	K166-10	P	.000	11/19/2120:55	1
JK19033	K190-01	P	.000	11/19/2121:16	1
JK19034	K190-02	P	.000	11/19/2121:37	1
JK19035	K191-01	P	.000	11/19/2121:58	1
JK19036	CCV55-30	P	102%	11/19/2122:19	1
JK19037	IPCS	P	99.5%	11/19/2122:40	1
JK19038	PCK003WB	P	.000	11/19/2123:01	1
JK19039	MRLK1902	P	100%	11/19/2123:22	1
JK19040	PCK003WL	P	24.9	11/19/2123:43	1
JK19041	PCK003WC	P	24.8	11/20/2100:04	1
JK19042	CCV56-15	P	102%	11/20/2100:25	1
JK19043	K167-01	P	.000	11/20/2100:46	1
JK19044	K167-02	P	1.39	11/20/2101:07	1
JK19045	K167-03	P	3.61	11/20/2101:28	1
JK19046	TEST	P	2.98	11/20/2101:49	1
JK19047	K167-05	P	1.48	11/20/2102:10	1
JK19048	K167-06	P	.000	11/20/2102:31	1
JK19049	K167-06M	P	14.9	11/20/2102:52	1
JK19050	K167-06D	P	.000	11/20/2103:13	1
JK19051	K167-07	P	.000	11/20/2103:34	1
JK19052	TEST	P	12.3	11/20/2103:55	1
JK19053	CCV57-30	P	105%	11/20/2104:16	1
JK19054	K167-09	P	.000	11/20/2104:37	1
JK19055	K167-10	P	21.2	11/20/2104:59	1
JK19056	K174-01	P	.000	11/20/2105:20	1
JK19057	K174-01M	P	15	11/20/2105:41	1
JK19058	K174-01D	P	.000	11/20/2106:02	1
JK19059	K174-02	P	3.17	11/20/2106:23	1
JK19060	K174-03	P	4.84	11/20/2106:44	1
JK19061	K174-04	P	6.14	11/20/2107:05	1
JK19062	K174-05	P	3.99	11/20/2107:26	1
JK19063	K174-06	P	.000	11/20/2107:47	1
JK19064	CCV58-15	P	104%	11/20/2108:08	1
JK19065	K169-01	P	3.1	11/20/2108:29	1
JK19066	K169-02	P	3.73	11/20/2108:50	1
JK19067	K169-03	P	3.65	11/20/2109:11	1
JK19068	K169-04	P	1.42	11/20/2109:32	1
JK19069	CCV59-30	P	102%	11/20/2109:53	1

REPORT ID: 21K166 Page 54 of 74

IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK22001	RINSE	P	.000	11/22/2116:14	1
JK22002	RINSE	P	.000	11/22/2116:35	1
JK22003	RINSE	P	.000	11/22/2116:56	1
JK22004	IPCS	P	99.4%	11/22/2117:17	1
JK22005	PCK005WB	P	.000	11/22/2117:38	1
JK22006	MRLK2201	P	103%	11/22/2117:59	1
JK22007	PCK005WL	P	24.9	11/22/2118:20	1
JK22008	PCK005WC	P	25	11/22/2118:41	1
JK22009	CCV65-30	P	105%	11/22/2119:02	1
JK22010	K166-08	P	5.06	11/22/2119:23	1
JK22011	K166-08M	P	20.1	11/22/2119:44	1
JK22012	K166-08S	P	19.9	11/22/2120:05	1
JK22013	K167-04	P	2.81	11/22/2120:26	1
JK22014	K167-04M	P	17.8	11/22/2120:47	1
JK22015	K167-04S	P	17.9	11/22/2121:08	1
JK22016	K167-08	P	11.5	11/22/2121:29	1
JK22017	K167-08M	P	26.5	11/22/2121:50	1
JK22018	K167-08S	P	26.7	11/22/2122:11	1
JK22019	CCV66-15	P	101%	11/22/2122:32	1
JK22020	K173-08	P	1.23	11/22/2122:53	1
JK22021	K173-08M	P	16.2	11/22/2123:14	1
JK22022	K173-08S	P	16.3	11/22/2123:35	1
JK22023	CCV67-30	P	102%	11/22/2123:56	1

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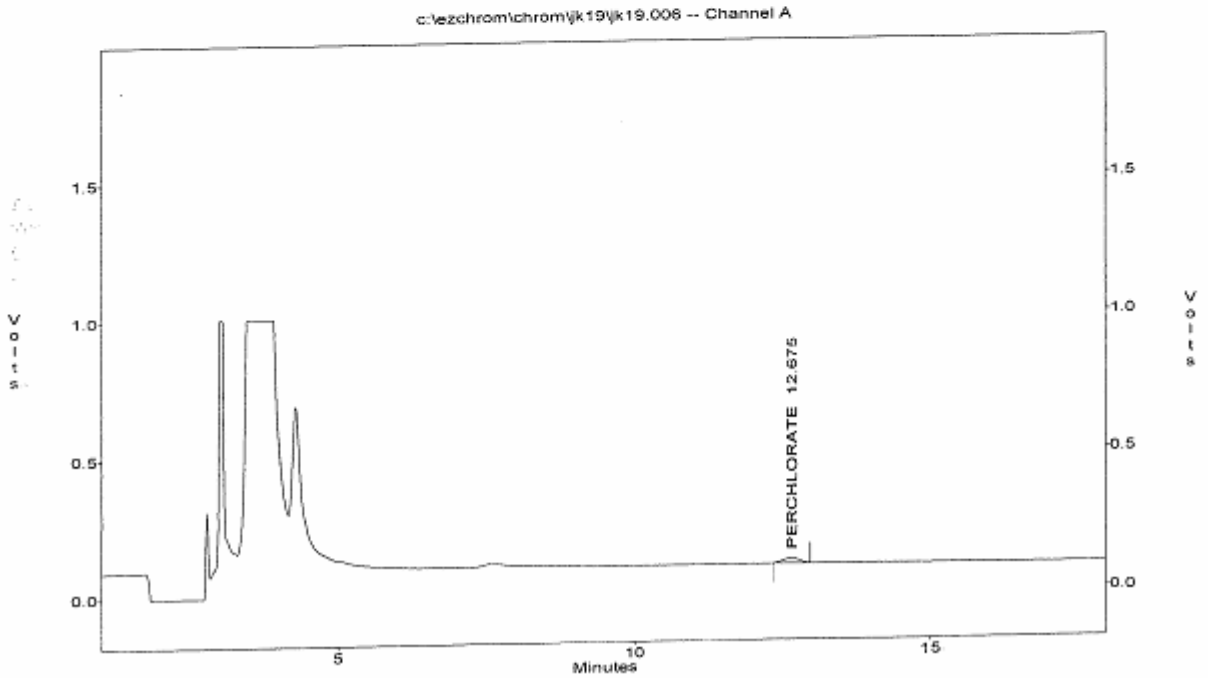
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK1901
Acquired : Nov 19, 2021 10:17:15
Printed : Nov 22, 2021 11:30:36
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.68	322378	17210	180791.531	1.984



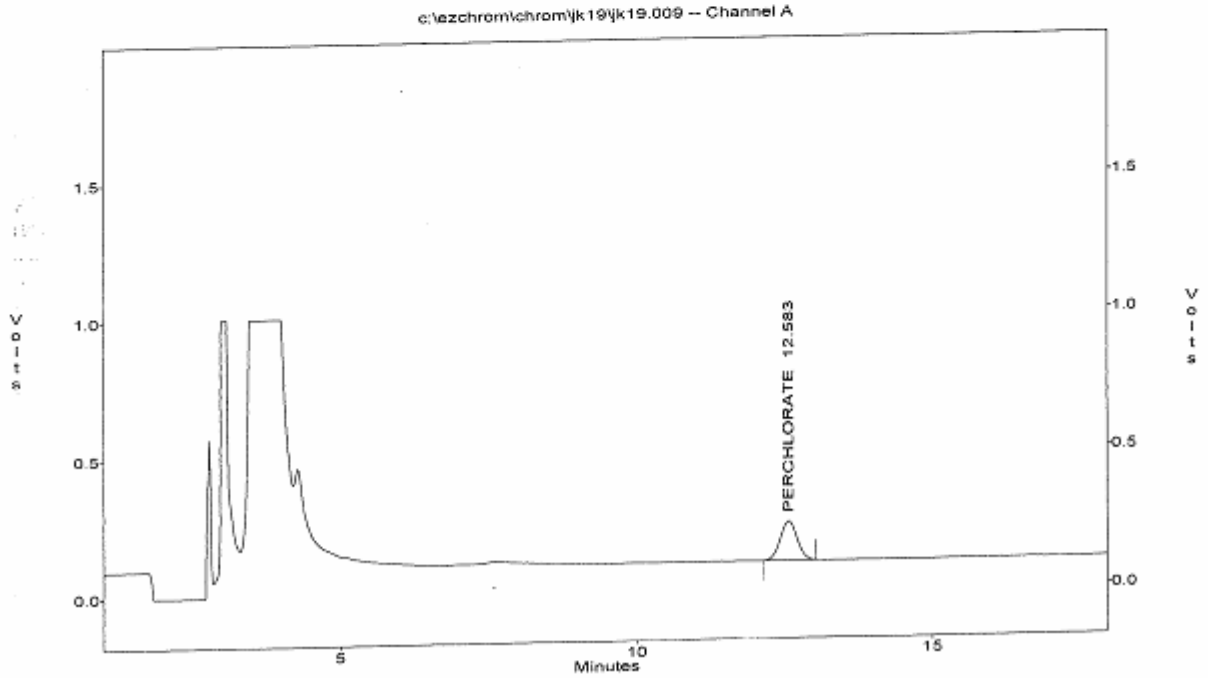
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV52-15
Acquired : Nov 19, 2021 11:21:01
Printed : Nov 22, 2021 11:31:44
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	2779961	141179	180791.531	15.164



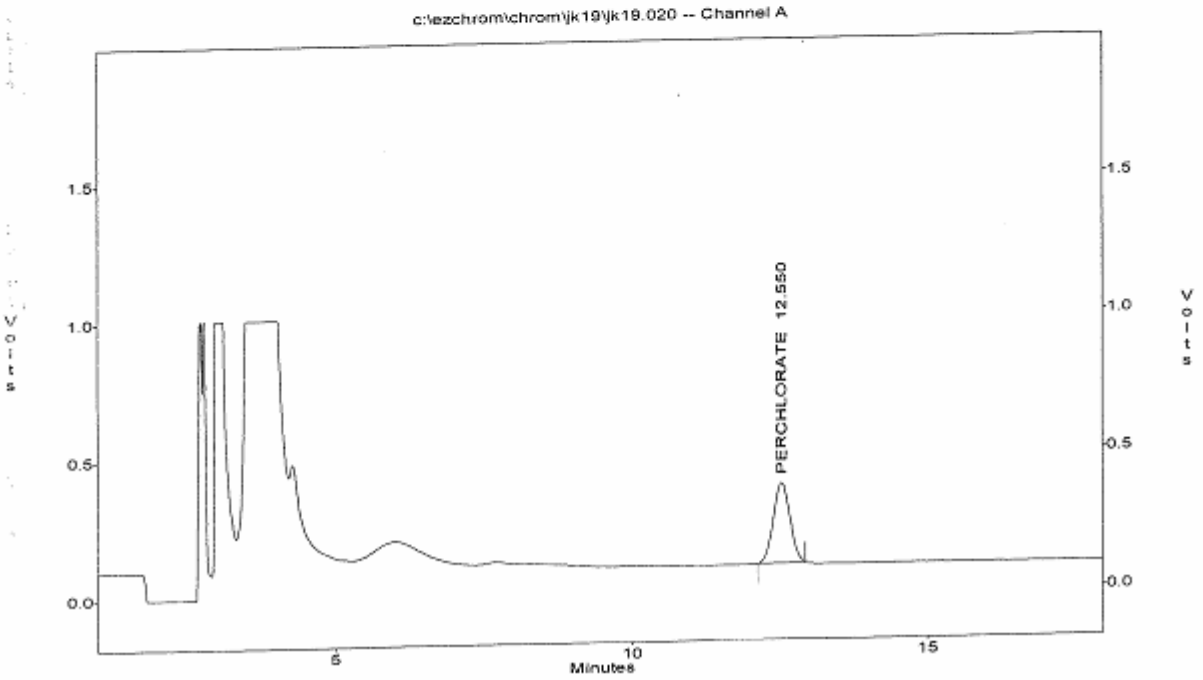
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.020
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV53-30
Acquired : Nov 19, 2021 15:38:30
Printed : Nov 22, 2021 11:45:13
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.55	5636516	290331	180791.531	30.484



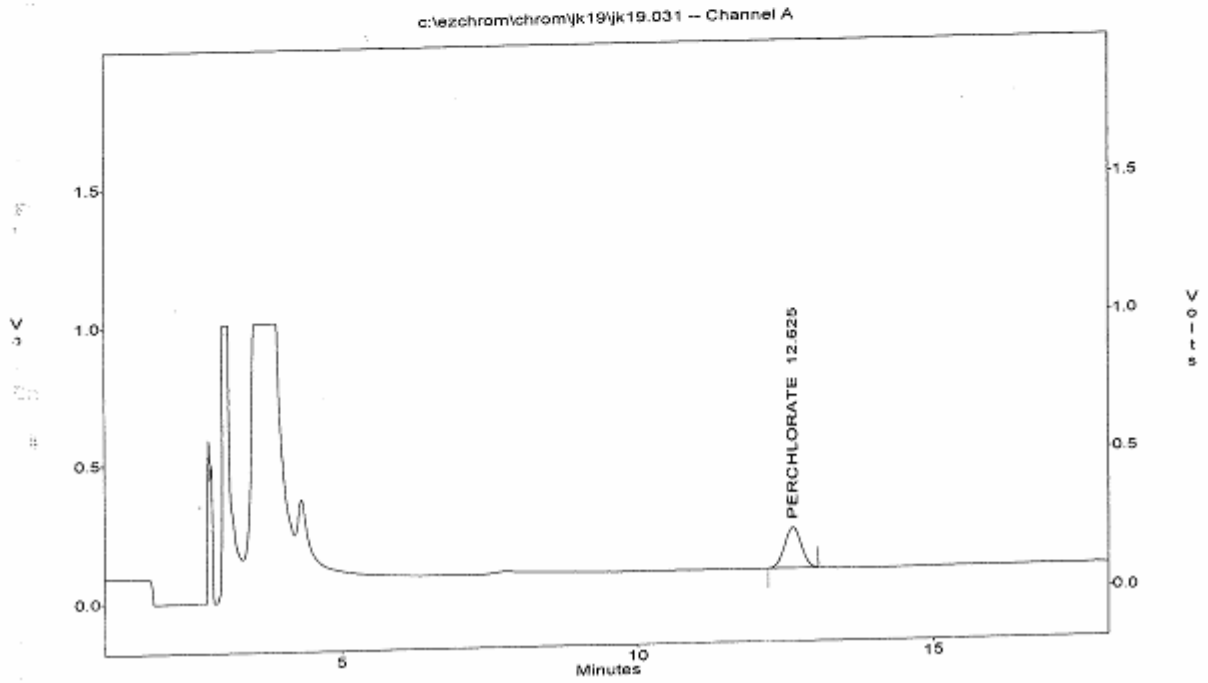
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.031
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV54-15
Acquired : Nov 19, 2021 20:34:31
Printed : Nov 22, 2021 11:49:48
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	2864354	145597	180791.531	15.617



REPORT ID: 21K166

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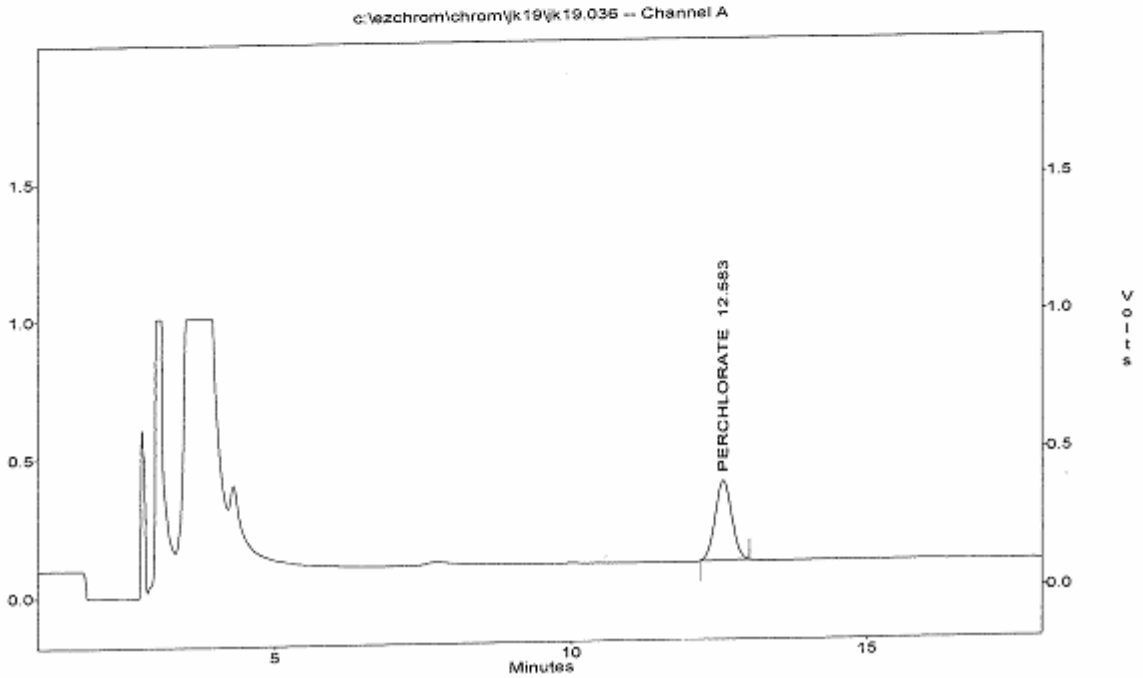
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.036
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV55-30
Acquired : Nov 19, 2021 22:19:37
Printed : Nov 22, 2021 11:50:58
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	5654737	289061	180791.531	30.581



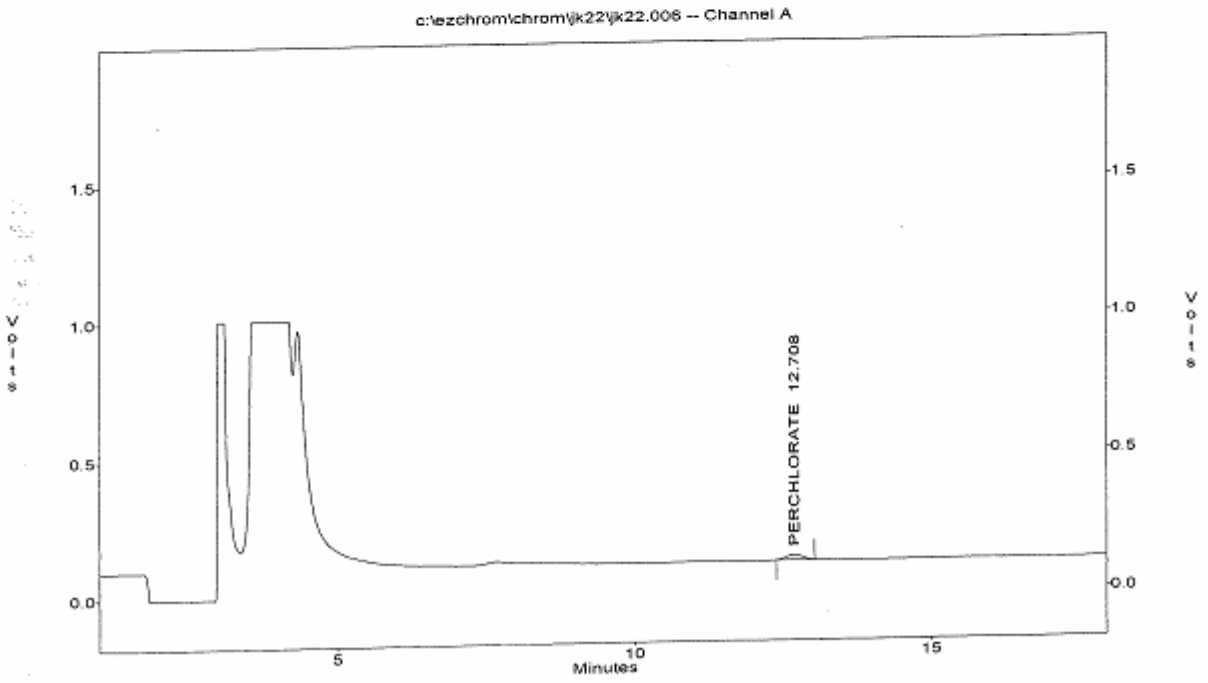
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2201
Acquired : Nov 22, 2021 17:59:08
Printed : Nov 23, 2021 07:57:26
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.71	338466	17979	180791.531	2.070



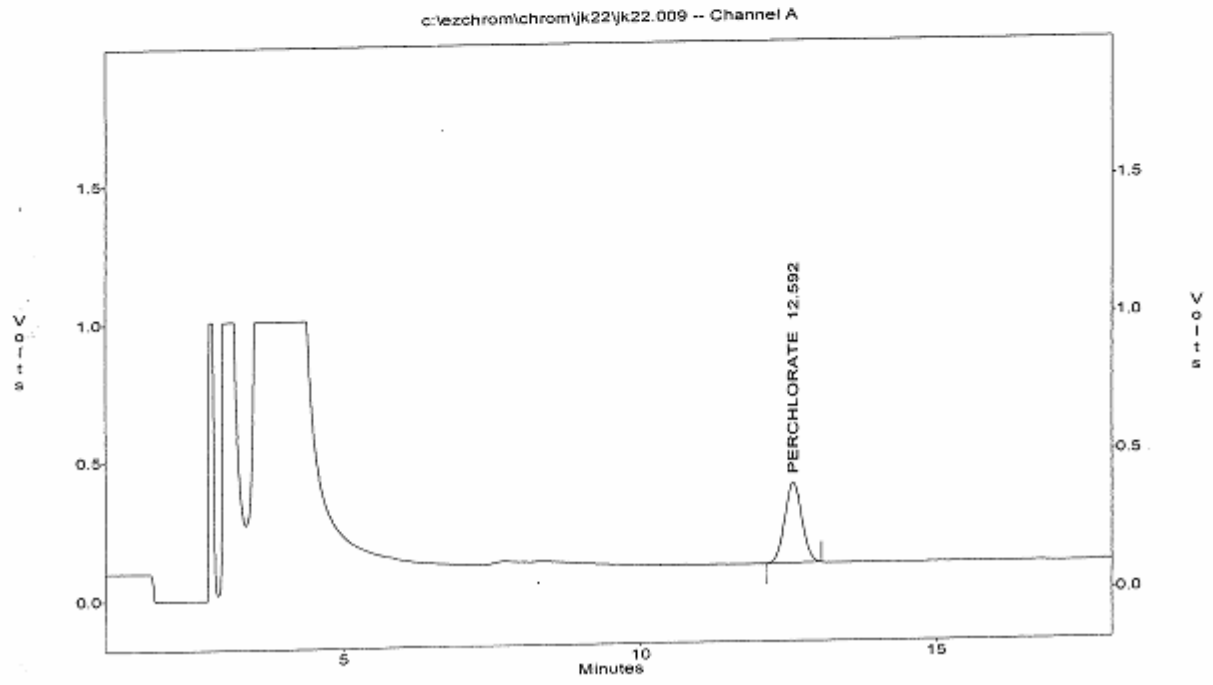
REPORT ID: 21K166

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV65-30
Acquired : Nov 22, 2021 19:02:11
Printed : Nov 23, 2021 07:59:03
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	5802324	290291	180791.531	31.373



REPORT ID: 21K166

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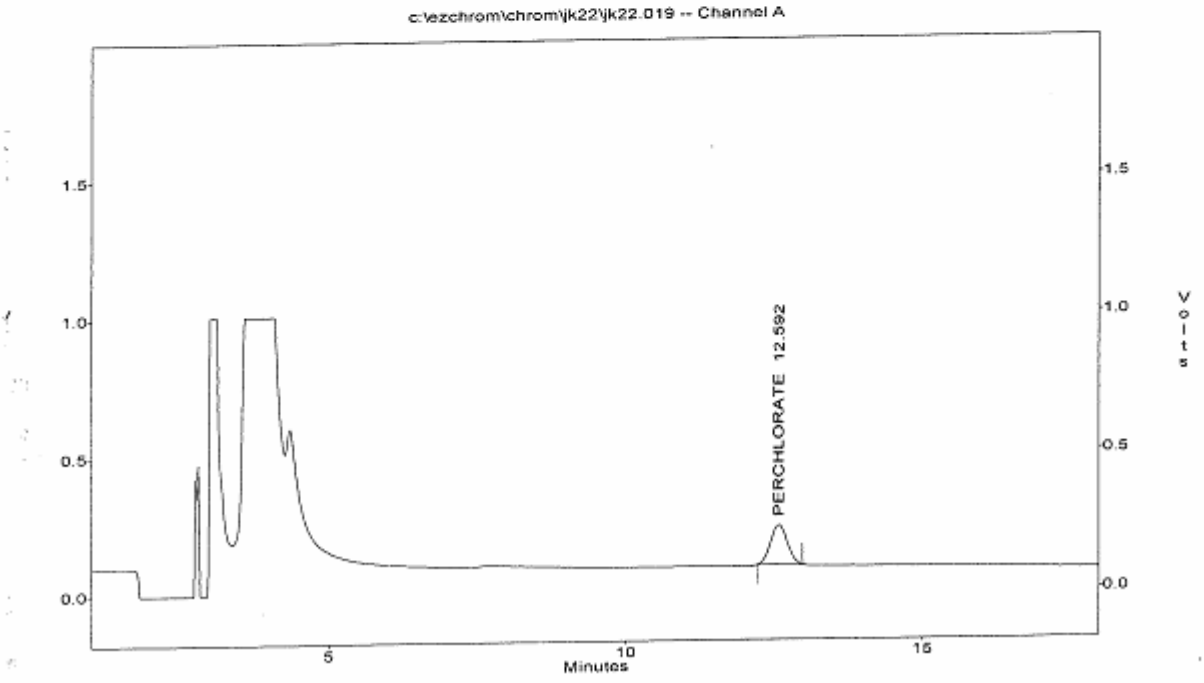
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.019
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV66-15
Acquired : Nov 22, 2021 22:32:25
Printed : Nov 23, 2021 08:07:32
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	2789638	142693	180791.531	15.216 ✓



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ANALYTICAL LOG(S)

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 17

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwR1-02-18-01

Reagent Water ID #: SwIA-611-03-01

Guard II	ID	NA
Ba		v
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
Swi-02-09-17	999	999
Swi-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
Swi-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 170 110144
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 181011214
Flow: 1.50mL/min Sample Loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 170111085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #: 355200012
0.2 µm filter lot #:	1.5 oz; lot #:

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57 K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	SW48-008-04-01
ICV	SW48-008-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC
Date: 11/8/21

REPORT ID: 21K166

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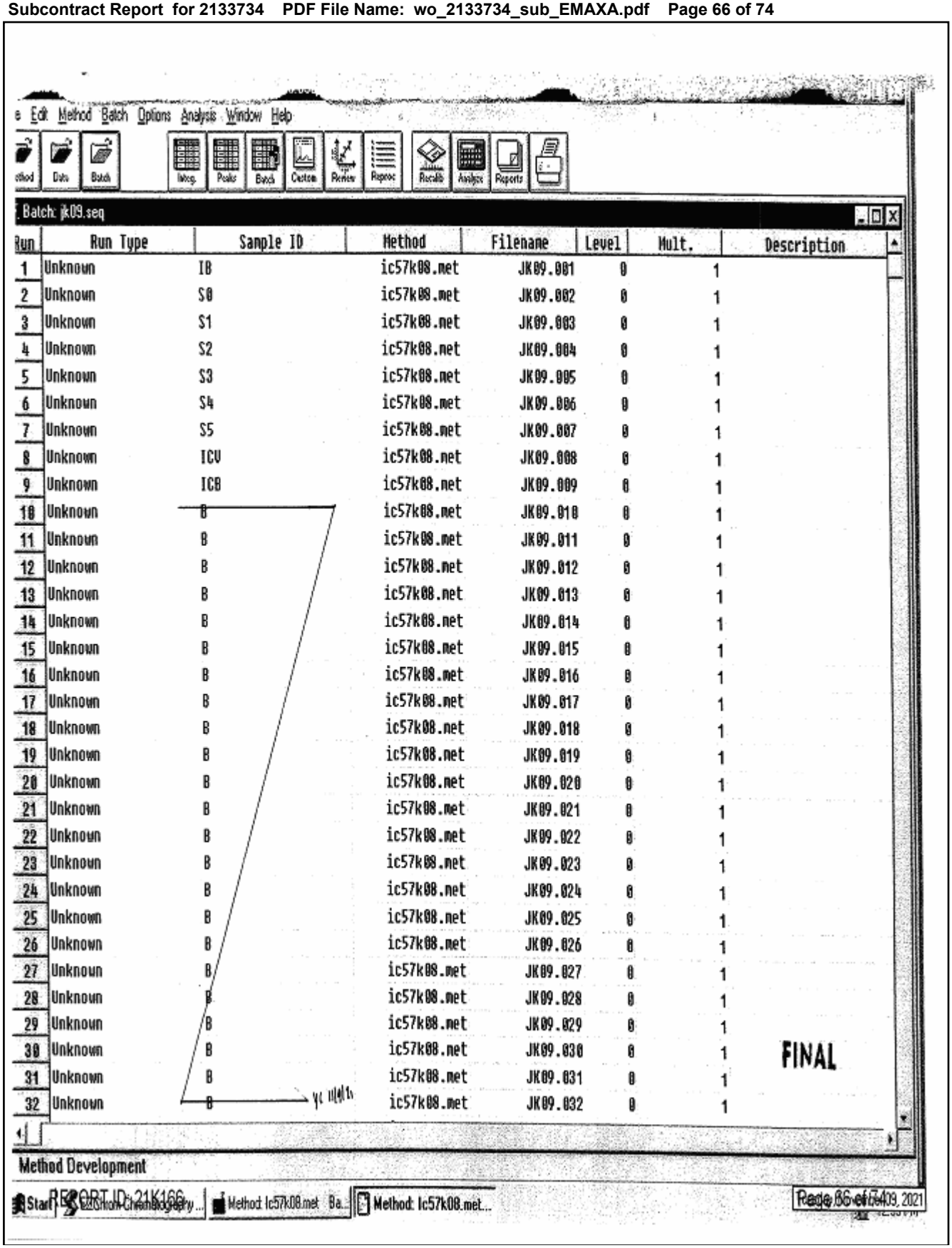

e Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

REPORT ID: 21K166

Method: ic57k08.met

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 21

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-02-18-04

Reagent Water ID #: SW1A-011-03-08

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-18	99.927	100.000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

PCK002W: K139; K140; K141; K168; K166; K190; K191
- QC Water: SW1A-011-03-09
- QC Water: RWI-21-004
- QC Filter: Lot #210890103
- * MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

PCK003W: K167; K174; K169
- * MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

	Snapseal container
0.45 µm filter lot #: 210081103	4 oz; lot #: 355 20012
0.2 µm filter lot #: -	1.5 oz; lot #: 250 20009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK19
Method File:	IC57K06
Analytical Batch:	PCK002W | PCK003W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SW4B-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	SW4B-003-03-27

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/19/21

REPORT ID: 21K166

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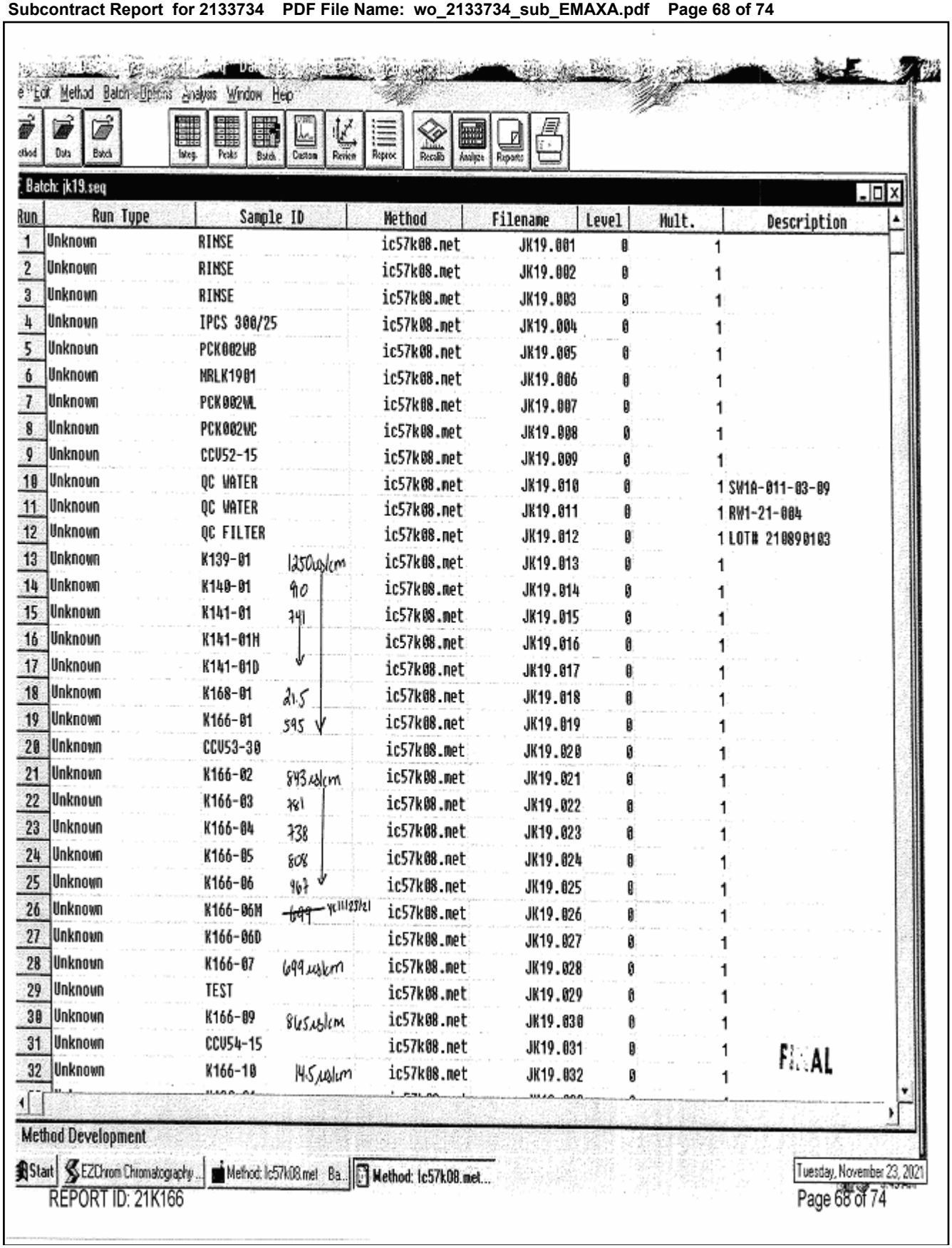

Edit Method Batch Options Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
1	Unknown	RINSE		ic57k08.met	JK19.001	0	1	
2	Unknown	RINSE		ic57k08.met	JK19.002	0	1	
3	Unknown	RINSE		ic57k08.met	JK19.003	0	1	
4	Unknown	IPCS 300/25		ic57k08.met	JK19.004	0	1	
5	Unknown	PCK002WB		ic57k08.met	JK19.005	0	1	
6	Unknown	MBLK1901		ic57k08.met	JK19.006	0	1	
7	Unknown	PCK002WL		ic57k08.met	JK19.007	0	1	
8	Unknown	PCK002WC		ic57k08.met	JK19.008	0	1	
9	Unknown	CCV52-15		ic57k08.met	JK19.009	0	1	
10	Unknown	QC WATER		ic57k08.met	JK19.010	0	1	SW1A-011-03-09
11	Unknown	QC WATER		ic57k08.met	JK19.011	0	1	RW1-21-004
12	Unknown	QC FILTER		ic57k08.met	JK19.012	0	1	LOT# 21089B103
13	Unknown	K139-01	1250us/cm	ic57k08.met	JK19.013	0	1	
14	Unknown	K140-01	910	ic57k08.met	JK19.014	0	1	
15	Unknown	K141-01	741	ic57k08.met	JK19.015	0	1	
16	Unknown	K141-01H		ic57k08.met	JK19.016	0	1	
17	Unknown	K141-01D		ic57k08.met	JK19.017	0	1	
18	Unknown	K168-01	21.5	ic57k08.met	JK19.018	0	1	
19	Unknown	K166-01	595	ic57k08.met	JK19.019	0	1	
20	Unknown	CCV53-30		ic57k08.met	JK19.020	0	1	
21	Unknown	K166-02	843us/cm	ic57k08.met	JK19.021	0	1	
22	Unknown	K166-03	781	ic57k08.met	JK19.022	0	1	
23	Unknown	K166-04	738	ic57k08.met	JK19.023	0	1	
24	Unknown	K166-05	808	ic57k08.met	JK19.024	0	1	
25	Unknown	K166-06	967	ic57k08.met	JK19.025	0	1	
26	Unknown	K166-06M	~~699~~ 11/23/21	ic57k08.met	JK19.026	0	1	
27	Unknown	K166-06D		ic57k08.met	JK19.027	0	1	
28	Unknown	K166-07	699us/cm	ic57k08.met	JK19.028	0	1	
29	Unknown	TEST		ic57k08.met	JK19.029	0	1	
30	Unknown	K166-09	845us/cm	ic57k08.met	JK19.030	0	1	
31	Unknown	CCV54-15		ic57k08.met	JK19.031	0	1	FINAL
32	Unknown	K166-10	145us/cm	ic57k08.met	JK19.032	0	1	

Method Development

Start | EZChrom Chromatography... | Method: ic57k08.met Ba... | Method: ic57k08.met...

Tuesday, November 23, 2021

REPORT ID: 21K166

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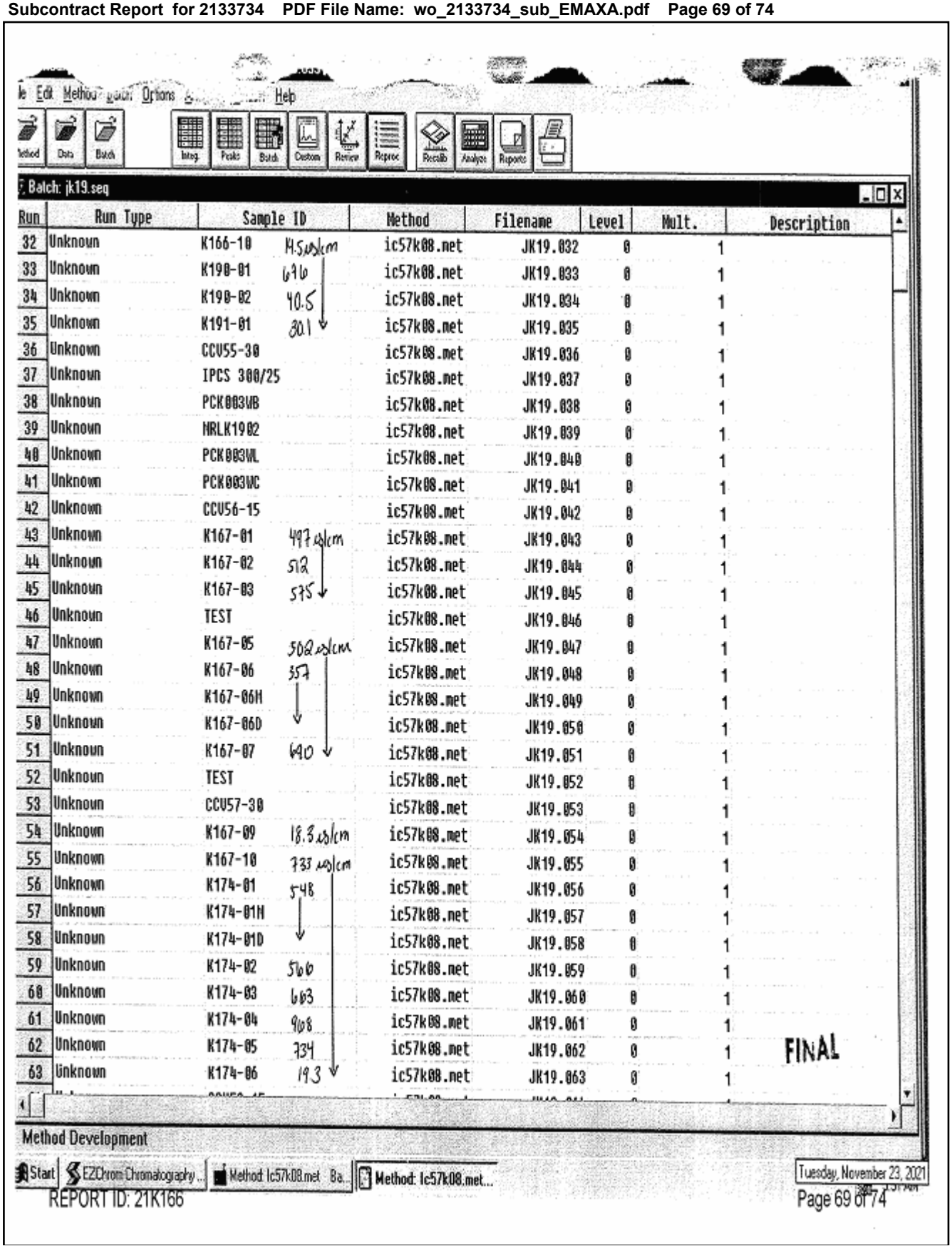

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
32	Unknown	K166-10	14.5 us/cm	ic57k08.net	JK19.032	0	1	
33	Unknown	K190-01	696	ic57k08.net	JK19.033	0	1	
34	Unknown	K190-02	40.5	ic57k08.net	JK19.034	0	1	
35	Unknown	K191-01	30.1	ic57k08.net	JK19.035	0	1	
36	Unknown	CCV55-30		ic57k08.net	JK19.036	0	1	
37	Unknown	IPCS 300/25		ic57k08.net	JK19.037	0	1	
38	Unknown	PCK003VB		ic57k08.net	JK19.038	0	1	
39	Unknown	NRLK1902		ic57k08.net	JK19.039	0	1	
40	Unknown	PCK003WL		ic57k08.net	JK19.040	0	1	
41	Unknown	PCK003WC		ic57k08.net	JK19.041	0	1	
42	Unknown	CCV56-15		ic57k08.net	JK19.042	0	1	
43	Unknown	K167-01	497 us/cm	ic57k08.net	JK19.043	0	1	
44	Unknown	K167-02	512	ic57k08.net	JK19.044	0	1	
45	Unknown	K167-03	575	ic57k08.net	JK19.045	0	1	
46	Unknown	TEST		ic57k08.net	JK19.046	0	1	
47	Unknown	K167-05	502 us/cm	ic57k08.net	JK19.047	0	1	
48	Unknown	K167-06	357	ic57k08.net	JK19.048	0	1	
49	Unknown	K167-06H		ic57k08.net	JK19.049	0	1	
50	Unknown	K167-06D		ic57k08.net	JK19.050	0	1	
51	Unknown	K167-07	640	ic57k08.net	JK19.051	0	1	
52	Unknown	TEST		ic57k08.net	JK19.052	0	1	
53	Unknown	CCV57-30		ic57k08.net	JK19.053	0	1	
54	Unknown	K167-09	18.3 us/cm	ic57k08.net	JK19.054	0	1	
55	Unknown	K167-10	733 us/cm	ic57k08.net	JK19.055	0	1	
56	Unknown	K174-01	548	ic57k08.net	JK19.056	0	1	
57	Unknown	K174-01H		ic57k08.net	JK19.057	0	1	
58	Unknown	K174-01D		ic57k08.net	JK19.058	0	1	
59	Unknown	K174-02	566	ic57k08.net	JK19.059	0	1	
60	Unknown	K174-03	603	ic57k08.net	JK19.060	0	1	
61	Unknown	K174-04	908	ic57k08.net	JK19.061	0	1	
62	Unknown	K174-05	734	ic57k08.net	JK19.062	0	1	FINAL
63	Unknown	K174-06	193	ic57k08.net	JK19.063	0	1	

Method Development

Start | EZChrom Chromatography... | Method: ic57k08.met Ba... | Method: ic57k08.met...

Tuesday, November 23, 2021

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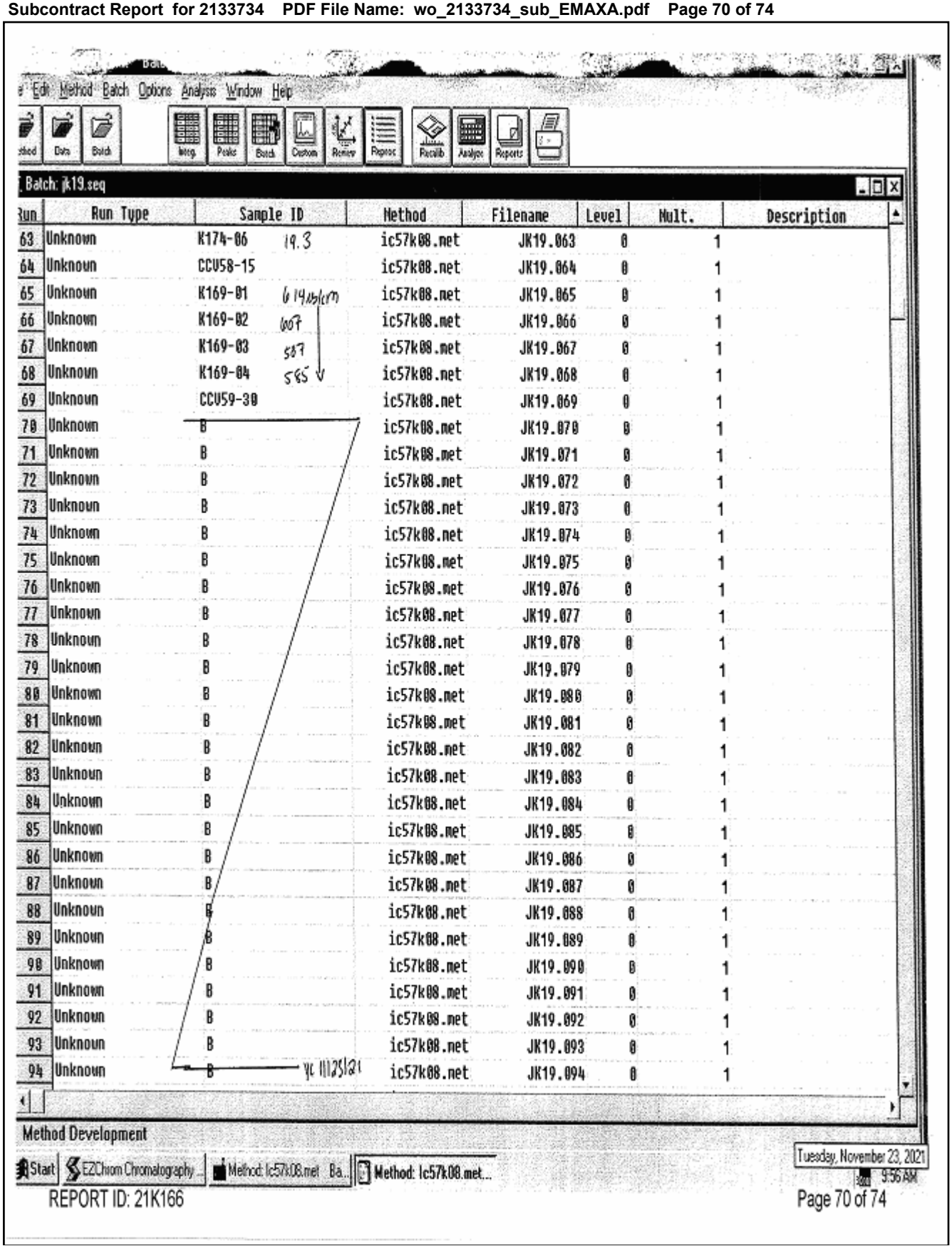

Edit Method Batch Options Analyze Window Help

Batch: jk19.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
63	Unknown	K174-06	ic57k08.met	JK19.063	0	1	
64	Unknown	CCV58-15	ic57k08.met	JK19.064	0	1	
65	Unknown	K169-01	ic57k08.met	JK19.065	0	1	
66	Unknown	K169-02	ic57k08.met	JK19.066	0	1	
67	Unknown	K169-03	ic57k08.met	JK19.067	0	1	
68	Unknown	K169-04	ic57k08.met	JK19.068	0	1	
69	Unknown	CCV59-30	ic57k08.met	JK19.069	0	1	
70	Unknown	B	ic57k08.met	JK19.070	0	1	
71	Unknown	B	ic57k08.met	JK19.071	0	1	
72	Unknown	B	ic57k08.met	JK19.072	0	1	
73	Unknown	B	ic57k08.met	JK19.073	0	1	
74	Unknown	B	ic57k08.met	JK19.074	0	1	
75	Unknown	B	ic57k08.met	JK19.075	0	1	
76	Unknown	B	ic57k08.met	JK19.076	0	1	
77	Unknown	B	ic57k08.met	JK19.077	0	1	
78	Unknown	B	ic57k08.met	JK19.078	0	1	
79	Unknown	B	ic57k08.met	JK19.079	0	1	
80	Unknown	B	ic57k08.met	JK19.080	0	1	
81	Unknown	B	ic57k08.met	JK19.081	0	1	
82	Unknown	B	ic57k08.met	JK19.082	0	1	
83	Unknown	B	ic57k08.met	JK19.083	0	1	
84	Unknown	B	ic57k08.met	JK19.084	0	1	
85	Unknown	B	ic57k08.met	JK19.085	0	1	
86	Unknown	B	ic57k08.met	JK19.086	0	1	
87	Unknown	B	ic57k08.met	JK19.087	0	1	
88	Unknown	B	ic57k08.met	JK19.088	0	1	
89	Unknown	B	ic57k08.met	JK19.089	0	1	
90	Unknown	B	ic57k08.met	JK19.090	0	1	
91	Unknown	B	ic57k08.met	JK19.091	0	1	
92	Unknown	B	ic57k08.met	JK19.092	0	1	
93	Unknown	B	ic57k08.met	JK19.093	0	1	
94	Unknown	B	ic57k08.met	JK19.094	0	1	

Method Development

Start | EZChrom Chromatography ... | Method: ic57k08.met Ba... | Method: ic57k08.met...

Tuesday, November 23, 2021 9:56 AM

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 23

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWR1-02-18-04

Reagent Water ID #: SW1A-011-03-02

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: 04

Standard ID	TV (µS/cm)	Reading (µS/cm)
SW1-02-09-17	999	999
SW1-02-09-19	99927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SW1-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 161794499

Comments:

PCK005W: K166; K167; K173

- MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10ml of sample.

		Snapseal container
0.45 µm filter lot #:	21089403	4 oz; lot #; 33520012
0.2 µm filter lot #:	-	1.5 oz; lot #; 25020009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK22
Method File:	IC57K08
Analytical Batch:	PCK005W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SW4B-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	SW4B-003-04-27

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/22/21

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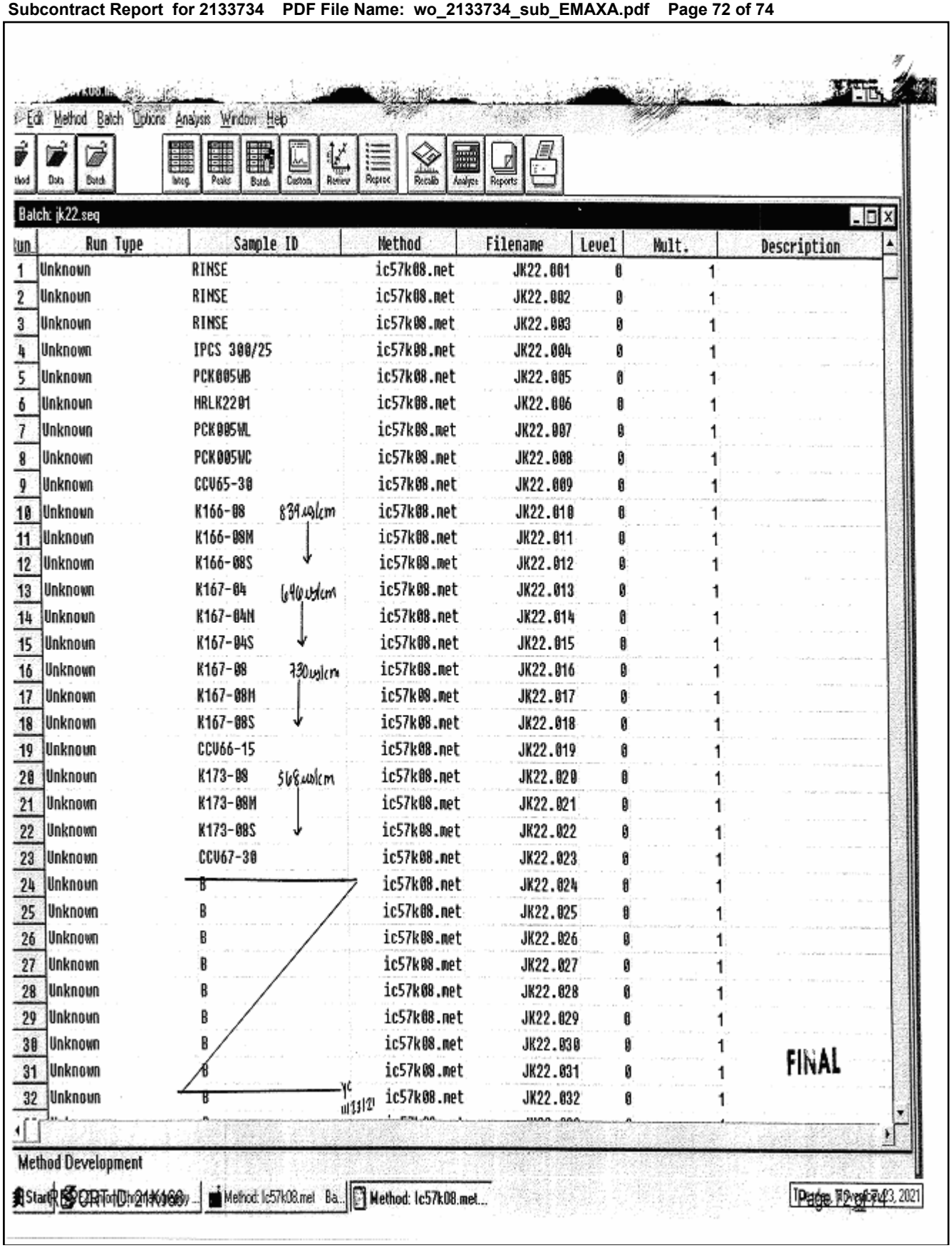

Edit Method Batch Options Analysis Window Help

Batch: jk22.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	RINSE	ic57k08.met	JK22.001	0	1	
2	Unknown	RINSE	ic57k08.met	JK22.002	0	1	
3	Unknown	RINSE	ic57k08.met	JK22.003	0	1	
4	Unknown	IPCS 300/25	ic57k08.met	JK22.004	0	1	
5	Unknown	PCK005WB	ic57k08.met	JK22.005	0	1	
6	Unknown	HRLK2201	ic57k08.met	JK22.006	0	1	
7	Unknown	PCK005WL	ic57k08.met	JK22.007	0	1	
8	Unknown	PCK005WC	ic57k08.met	JK22.008	0	1	
9	Unknown	CCV65-30	ic57k08.met	JK22.009	0	1	
10	Unknown	K166-08	ic57k08.met	JK22.010	0	1	
11	Unknown	K166-08M	ic57k08.met	JK22.011	0	1	
12	Unknown	K166-08S	ic57k08.met	JK22.012	0	1	
13	Unknown	K167-04	ic57k08.met	JK22.013	0	1	
14	Unknown	K167-04M	ic57k08.met	JK22.014	0	1	
15	Unknown	K167-04S	ic57k08.met	JK22.015	0	1	
16	Unknown	K167-08	ic57k08.met	JK22.016	0	1	
17	Unknown	K167-08M	ic57k08.met	JK22.017	0	1	
18	Unknown	K167-08S	ic57k08.met	JK22.018	0	1	
19	Unknown	CCV66-15	ic57k08.met	JK22.019	0	1	
20	Unknown	K173-08	ic57k08.met	JK22.020	0	1	
21	Unknown	K173-08M	ic57k08.met	JK22.021	0	1	
22	Unknown	K173-08S	ic57k08.met	JK22.022	0	1	
23	Unknown	CCV67-30	ic57k08.met	JK22.023	0	1	
24	Unknown	B	ic57k08.met	JK22.024	0	1	
25	Unknown	B	ic57k08.met	JK22.025	0	1	
26	Unknown	B	ic57k08.met	JK22.026	0	1	
27	Unknown	B	ic57k08.met	JK22.027	0	1	
28	Unknown	B	ic57k08.met	JK22.028	0	1	
29	Unknown	B	ic57k08.met	JK22.029	0	1	
30	Unknown	B	ic57k08.met	JK22.030	0	1	
31	Unknown	B	ic57k08.met	JK22.031	0	1	
32	Unknown	B	ic57k08.met	JK22.032	0	1	

839 ug/cm

640 ug/cm

730 ug/cm

568 ug/cm

FINAL

Method Development

Method: ic57k08.met Ba...

Method: ic57k08.met...

RETENTION TIME WINDOW

REPORT ID: 21K166

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RETENTION TIME WINDOW

METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K166

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 15:00
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	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.
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project:	4Q21
BCL Project:	JPL- GW Monitoring Wells-CLP
BCL Work Order:	2134000
Invoice ID:	

Enclosed are the results of analyses for samples received by the laboratory on 10/27/2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda
Client Service Rep

Stuart Buttram
Technical Director

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

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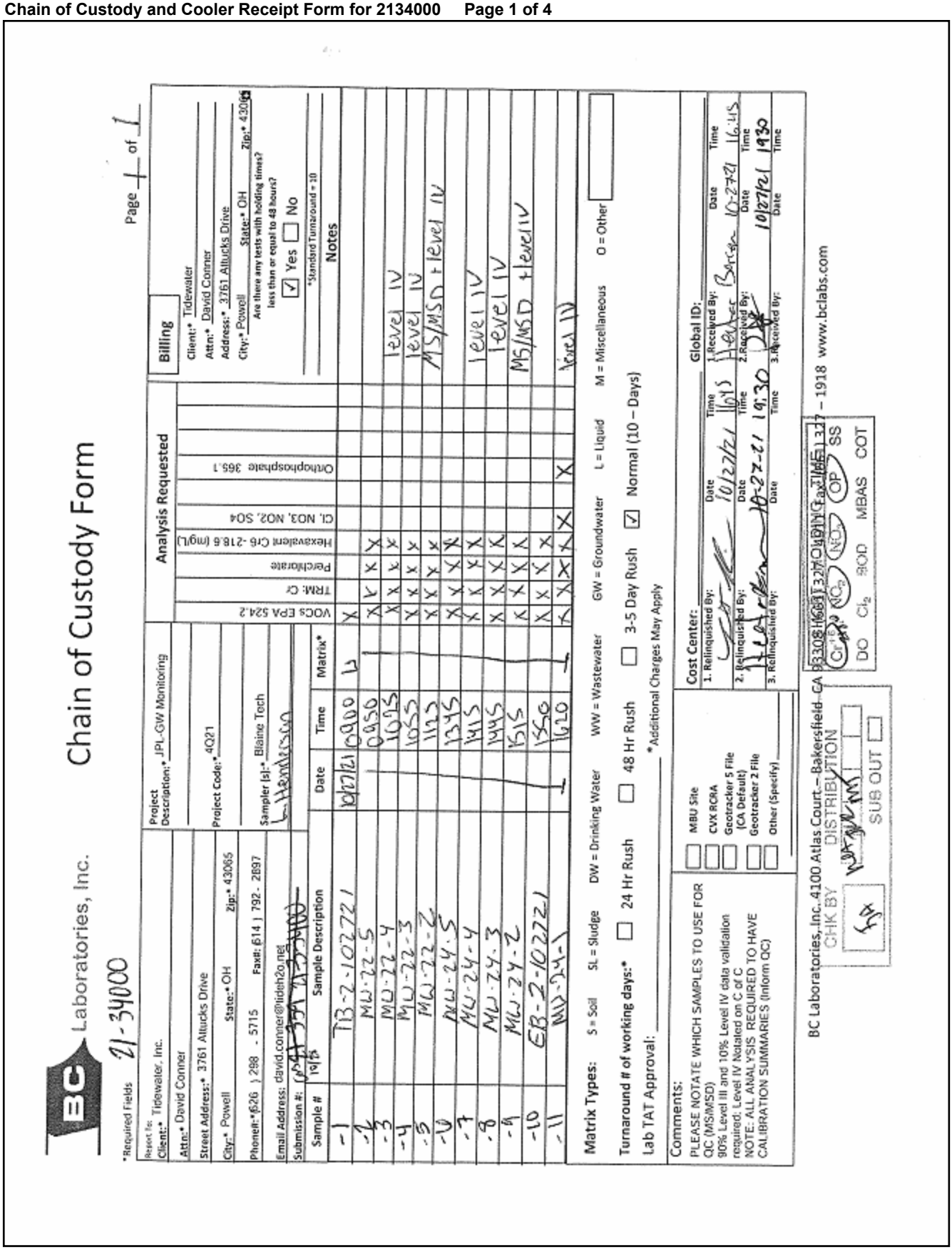

BC Laboratories, Inc.

Chain of Custody Form

Page 1 of 1

*Required Fields 21-34000

Report To: Client:* Tidewater, Inc. | Attn:* David Conner | Street Address:* 3761 Attucks Drive | City:* Powell | State:* OH | Zip:* 43065 | Phone:* 626) 288 - 5715 | Fax#: 614) 792 - 2897 | Email Address: david.conner@tideh2o.net

Project Description:* JPL-GW Monitoring | Project Code:* 4Q21 | Sampler (s):* Blaine Tech

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

Are these any tests with holding times less than or equal to 48 hours? ☑ Yes ☐ No

*Standard Turnaround = 10

Submission #:	Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4	Orthophosphate 365.1			Notes
	-1	TB-2-102721	10/27/21	0900	W	X	X							
	-2	MW-22-5		0950		X	X	X	X					level IV
	-3	MW-22-4		1045		X	X	X	X					level IV
	-4	MW-22-3		1055		X	X	X	X					level IV
	-5	MW-22-2		1125		X	X	X	X					MS/MSD + level IV
	-6	MW-24-5		1345		X	X	X	X					
	-7	MW-24-4		1415		X	X	X	X					level IV
	-8	MW-24-3		1445		X	X	X	X					level IV
	-9	MW-24-2		1515		X	X	X	X					MS/MSD + level IV
	-10	EB-2-102721		1550		X	X	X	X					
	-11	MW-24-1		1620		X	X	X	X	X				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 Noted 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) _____

Cost Center: _____ Global ID: _____

1. Relinquished By:	Date 10/27/21	Time 1615	1.Received By:	Date / Time
2. Relinquished By:	Date	Time	2.Received By:	Date 10-27-21 Time 16:45
3. Relinquished By:	Date 10-27-21	Time 19:30	3.Received By:	Date 10/27/21 Time 1930

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

CHK BY DISTRIBUTION

SUB OUT ☐

Cr(VI) NO3 OP SS DO Cl2 BOD MBAS COT

Chain of Custody and Cooler Receipt Form for 2134000 Page 2 of 4

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 3

Submission #: 21-33400 21-34000

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 1.5 °C / (C) 1.5 °C

Date/Time 10/27/21 1980

Analyst Init PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	D	D	G,H	D	D			
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}		F	F	F	K,L	F	F			
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		E	E	E	I,J	E	E			
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		A-C	A-C	A-C	A-F	A-C	A-C	A-C	A-F	A-C
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: CAB Date/Time: 10/28/21 0920
A = Actual / C = Corrected

Rev 22 04/13/21
[S:\NPDocWordPerfect\LAB_DOCS\FORMS\SAMREC rev 22]

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 3

Submission #: ~~21-33400~~ 21-34000

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☑ NO ☐ (W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

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

COC Received ☑ YES ☐ NO

Emissivity: 0.95 Container: PE Thermometer ID: 208

Temperature: (A) 1.5 °C / (C) 1.5 °C

Date/Time 10/27/21 1980

Analyst Init PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	D									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}	F									
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (6oz)	E									
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-C									
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: CAB Date/Time: 10/27/21 0920

A = Actual / C = Corrected

Rev 22 04/13/21

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 22]

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 3

Submission #: ~~21-33400~~ 21-34000

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (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: PE Thermometer ID: 208 Date/Time 10/27/21 1980

Temperature: (A) 1.2 °C / (C) 1.2 °C Analyst Init PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES								D	~~D~~ G,H	D
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}								F	K,L	F
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)								E	I,J	E
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: CAS Date/Time: 10/28/21 0920

A = Actual / C = Corrected

Rev 22 04/13/21

(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 22)

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134000-01	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 09:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-2-102721	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Trip Blank
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-2-102721	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-02	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 09:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-22-5	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-22-5	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-03	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 10:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-22-4	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134000-04	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 10:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-22-3	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-22-3	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-05	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 11:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-22-2	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-22-2	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-06	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 13:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-24-5	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-24-5	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134000-07	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 14:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-24-4	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-24-4	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-08	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-24-3	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-24-3	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-09	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 15:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-24-2	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-24-2	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134000-10	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 15:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-2-102721	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Blank Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): EB-2-102721	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134000-11	**COC Number:**	---	**Receive Date:**	10/27/2021 19:30
	Project Number:	JPL-GW	**Sampling Date:**	10/27/2021 16:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-24-1	**Lab Matrix:**	Water
	Sampled By:	BTSC	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-24-1	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-01 | **Client Sample Name:** JPL-GW, TB-2-102721, 10/27/2021 9:00:00AM

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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-01 | **Client Sample Name:** JPL-GW, TB-2-102721, 10/27/2021 9:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-01 | **Client Sample Name:** JPL-GW, TB-2-102721, 10/27/2021 9:00:00AM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 16:08	MGC	MS-V5	1	B123824	EPA 524.2

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-01 | **Client Sample Name:** JPL-GW, TB-2-102721, 10/27/2021 9:00:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 16:08	MGC	MS-V5	1	B123824	EPA 524.2

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-02 | **Client Sample Name:** JPL-GW, MW-22-5, 10/27/2021 9:50:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-02 | **Client Sample Name:** JPL-GW, MW-22-5, 10/27/2021 9:50:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-02 | **Client Sample Name:** JPL-GW, MW-22-5, 10/27/2021 9:50:00AM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	93.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 16:32	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-02 | **Client Sample Name:** JPL-GW, MW-22-5, 10/27/2021 9:50:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 16:32	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-02 | **Client Sample Name:** JPL-GW, MW-22-5, 10/27/2021 9:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00017**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 08:20	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:24	ARD	PE-EL2	1	B124344	EPA 200.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-03 | **Client Sample Name:** JPL-GW, MW-22-4, 10/27/2021 10:25:00AM

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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-03 | **Client Sample Name:** JPL-GW, MW-22-4, 10/27/2021 10:25:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-03 | **Client Sample Name:** JPL-GW, MW-22-4, 10/27/2021 10:25:00AM

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	5.0	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	5.0	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	V11	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)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 16:56	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-03 | **Client Sample Name:** JPL-GW, MW-22-4, 10/27/2021 10:25:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 16:56	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-03 | **Client Sample Name:** JPL-GW, MW-22-4, 10/27/2021 10:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0025**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**2.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 08:30	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:25	ARD	PE-EL2	1	B124344	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-04 | **Client Sample Name:** JPL-GW, MW-22-3, 10/27/2021 10:55:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-04 | **Client Sample Name:** JPL-GW, MW-22-3, 10/27/2021 10:55:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-04 | **Client Sample Name:** JPL-GW, MW-22-3, 10/27/2021 10:55:00AM

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	5.0	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	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 17:21	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-04 | **Client Sample Name:** JPL-GW, MW-22-3, 10/27/2021 10:55:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 17:21	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-04 | **Client Sample Name:** JPL-GW, MW-22-3, 10/27/2021 10:55:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0022**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**1.4**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 08:39	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:27	ARD	PE-EL2	1	B124344	EPA 200.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-05 | **Client Sample Name:** JPL-GW, MW-22-2, 10/27/2021 11:25:00AM

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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-05 | **Client Sample Name:** JPL-GW, MW-22-2, 10/27/2021 11:25:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-05 | **Client Sample Name:** JPL-GW, MW-22-2, 10/27/2021 11:25:00AM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 13:43	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-05 | **Client Sample Name:** JPL-GW, MW-22-2, 10/27/2021 11:25:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 13:43	MGC	MS-V5	1	B123824	EPA 524.2

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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-05 | **Client Sample Name:** JPL-GW, MW-22-2, 10/27/2021 11:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0020**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**1.5**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 07:42	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 16:07	KHS	PE-EL4	1	B124343	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-06 | **Client Sample Name:** JPL-GW, MW-24-5, 10/27/2021 1:45:00PM

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: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-06 | **Client Sample Name:** JPL-GW, MW-24-5, 10/27/2021 1:45:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-06 | **Client Sample Name:** JPL-GW, MW-24-5, 10/27/2021 1:45:00PM

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	5.0	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	5.0	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	V11	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)	90.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 17:45	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-06 | **Client Sample Name:** JPL-GW, MW-24-5, 10/27/2021 1:45:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 17:45	MGC	MS-V5	1	B123824	EPA 524.2

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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-06 | **Client Sample Name:** JPL-GW, MW-24-5, 10/27/2021 1:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0025**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**2.5**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 08:49	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:28	ARD	PE-EL2	1	B124344	EPA 200.2

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-07 | **Client Sample Name:** JPL-GW, MW-24-4, 10/27/2021 2:15:00PM

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: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-07 | **Client Sample Name:** JPL-GW, MW-24-4, 10/27/2021 2:15:00PM

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	**0.15**	**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	**0.17**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-07 | **Client Sample Name:** JPL-GW, MW-24-4, 10/27/2021 2:15:00PM

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	5.0	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	5.0	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	V11	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)	92.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 18:09	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-07 | **Client Sample Name:** JPL-GW, MW-24-4, 10/27/2021 2:15:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 18:09	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-07 | **Client Sample Name:** JPL-GW, MW-24-4, 10/27/2021 2:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00017**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 09:18	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:30	ARD	PE-EL2	1	B124344	EPA 200.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-08 | **Client Sample Name:** JPL-GW, MW-24-3, 10/27/2021 2:45:00PM

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: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-08 | **Client Sample Name:** JPL-GW, MW-24-3, 10/27/2021 2:45:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-08 | **Client Sample Name:** JPL-GW, MW-24-3, 10/27/2021 2:45:00PM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 21:23	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-08 | **Client Sample Name:** JPL-GW, MW-24-3, 10/27/2021 2:45:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 21:23	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-08 | **Client Sample Name:** JPL-GW, MW-24-3, 10/27/2021 2:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000043**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 09:27	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:31	ARD	PE-EL2	1	B124344	EPA 200.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-09 | **Client Sample Name:** JPL-GW, MW-24-2, 10/27/2021 3:15:00PM

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	**0.99**	**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	**0.23**	**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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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-09 | **Client Sample Name:** JPL-GW, MW-24-2, 10/27/2021 3:15:00PM

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	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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-09 | **Client Sample Name:** JPL-GW, MW-24-2, 10/27/2021 3:15:00PM

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	5.0	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	5.0	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	V11	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)	91.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 09:00	10/31/21 20:58	MGC	MS-V5	1	B123825	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-09 | **Client Sample Name:** JPL-GW, MW-24-2, 10/27/2021 3:15:00PM

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	Prep Method
1	EPA-524.2	10/31/21 09:00	10/31/21 20:58	MGC	MS-V5	1	B123825	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-09 | **Client Sample Name:** JPL-GW, MW-24-2, 10/27/2021 3:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0021**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**1.1**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 10:25	SAV	IC-4	1	B124253	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:08	ARD	PE-EL2	1	B124344	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-10 | **Client Sample Name:** JPL-GW, EB-2-102721, 10/27/2021 3:50:00PM

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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-10 | **Client Sample Name:** JPL-GW, EB-2-102721, 10/27/2021 3:50:00PM

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	**0.66**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-10 | **Client Sample Name:** JPL-GW, EB-2-102721, 10/27/2021 3:50:00PM

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	5.0	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	5.0	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	V11	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)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 21:47	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-10 | **Client Sample Name:** JPL-GW, EB-2-102721, 10/27/2021 3:50:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 21:47	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-10 | **Client Sample Name:** JPL-GW, EB-2-102721, 10/27/2021 3:50:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00012**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 09:37	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:33	ARD	PE-EL2	1	B124344	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-11 | **Client Sample Name:** JPL-GW, MW-24-1, 10/27/2021 4:20:00PM

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	**0.47**	**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	**5.8**	**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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-11 | **Client Sample Name:** JPL-GW, MW-24-1, 10/27/2021 4:20:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134000-11 | **Client Sample Name:** JPL-GW, MW-24-1, 10/27/2021 4:20:00PM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 22:11	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134000-11 | **Client Sample Name:** JPL-GW, MW-24-1, 10/27/2021 4:20:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 22:11	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 2134000-11 | **Client Sample Name:** JPL-GW, MW-24-1, 10/27/2021 4:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	**76**	**mg/L**	**0.50**	**0.13**	**EPA-300.0**	ND		1
Nitrate as N	**1.5**	**mg/L**	**0.10**	**0.024**	**EPA-300.0**	ND		1
Sulfate	**49**	**mg/L**	**1.0**	**0.14**	**EPA-300.0**	0.24		1
Nitrite as N	**0.013**	**mg/L**	**0.050**	**0.010**	**EPA-353.2**	ND	**J**	2
ortho-Phosphate as P	**0.024**	**mg/L**	**0.050**	**0.017**	**EPA-365.1**	ND	**J**	3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-300.0	10/28/21 21:00	10/28/21 22:26	SAV	IC8	1	B123735	No Prep
2	EPA-353.2	10/29/21 02:14	10/29/21 02:43	KB1	KONE-1	1	B124698	No Prep
3	EPA-365.1	10/29/21 03:16	10/29/21 03:25	KB1	SC-2	1	B125155	No Prep

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134000-11 | **Client Sample Name:** JPL-GW, MW-24-1, 10/27/2021 4:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00022**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**2.6**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/02/21 09:00	11/03/21 09:46	SAV	IC-4	1	B124252	No Prep
2	EPA-200.8	11/04/21 21:30	11/05/21 11:35	ARD	PE-EL2	1	B124344	EPA 200.2

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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123824						
Benzene	B123824-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B123824-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B123824-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B123824-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B123824-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B123824-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B123824-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B123824-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B123824-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B123824-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B123824-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B123824-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B123824-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B123824-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B123824-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B123824-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B123824-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B123824-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B123824-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B123824-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B123824-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B123824-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B123824-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B123824-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B123824-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B123824-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B123824-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B123824-BLK1	ND	ug/L	0.50	0.14	

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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123824						
trans-1,3-Dichloropropene	B123824-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B123824-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B123824-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B123824-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B123824-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B123824-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B123824-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B123824-BLK1	ND	ug/L	0.50	0.12	
Styrene	B123824-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B123824-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B123824-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B123824-BLK1	ND	ug/L	0.50	0.23	
Toluene	B123824-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B123824-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B123824-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B123824-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B123824-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B123824-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B123824-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B123824-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B123824-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B123824-BLK1	ND	ug/L	0.50	0.18	
Acetone	B123824-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B123824-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B123824-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B123824-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B123824-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B123824-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B123824-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B123824-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B123824-BLK1	ND	ug/L	4.0	1.3	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B123824						
Ethyl t-butyl ether	B123824-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B123824-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B123824-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B123824-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B123824-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B123824-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B123824-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B123824-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B123824-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B123824-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B123824-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B123824-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B123824-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B123824-BLK1**	**106**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B123824-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B123824-BLK1**	**90.8**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: B123825						
Benzene	B123825-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B123825-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B123825-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B123825-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B123825-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B123825-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B123825-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B123825-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B123825-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B123825-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B123825-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B123825-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B123825-BLK1	ND	ug/L	0.50	0.093	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B123825						
Dibromochloromethane	B123825-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B123825-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B123825-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B123825-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B123825-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B123825-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B123825-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B123825-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B123825-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B123825-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B123825-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B123825-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B123825-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B123825-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B123825-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B123825-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B123825-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B123825-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B123825-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B123825-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B123825-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B123825-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B123825-BLK1	ND	ug/L	0.50	0.12	
Styrene	B123825-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B123825-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B123825-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B123825-BLK1	ND	ug/L	0.50	0.23	
Toluene	B123825-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.15	

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Project Number: 4Q21
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: B123825						
1,1,1-Trichloroethane	B123825-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B123825-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B123825-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B123825-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B123825-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B123825-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B123825-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B123825-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B123825-BLK1	ND	ug/L	0.50	0.18	
Acetone	B123825-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B123825-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B123825-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B123825-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B123825-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B123825-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B123825-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B123825-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B123825-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B123825-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B123825-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B123825-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B123825-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B123825-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B123825-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B123825-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B123825-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B123825-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B123825-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B123825-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B123825-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B123825-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B123825-BLK1**	**104**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B123825-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B123825-BLK1**	**94.7**	%	**80 - 120 (LCL - UCL)**		

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B123824										
Benzene	B123824-BS1	LCS	25.010	25.000	ug/L	100		70 - 130		
Bromodichloromethane	B123824-BS1	LCS	27.050	25.000	ug/L	108		70 - 130		
Chlorobenzene	B123824-BS1	LCS	25.140	25.000	ug/L	101		70 - 130		
Chloroethane	B123824-BS1	LCS	25.720	25.000	ug/L	103		70 - 130		
1,4-Dichlorobenzene	B123824-BS1	LCS	25.160	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	B123824-BS1	LCS	25.950	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B123824-BS1	LCS	25.400	25.000	ug/L	102		70 - 130		
Toluene	B123824-BS1	LCS	25.550	25.000	ug/L	102		70 - 130		
Trichloroethene	B123824-BS1	LCS	25.710	25.000	ug/L	103		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B123824-BS1	LCS	10.330	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	B123824-BS1	LCS	10.560	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B123824-BS1	LCS	9.9000	10.000	ug/L	99.0		80 - 120		
QC Batch ID: B123825										
Benzene	B123825-BS1	LCS	26.440	25.000	ug/L	106		70 - 130		
Bromodichloromethane	B123825-BS1	LCS	27.790	25.000	ug/L	111		70 - 130		
Chlorobenzene	B123825-BS1	LCS	25.440	25.000	ug/L	102		70 - 130		
Chloroethane	B123825-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
1,4-Dichlorobenzene	B123825-BS1	LCS	25.970	25.000	ug/L	104		70 - 130		
1,1-Dichloroethane	B123825-BS1	LCS	27.090	25.000	ug/L	108		70 - 130		
1,1-Dichloroethene	B123825-BS1	LCS	26.770	25.000	ug/L	107		70 - 130		
Toluene	B123825-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
Trichloroethene	B123825-BS1	LCS	26.370	25.000	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B123825-BS1	LCS	10.590	10.000	ug/L	106		75 - 125		
Toluene-d8 (Surrogate)	B123825-BS1	LCS	10.600	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B123825-BS1	LCS	9.7000	10.000	ug/L	97.0		80 - 120		

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Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123824	Used client sample: Y - Description: MW-22-2, 10/27/2021 11:25										
Benzene	MS	2134000-05	ND	25.970	25.000	ug/L		104		70 - 130	
	MSD	2134000-05	ND	25.250	25.000	ug/L	2.8	101	20	70 - 130	
Bromodichloromethane	MS	2134000-05	ND	27.710	25.000	ug/L		111		70 - 130	
	MSD	2134000-05	ND	27.790	25.000	ug/L	0.3	111	20	70 - 130	
Chlorobenzene	MS	2134000-05	ND	25.980	25.000	ug/L		104		70 - 130	
	MSD	2134000-05	ND	25.540	25.000	ug/L	1.7	102	20	70 - 130	
Chloroethane	MS	2134000-05	ND	26.690	25.000	ug/L		107		70 - 130	
	MSD	2134000-05	ND	26.000	25.000	ug/L	2.6	104	20	70 - 130	
1,4-Dichlorobenzene	MS	2134000-05	ND	26.420	25.000	ug/L		106		70 - 130	
	MSD	2134000-05	ND	26.040	25.000	ug/L	1.4	104	20	70 - 130	
1,1-Dichloroethane	MS	2134000-05	ND	27.030	25.000	ug/L		108		70 - 130	
	MSD	2134000-05	ND	26.360	25.000	ug/L	2.5	105	20	70 - 130	
1,1-Dichloroethene	MS	2134000-05	ND	26.720	25.000	ug/L		107		70 - 130	
	MSD	2134000-05	ND	26.280	25.000	ug/L	1.7	105	20	70 - 130	
Toluene	MS	2134000-05	ND	25.780	25.000	ug/L		103		70 - 130	
	MSD	2134000-05	ND	25.680	25.000	ug/L	0.4	103	20	70 - 130	
Trichloroethene	MS	2134000-05	ND	25.690	25.000	ug/L		103		70 - 130	
	MSD	2134000-05	ND	25.320	25.000	ug/L	1.5	101	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134000-05	ND	10.350	10.000	ug/L		104		75 - 125	
	MSD	2134000-05	ND	10.110	10.000	ug/L	2.3	101		75 - 125	
Toluene-d8 (Surrogate)	MS	2134000-05	ND	10.180	10.000	ug/L		102		80 - 120	
	MSD	2134000-05	ND	10.380	10.000	ug/L	1.9	104		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134000-05	ND	9.8200	10.000	ug/L		98.2		80 - 120	
	MSD	2134000-05	ND	9.9000	10.000	ug/L	0.8	99.0		80 - 120	
QC Batch ID: B123825	Used client sample: Y - Description: MW-24-2, 10/27/2021 15:15										
Benzene	MS	2134000-09	ND	25.290	25.000	ug/L		101		70 - 130	
	MSD	2134000-09	ND	24.790	25.000	ug/L	2.0	99.2	20	70 - 130	
Bromodichloromethane	MS	2134000-09	ND	28.250	25.000	ug/L		113		70 - 130	
	MSD	2134000-09	ND	27.570	25.000	ug/L	2.4	110	20	70 - 130	
Chlorobenzene	MS	2134000-09	ND	25.590	25.000	ug/L		102		70 - 130	
	MSD	2134000-09	ND	25.290	25.000	ug/L	1.2	101	20	70 - 130	
Chloroethane	MS	2134000-09	ND	25.740	25.000	ug/L		103		70 - 130	
	MSD	2134000-09	ND	24.710	25.000	ug/L	4.1	98.8	20	70 - 130	
1,4-Dichlorobenzene	MS	2134000-09	ND	25.710	25.000	ug/L		103		70 - 130	
	MSD	2134000-09	ND	24.690	25.000	ug/L	4.0	98.8	20	70 - 130	
1,1-Dichloroethane	MS	2134000-09	0.23000	26.280	25.000	ug/L		104		70 - 130	
	MSD	2134000-09	0.23000	25.780	25.000	ug/L	1.9	102	20	70 - 130	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123825	Used client sample: Y - Description: MW-24-2, 10/27/2021 15:15										
1,1-Dichloroethene	MS	2134000-09	ND	25.890	25.000	ug/L		104		70 - 130	
	MSD	2134000-09	ND	25.570	25.000	ug/L	1.2	102	20	70 - 130	
Toluene	MS	2134000-09	ND	25.080	25.000	ug/L		100		70 - 130	
	MSD	2134000-09	ND	24.910	25.000	ug/L	0.7	99.6	20	70 - 130	
Trichloroethene	MS	2134000-09	ND	24.950	25.000	ug/L		99.8		70 - 130	
	MSD	2134000-09	ND	24.670	25.000	ug/L	1.1	98.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134000-09	ND	10.600	10.000	ug/L		106		75 - 125	
	MSD	2134000-09	ND	10.240	10.000	ug/L	3.5	102		75 - 125	
Toluene-d8 (Surrogate)	MS	2134000-09	ND	10.210	10.000	ug/L		102		80 - 120	
	MSD	2134000-09	ND	10.220	10.000	ug/L	0.1	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134000-09	ND	9.9800	10.000	ug/L		99.8		80 - 120	
	MSD	2134000-09	ND	9.6600	10.000	ug/L	3.3	96.6		80 - 120	

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123824						
Chloroacetonitrile	B123824-BLK1	0	ug/L			
1-Chlorobutane	B123824-BLK1	0	ug/L			
1,1-Dichloropropanone	B123824-BLK1	0	ug/L			
Methyl acrylate	B123824-BLK1	0	ug/L			
Nitrobenzene	B123824-BLK1	0	ug/L			
2-Nitropropane	B123824-BLK1	0	ug/L			
QC Batch ID: B123825						
Chloroacetonitrile	B123825-BLK1	0	ug/L			
1-Chlorobutane	B123825-BLK1	0	ug/L			
1,1-Dichloropropanone	B123825-BLK1	0	ug/L			
Methyl acrylate	B123825-BLK1	0	ug/L			
Nitrobenzene	B123825-BLK1	0	ug/L			
2-Nitropropane	B123825-BLK1	0	ug/L			

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:23
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123735						
Chloride	B123735-BLK1	ND	mg/L	0.50	0.13	
Nitrate as N	B123735-BLK1	ND	mg/L	0.10	0.024	
Sulfate	**B123735-BLK1**	**0.23800**	**mg/L**	**1.0**	**0.14**	**J**
QC Batch ID: B124698						
Nitrite as N	B124698-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B125155						
ortho-Phosphate as P	B125155-BLK1	ND	mg/L	0.050	0.017	

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Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B123735										
Chloride	B123735-BS1	LCS	50.638	50.000	mg/L	101		90 - 110		
	B123735-BSD1	LCSD	50.809	50.000	mg/L	102	0.3	90 - 110	10	
Nitrate as N	B123735-BS1	LCS	4.9780	5.0000	mg/L	99.6		90 - 110		
	B123735-BSD1	LCSD	4.9910	5.0000	mg/L	99.8	0.3	90 - 110	10	
Sulfate	B123735-BS1	LCS	101.37	100.00	mg/L	101		90 - 110		
	B123735-BSD1	LCSD	101.49	100.00	mg/L	101	0.1	90 - 110	10	
QC Batch ID: B124698										
Nitrite as N	B124698-BS1	LCS	0.51304	0.50000	mg/L	103		90 - 110		
	B124698-BSD1	LCSD	0.51166	0.50000	mg/L	102	0.3	90 - 110	10	
QC Batch ID: B125155										
ortho-Phosphate as P	B125155-BS1	LCS	0.50780	0.50000	mg/L	102		90 - 110		
	B125155-BSD1	LCSD	0.50100	0.50000	mg/L	100	1.3	90 - 110	200	

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Project Number: 4Q21
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	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123735	Used client sample: Y - Description: MW-24-1, 10/27/2021 16:20										
Chloride	DUP	2134000-11	75.750	74.751		mg/L	1.3		10		
	MS	2134000-11	75.750	125.88	50.505	mg/L		99.3		80 - 120	
	MSD	2134000-11	75.750	126.79	50.505	mg/L	0.7	101	10	80 - 120	
Nitrate as N	DUP	2134000-11	1.5440	1.5230		mg/L	1.4		10		
	MS	2134000-11	1.5440	6.4616	5.0505	mg/L		97.4		80 - 120	
	MSD	2134000-11	1.5440	6.4970	5.0505	mg/L	0.5	98.1	10	80 - 120	
Sulfate	DUP	2134000-11	49.295	48.706		mg/L	1.2		10		
	MS	2134000-11	49.295	155.71	101.01	mg/L		105		80 - 120	
	MSD	2134000-11	49.295	156.85	101.01	mg/L	0.7	106	10	80 - 120	
QC Batch ID: B124698	Used client sample: Y - Description: MW-24-1, 10/27/2021 16:20										
Nitrite as N	DUP	2134000-11	0.013380	0.012948		mg/L	3.3		10		J
	MS	2134000-11	0.013380	0.54377	0.52632	mg/L		101		90 - 110	
	MSD	2134000-11	0.013380	0.54365	0.52632	mg/L	0.0	101	10	90 - 110	
QC Batch ID: B125155	Used client sample: Y - Description: MW-24-1, 10/27/2021 16:20										
ortho-Phosphate as P	DUP	2134000-11	0.024100	ND		mg/L			10		
	MS	2134000-11	0.024100	0.54063	0.52632	mg/L		98.1		90 - 110	
	MSD	2134000-11	0.024100	0.55011	0.52632	mg/L	1.7	99.9	10	90 - 110	

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Project Number: 4Q21
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: B124252						
Hexavalent Chromium	B124252-BLK1	ND	mg/L	0.00020	0.000020	
QC Batch ID: B124253						
Hexavalent Chromium	B124253-BLK1	ND	mg/L	0.00020	0.000020	
QC Batch ID: B124343						
Total Recoverable Chromium	B124343-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124344						
Total Recoverable Chromium	B124344-BLK1	ND	ug/L	3.0	0.50	

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Project Manager: David Conner

Metals Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124252										
Hexavalent Chromium	B124252-BS1	LCS	0.019043	0.020000	mg/L	95.2		90 - 110		
QC Batch ID: B124253										
Hexavalent Chromium	B124253-BS1	LCS	0.019625	0.020000	mg/L	98.1		90 - 110		
QC Batch ID: B124343										
Total Recoverable Chromium	B124343-BS1	LCS	40.556	40.000	ug/L	101		85 - 115		
QC Batch ID: B124344										
Total Recoverable Chromium	B124344-BS1	LCS	41.597	40.000	ug/L	104		85 - 115		

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Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124252	Used client sample: Y - Description: MW-22-2, 10/27/2021 11:25										
Hexavalent Chromium	DUP	2134000-05	0.0019620	0.0019400		mg/L	1.1		10		
	MS	2134000-05	0.0019620	0.021493	0.020202	mg/L		96.7		90 - 110	
	MSD	2134000-05	0.0019620	0.021313	0.020202	mg/L	0.8	95.8	10	90 - 110	
QC Batch ID: B124253	Used client sample: Y - Description: MW-24-2, 10/27/2021 15:15										
Hexavalent Chromium	DUP	2134000-09	0.0020540	0.0020250		mg/L	1.4		10		
	MS	2134000-09	0.0020540	0.021946	0.020202	mg/L		98.5		90 - 110	
	MSD	2134000-09	0.0020540	0.022385	0.020202	mg/L	2.0	101	10	90 - 110	
QC Batch ID: B124343	Used client sample: Y - Description: MW-22-2, 10/27/2021 11:25										
Total Recoverable Chromium	DUP	2134000-05	1.5120	1.8220		ug/L	18.6		20		J
	MS	2134000-05	1.5120	44.229	40.000	ug/L		107		70 - 130	
	MSD	2134000-05	1.5120	43.926	40.000	ug/L	0.7	106	20	70 - 130	
QC Batch ID: B124344	Used client sample: Y - Description: MW-24-2, 10/27/2021 15:15										
Total Recoverable Chromium	DUP	2134000-09	1.1090	0.92800		ug/L	17.8		20		J
	MS	2134000-09	1.1090	40.716	40.000	ug/L		99.0		70 - 130	
	MSD	2134000-09	1.1090	40.313	40.000	ug/L	1.0	98.0	20	70 - 130	

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-08-2021
EMAX Batch No.: 21K167

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2134000

Enclosed is the Laboratory report for samples received on 11/19/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2134000-02	K167-01	10/27/21	WATER	PERCHLORATE BY IC
2134000-03	K167-02	10/27/21	WATER	PERCHLORATE BY IC
2134000-04	K167-03	10/27/21	WATER	PERCHLORATE BY IC
2134000-05	K167-04	10/27/21	WATER	PERCHLORATE BY IC
2134000-06	K167-05	10/27/21	WATER	PERCHLORATE BY IC
2134000-07	K167-06	10/27/21	WATER	PERCHLORATE BY IC
2134000-08	K167-07	10/27/21	WATER	PERCHLORATE BY IC
2134000-09	K167-08	10/27/21	WATER	PERCHLORATE BY IC
2134000-10	K167-09	10/27/21	WATER	PERCHLORATE BY IC
2134000-11	K167-10	10/27/21	WATER	PERCHLORATE BY IC
2134000-09MS	K167-08M	10/27/21	WATER	PERCHLORATE BY IC
2134000-09MSD	K167-08S	10/27/21	WATER	PERCHLORATE BY IC
2134000-05MS	K167-04M	10/27/21	WATER	PERCHLORATE BY IC
2134000-05MSD	K167-04S	10/27/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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SUBCONTRACT ORDER

BC Laboratories 21K167

2134000

Cooler 3

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory $EMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

11/18/21 9:20

	Analysis	Due	Expires	Laboratory ID	Comments
					Needs EDF Global ID#
1	**Sample ID: 2134000-02**	**Water**	**Sampled:10/27/21 09:50**		**LEVEL III**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 09:50		
	Containers Supplied:				
2	**Sample ID: 2134000-03**	**Water**	**Sampled:10/27/21 10:25**		**LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 10:25		
	Containers Supplied:				
3	**Sample ID: 2134000-04**	**Water**	**Sampled:10/27/21 10:55**		**LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 10:55		
	Containers Supplied:				
4	**Sample ID: 2134000-05**	**Water**	**Sampled:10/27/21 11:25**		**MS/MSD LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 11:25		
	Containers Supplied:				
5	**Sample ID: 2134000-06**	**Water**	**Sampled:10/27/21 13:45**		**LEVEL III**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 13:45		
	Containers Supplied:				

Released By	Date	Received By	Date
IO2	11-18-21		
Released By	Date	Received By	Date
			11/19/21 10:00

Temp: @ 2.1° ③ 4.2° Page 1 of 2

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SUBCONTRACT ORDER

21K167

BC Laboratories

2134000

	Analysis	Due	Expires	Laboratory ID	Comments
6	**Sample ID: 2134000-07**	**Water**	**Sampled:10/27/21 14:15**		**LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 14:15		
	Containers Supplied:				
7	**Sample ID: 2134000-08**	**Water**	**Sampled:10/27/21 14:45**		**LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 14:45		
	Containers Supplied:				
8	**Sample ID: 2134000-09**	**Water**	**Sampled:10/27/21 15:15**		**MS/MSD LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 15:15		
	Containers Supplied:				
9	**Sample ID: 2134000-10**	**Water**	**Sampled:10/27/21 15:50**		**LEVEL III**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 15:50		
	Containers Supplied:				
10	**Sample ID: 2134000-11**	**Water**	**Sampled:10/27/21 16:20**		**LEVEL IV**
	i314.0w Perchlorate (ug/L)	11/10/21 17:00	11/24/21 16:20		
	Containers Supplied:				

Released By	Date	Received By	Date
JO2	11-18-21		
Released By	Date	Received By	Date
			11/19/21 10:00

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SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K167
☐ Fedex ☐ UPS ☐ GSO ☑ Others GLS	470571118213718376094	Recipient Jocelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery	470571118213718376000	Date 11/19/21 Time 10:00

COC INSPECTION

☑ Client Name	☑ Client PM/PC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.1 °C	☐ Cooler 2 °C	☑ Cooler 3 4.2 °C	☐ Cooler 4 °C	☐ Cooler 5 °C
	☐ Cooler 6 °C	☐ Cooler 7 °C	☐ Cooler 8 °C	☐ Cooler 9 °C	☐ Cooler 10 °C
Thermometer:	*A - S/N* 210191060	(B) *S/N* 210271396	*C - S/N*	*D - S/N*	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-10	1-10	D1		R1

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: Samples 4 & 8 indicate MS/MSD on COC, received only 1 container.

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
(D1)	Analysis is not indicated in 19b81	D13	Out of Holding Time	R1	Proceed as indicated in ☐ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in	D16	Preservation not indicated in	R4	Use vial with smallest bubble first
D5	Container -[improper] [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	
D10	No initial/date on corrections in COC/label	D22		R10	
D11	Container count mismatch COC vs received	D23		R11	
D12	Container size mismatch COC vs received	D24		R12	

REVIEWS:
Sample Labeling Jocelyne Solis-Ramos Date 11/19/21 11/19/21
SRF Date 11/19/21
PM Date 11/22/21

TEMP 3: 4.2°C/B

REPORT ID: 21K167

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Temp: 3.5°C/B

REPORT ID: 21K167

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REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

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LABORATORY REPORT FOR

PACE ANALYTICAL

2134000

METHOD E314.0
PERCHLORATE

SDG#: 21K167

REPORT ID: 21K167 Page 8 of 77

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2134000

SDG : 21K167

METHOD E314.0
PERCHLORATE

A total of ten(10) water samples were received on 11/19/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. PCK003WB and PCK005WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. PCK003WL/PCK003WC and PCK005WL/PCK005WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD plus one(1) MS were analyzed.
- Percent Recovery was within MS/MSD limits in K167-04M/K167-04S.
- Percent recovery was within MS QC limits in K167-06M.
- Percent Recovery was within MS/MSD limits in K167-08M/K167-08S.
- Sample duplicate was analyzed and RPD was within expected value.

Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2134000
Batch No. : 21K167

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	PCX003WB	ND	1	NA	2.00	0.500	1.00	11/19/2123:01	NA	21JK19038	21JK19037	PCX003W	NA	NA
LCS1W	PCX003WL	24.9	1	NA	2.00	0.500	1.00	11/19/2123:43	NA	21JK19040	21JK19037	PCX003W	NA	NA
LCD1W	PCX003WC	24.8	1	NA	2.00	0.500	1.00	11/20/2100:04	NA	21JK19041	21JK19037	PCX003W	NA	NA
2134000-02	K167-01	ND	1	NA	2.00	0.500	1.00	11/20/2100:46	NA	21JK19043	21JK19042	PCX003W	10/27/2109:50	11/19/21
2134000-03	K167-02	1.39J	1	NA	2.00	0.500	1.00	11/20/2101:07	NA	21JK19044	21JK19042	PCX003W	10/27/2110:25	11/19/21
2134000-04	K167-03	3.61	1	NA	2.00	0.500	1.00	11/20/2101:28	NA	21JK19045	21JK19042	PCX003W	10/27/2110:55	11/19/21
2134000-06	K167-05	1.48J	1	NA	2.00	0.500	1.00	11/20/2102:10	NA	21JK19047	21JK19042	PCX003W	10/27/2113:45	11/19/21
2134000-07	K167-06	ND	1	NA	2.00	0.500	1.00	11/20/2102:31	NA	21JK19048	21JK19042	PCX003W	10/27/2114:15	11/19/21
2134000-07MS	K167-06M	14.9	1	NA	2.00	0.500	1.00	11/20/2102:52	NA	21JK19049	21JK19042	PCX003W	10/27/2114:15	11/19/21
2134000-07DUP	K167-06D	ND	1	NA	2.00	0.500	1.00	11/20/2103:13	NA	21JK19050	21JK19042	PCX003W	10/27/2114:15	11/19/21
2134000-08	K167-07	ND	1	NA	2.00	0.500	1.00	11/20/2103:34	NA	21JK19051	21JK19042	PCX003W	10/27/2114:45	11/19/21
2134000-10	K167-09	ND	1	NA	2.00	0.500	1.00	11/20/2104:37	NA	21JK19054	21JK19053	PCX003W	10/27/2115:50	11/19/21
2134000-11	K167-10	21.2	1	NA	2.00	0.500	1.00	11/20/2104:59	NA	21JK19055	21JK19053	PCX003W	10/27/2116:20	11/19/21
MBLK2W	PCX005WB	ND	1	NA	2.00	0.500	1.00	11/22/2117:38	NA	21JK22005	21JK22004	PCX005W	NA	NA
LCS2W	PCX005WL	24.9	1	NA	2.00	0.500	1.00	11/22/2118:20	NA	21JK22007	21JK22004	PCX005W	NA	NA
LCD2W	PCX005WC	25.0	1	NA	2.00	0.500	1.00	11/22/2118:41	NA	21JK22008	21JK22004	PCX005W	NA	NA
2134000-05	K167-04	2.81	1	NA	2.00	0.500	1.00	11/22/2120:26	NA	21JK22013	21JK22009	PCX005W	10/27/2111:25	11/19/21
2134000-05MS	K167-04M	17.8	1	NA	2.00	0.500	1.00	11/22/2120:47	NA	21JK22014	21JK22009	PCX005W	10/27/2111:25	11/19/21
2134000-05MSD	K167-04S	17.9	1	NA	2.00	0.500	1.00	11/22/2121:08	NA	21JK22015	21JK22009	PCX005W	10/27/2111:25	11/19/21
2134000-09	K167-08	11.5	1	NA	2.00	0.500	1.00	11/22/2121:29	NA	21JK22016	21JK22009	PCX005W	10/27/2115:15	11/19/21
2134000-09MS	K167-08M	26.5	1	NA	2.00	0.500	1.00	11/22/2121:50	NA	21JK22017	21JK22009	PCX005W	10/27/2115:15	11/19/21
2134000-09MSD	K167-08S	26.7	1	NA	2.00	0.500	1.00	11/22/2122:11	NA	21JK22018	21JK22009	PCX005W	10/27/2115:15	11/19/21

Note: Detection limits are reported relative to sample result significant figures.

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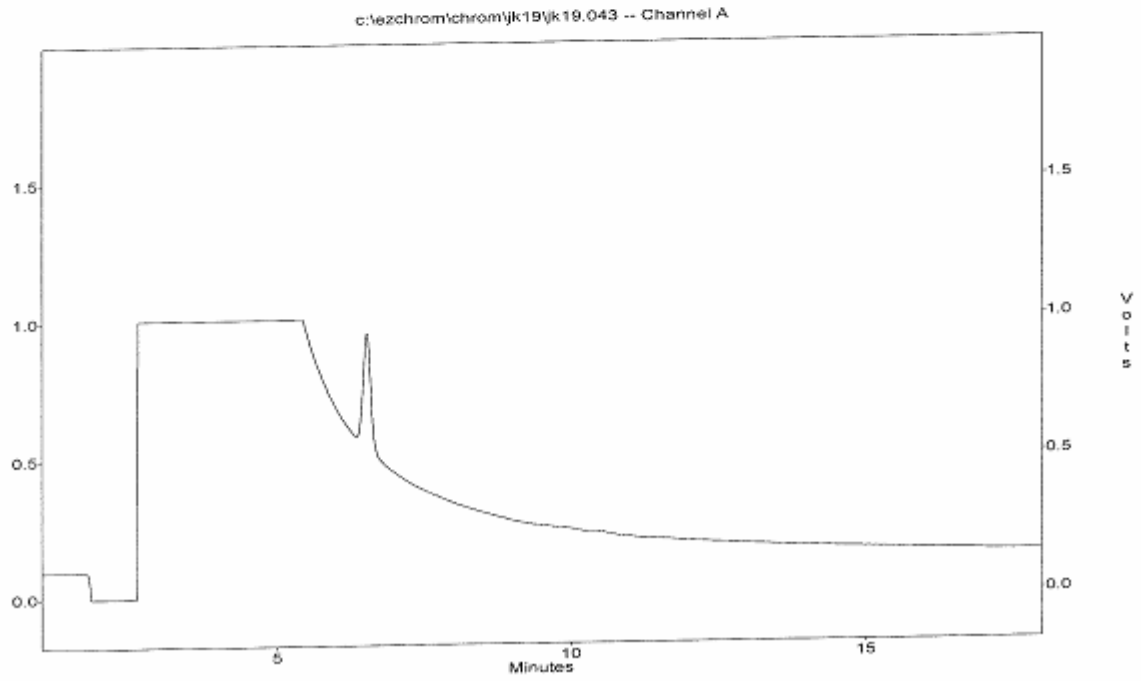
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.043
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-01
Acquired : Nov 20, 2021 00:46:47
Printed : Nov 22, 2021 11:52:48
User : YCabal

Channel A Results

	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000

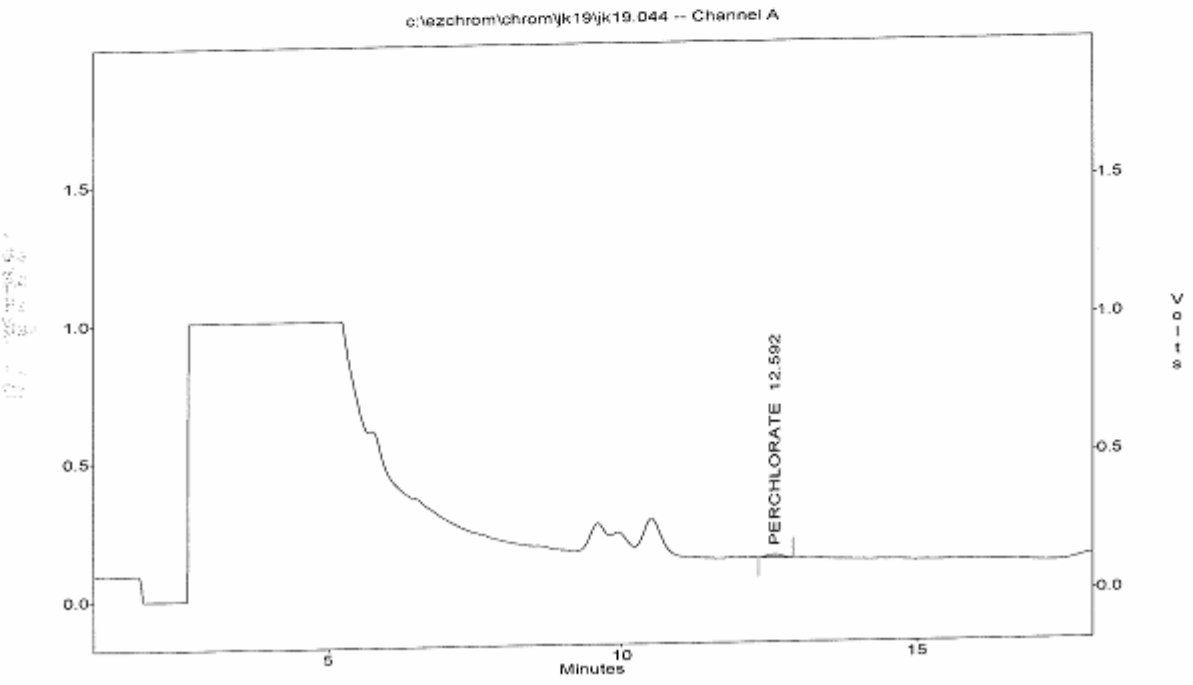


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.044
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-02
Acquired : Nov 20, 2021 01:07:48
Printed : Nov 22, 2021 11:53:24
Operator : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.59	211912	12092	180791.531	1.392



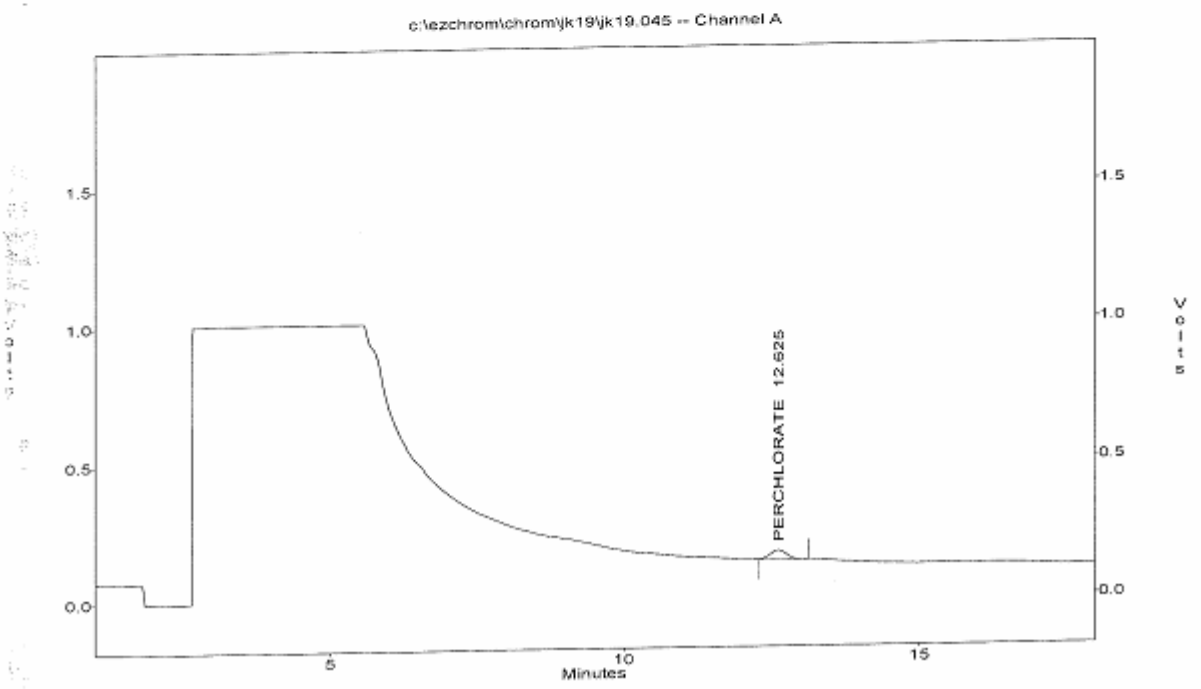
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.045
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-03
Acquired : Nov 20, 2021 01:28:49
Printed : Nov 22, 2021 11:53:49
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	625170	32412	180791.531	3.608



REPORT ID: 21K167

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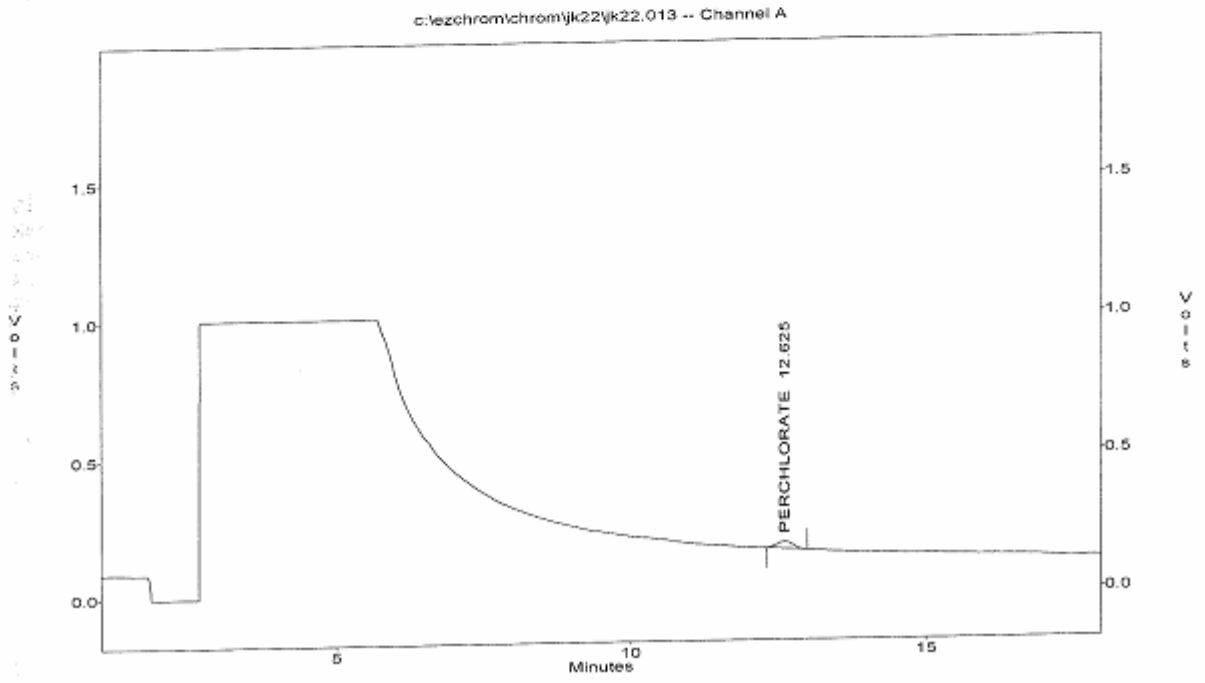
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.013
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-04
Acquired : Nov 22, 2021 20:26:16
Printed : Nov 23, 2021 08:02:36
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.63	476992	24322	180791.531	2.813



REPORT ID: 21K167

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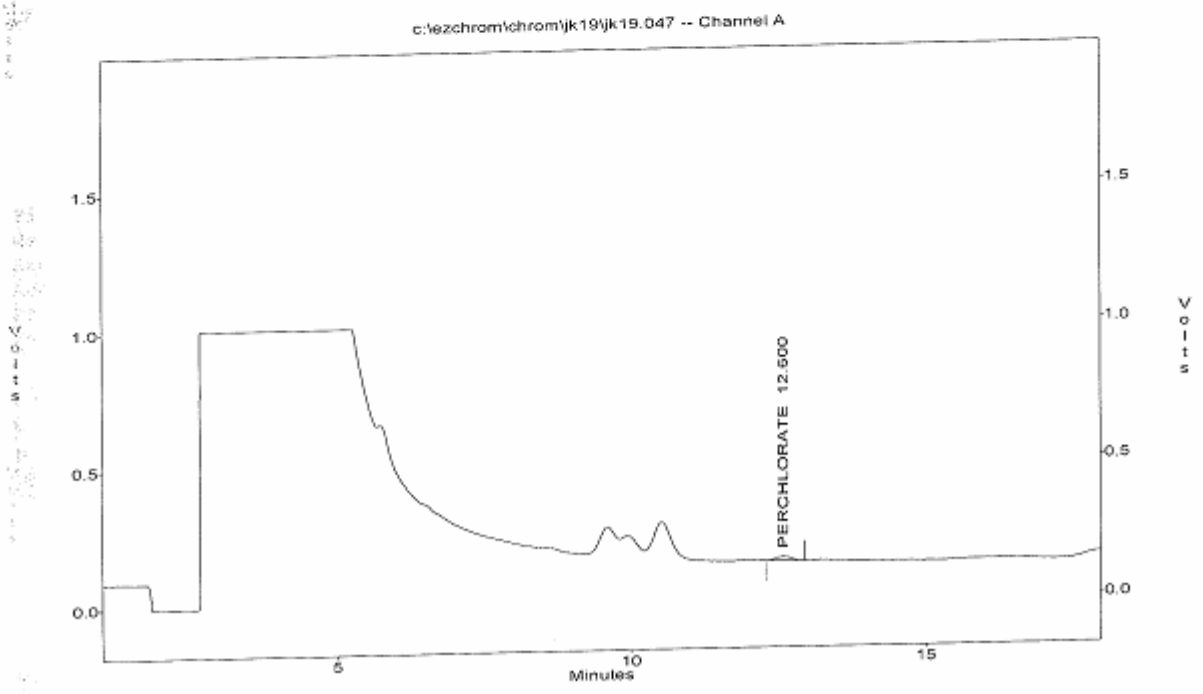
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.047
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-05
Acquired : Nov 20, 2021 02:10:51
Printed : Nov 22, 2021 11:54:54
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	229013	13026	180791.531	1.483



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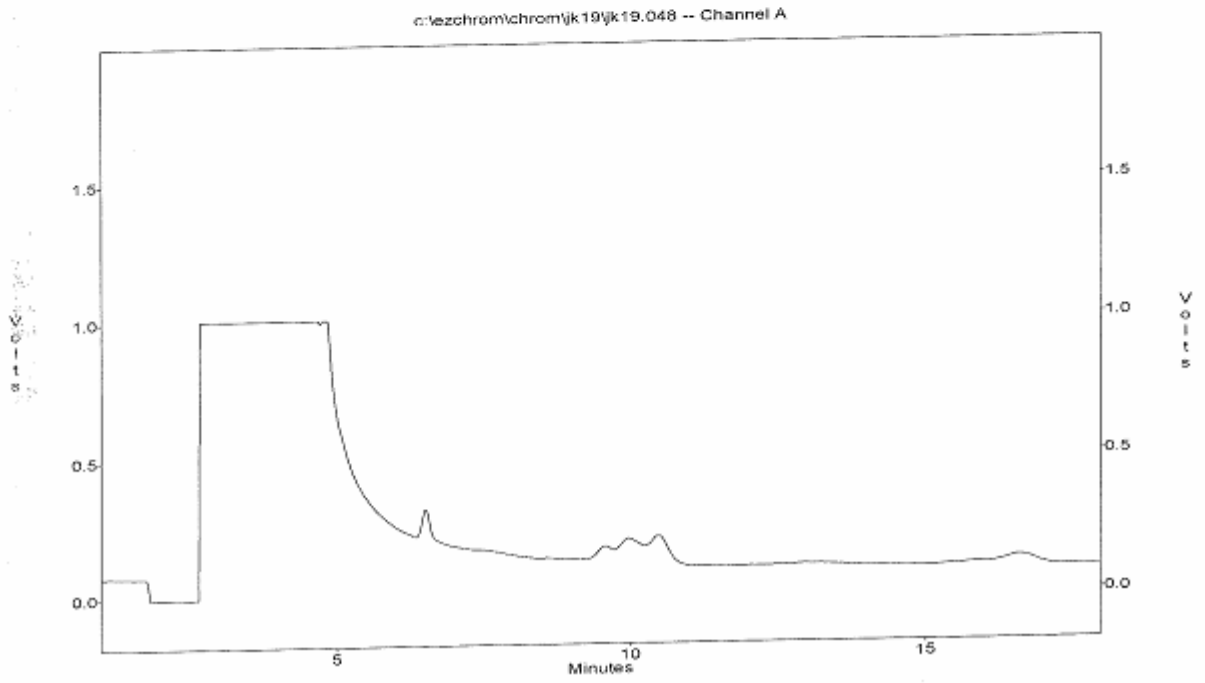
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.048
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-06
Acquired : Nov 20, 2021 02:31:53
Printed : Nov 22, 2021 11:55:35
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	BSTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K167

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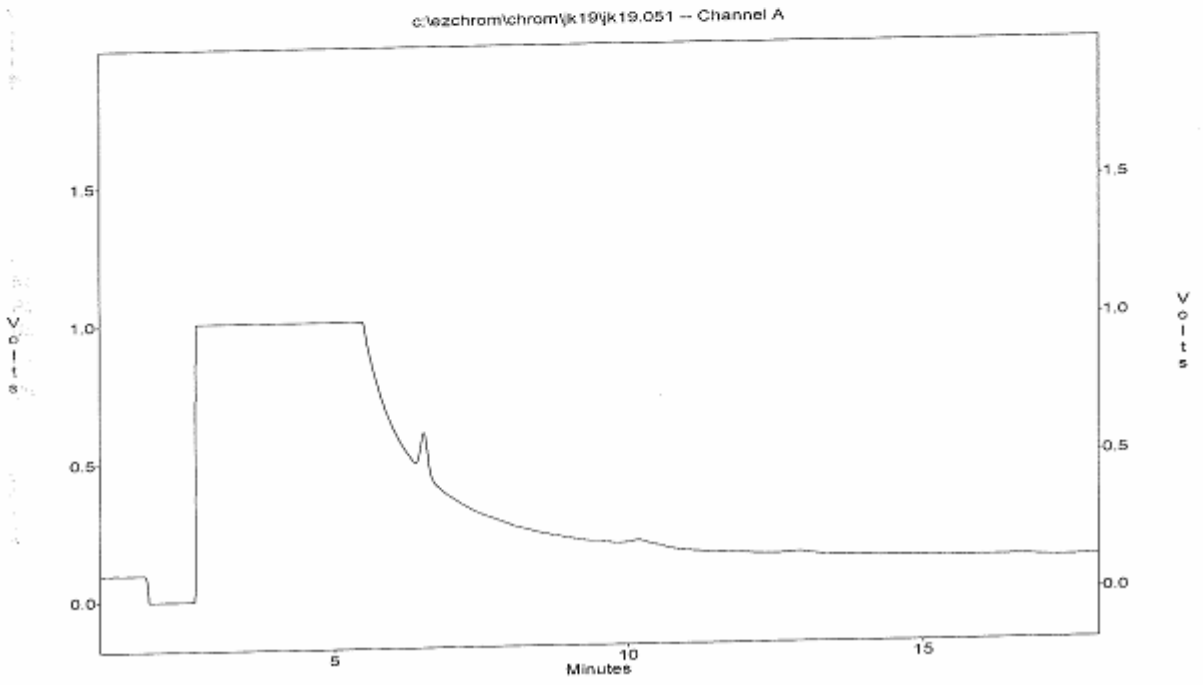
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.051
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-07
Acquired : Nov 20, 2021 03:34:55
Printed : Nov 22, 2021 12:01:32
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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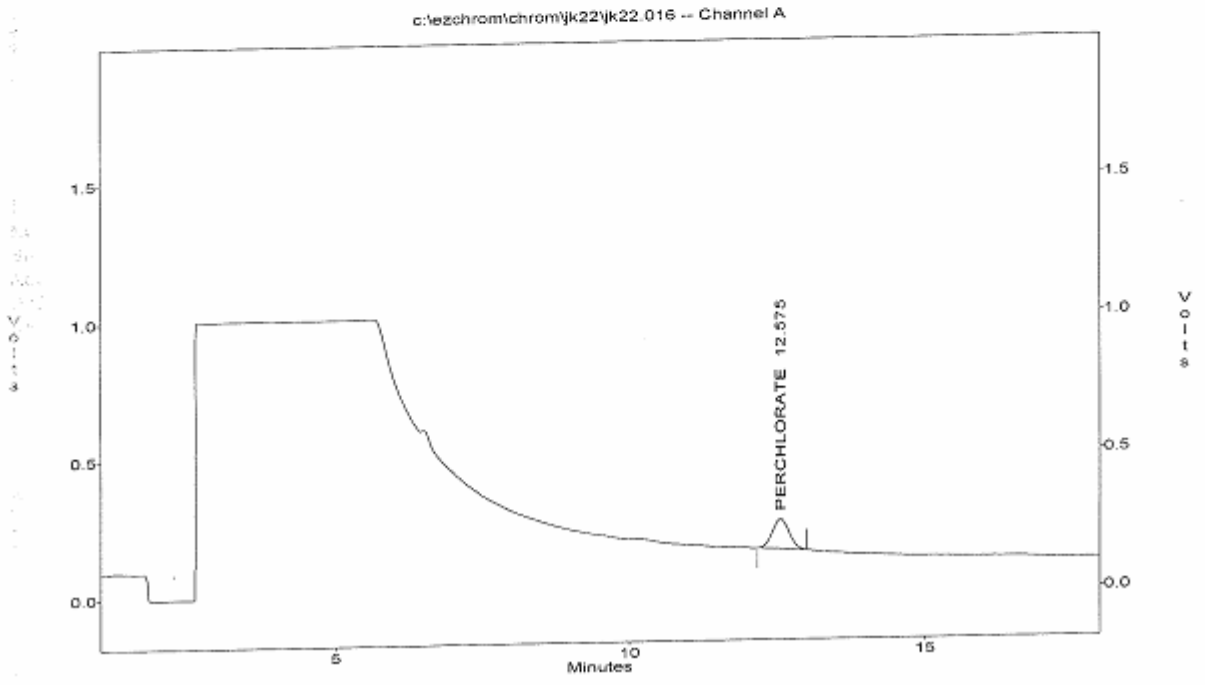
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.016
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-08
Acquired : Nov 22, 2021 21:29:20
Printed : Nov 23, 2021 08:06:11
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2102647	107102	180791.531	11.532



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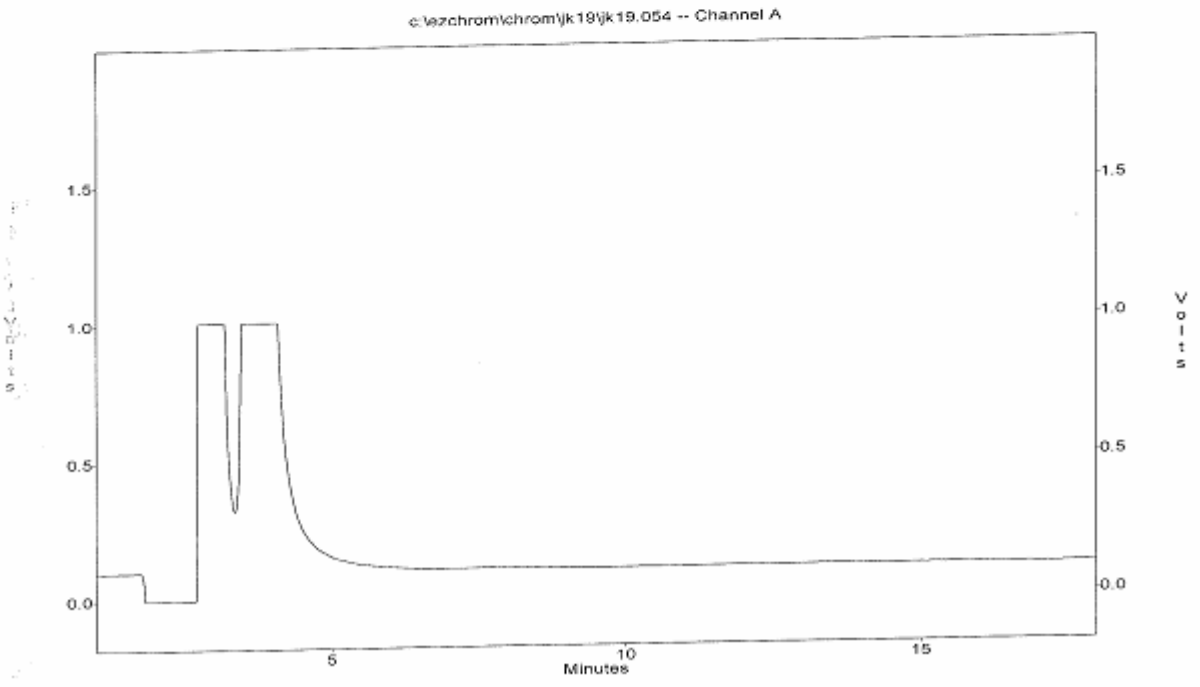
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.054
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-09
Acquired : Nov 20, 2021 04:37:59
Printed : Nov 22, 2021 12:02:35
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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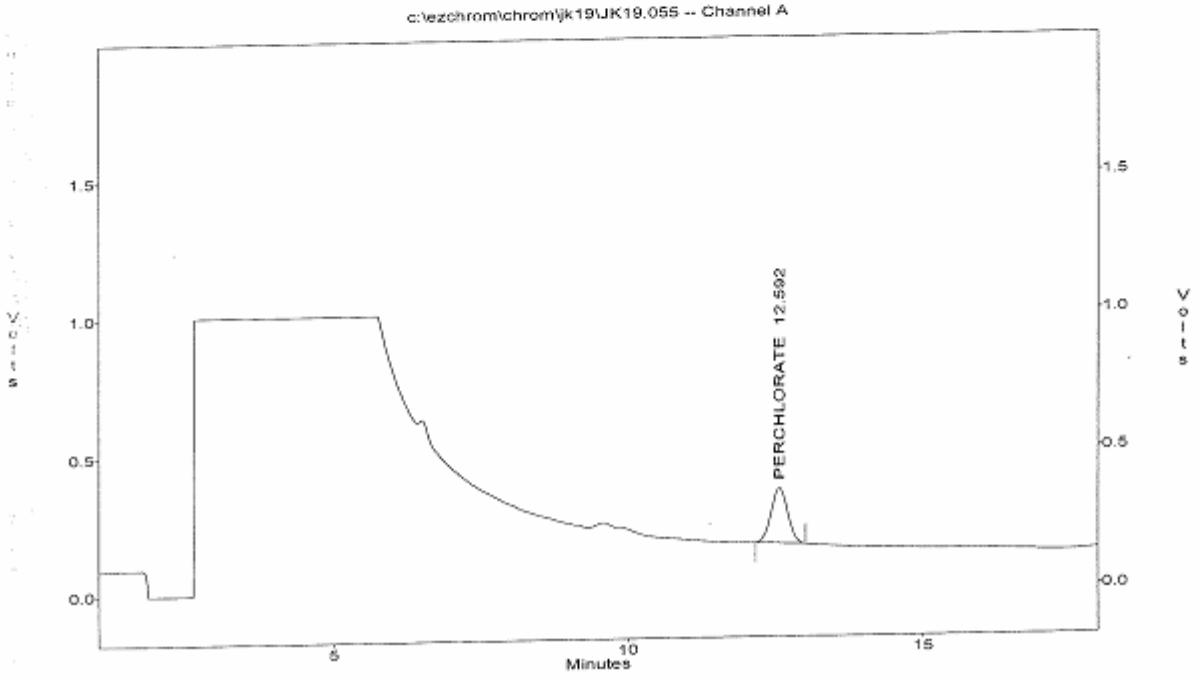
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\JK19.055
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-10
Acquired : Nov 20, 2021 04:59:00
Printed : Nov 22, 2021 12:31:38
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	3903444	199161	180791.531	21.189



REPORT ID: 21K167

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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134000
BATCH NO. : 21K167
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK003WB	PCK003WL	PCK003WC
LAB FILE ID :	21JK19038	21JK19040	21JK19041
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/19/2123:01	11/19/2123:43	11/20/2100:04
PREP BATCH :	PCK003W	PCK003W	PCK003W
CALIBRATION REF:	21JK19037	21JK19037	21JK19037

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.9	100	25	24.8	99	0	85-115	15

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134000
BATCH NO. : 21K167
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	PCK005WB	PCK005WL	PCK005WC
LAB FILE ID :	21JK22005	21JK22007	21JK22008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/22/2117:38	11/22/2118:20	11/22/2118:41
PREP BATCH :	PCK005W	PCK005W	PCK005W
CALIBRATION REF:	21JK22004	21JK22004	21JK22004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.9	100	25	25.0	100	0	85-115	15

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EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134000
BATCH NO. : 21K167
METHOD : E314.0

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR:	1	1
SAMPLE ID	: 2134000-07	2134000-07MS
LAB SAMPLE ID	: K167-06	K167-06N
LAB FILE ID	: 21JK19048	21JK19049
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/20/2102:31	11/20/2102:52
PREP BATCH	: PCK003W	PCK003W
CALIBRATION REF:	21JK19042	21JK19042

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE ANT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Perchlorate	ND	15.00	14.9	99	80-120

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EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134000
BATCH NO. : 21K167
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 2134000-05	2134000-05MS	2134000-05MSD
LAB SAMPLE ID	: K167-04	K167-04M	K167-04S
LAB FILE ID	: 21JK22013	21JK22014	21JK22015
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/22/2120:26	11/22/2120:47	11/22/2121:08
PREP BATCH	: PCK005W	PCK005W	PCK005W
CALIBRATION REF	: 21JK22009	21JK22009	21JK22009

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	2.81	15.00	17.8	100	15.00	17.9	101	1	80-120	15

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EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134000
BATCH NO. : 21K167
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 2134000-09	2134000-09MS	2134000-09MSD
LAB SAMPLE ID	: K167-08	K167-08M	K167-08S
LAB FILE ID	: 21JK22016	21JK22017	21JK22018
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/22/2121:29	11/22/2121:50	11/22/2122:11
PREP BATCH	: PCK005W	PCK005W	PCK005W
CALIBRATION REF:	21JK22009	21JK22009	21JK22009

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	11.5	15.00	26.5	100	15.00	26.7	101	1	80-120	15

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EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134000
BATCH NO. : 21K167
METHOD : E314.0

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2134000-07	2134000-07DUP
LAB SAMPLE ID	: K167-06	K167-06D
LAB FILE ID	: 21JK19048	21JK19050
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/20/2102:31	11/20/2103:13
PREP BATCH	: PCK003W	PCK003W
CALIBRATION REF	: 21JK19042	21JK19042

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	DUP RESULT (ug/L)	RPD (%)	MAX RPD (%)
Perchlorate	ND	ND	0	15

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QC DATA

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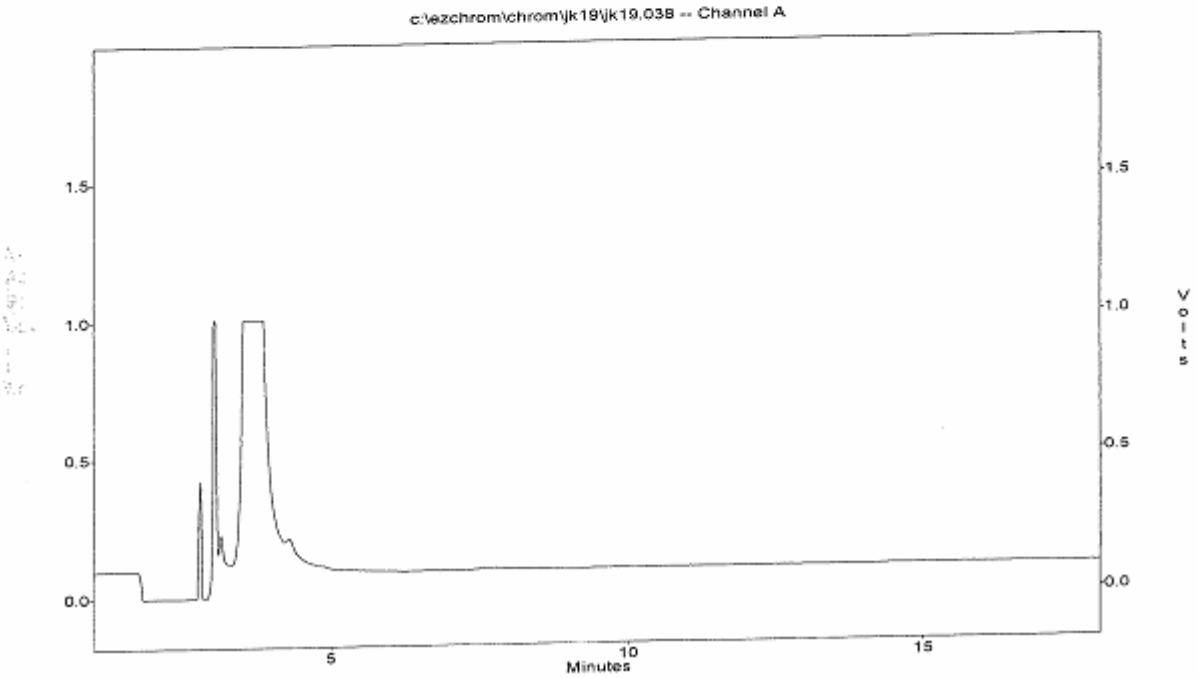
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.038
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WB
Acquired : Nov 19, 2021 23:01:40
Printed : Nov 22, 2021 11:51:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K167

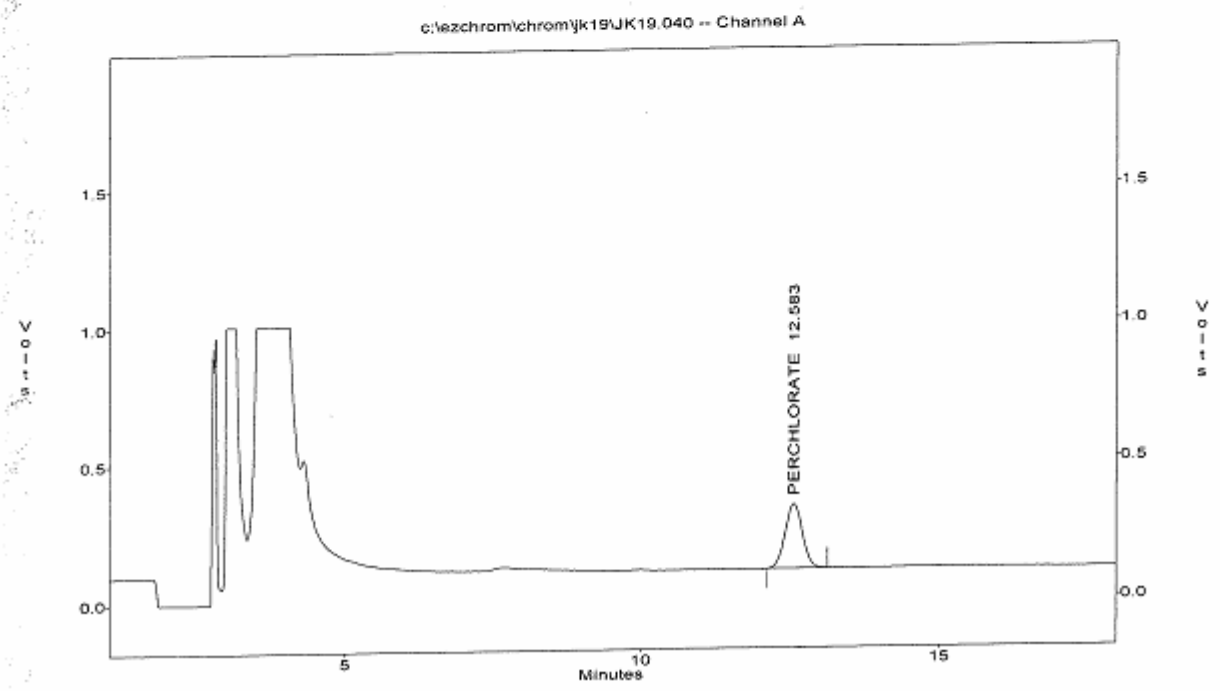
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\JK19.040
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WL
Acquired : Nov 19, 2021 23:43:43
Printed : Dec 02, 2021 11:48:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)	A|H
1	PERCHLORATE	12.58	4588679	231103	180791.531	24.864	19.856 ✓

$PD_{A|H} = \frac{|22.097 - 19.856|}{19.856} \times 100 = 11.9\%$ ✓

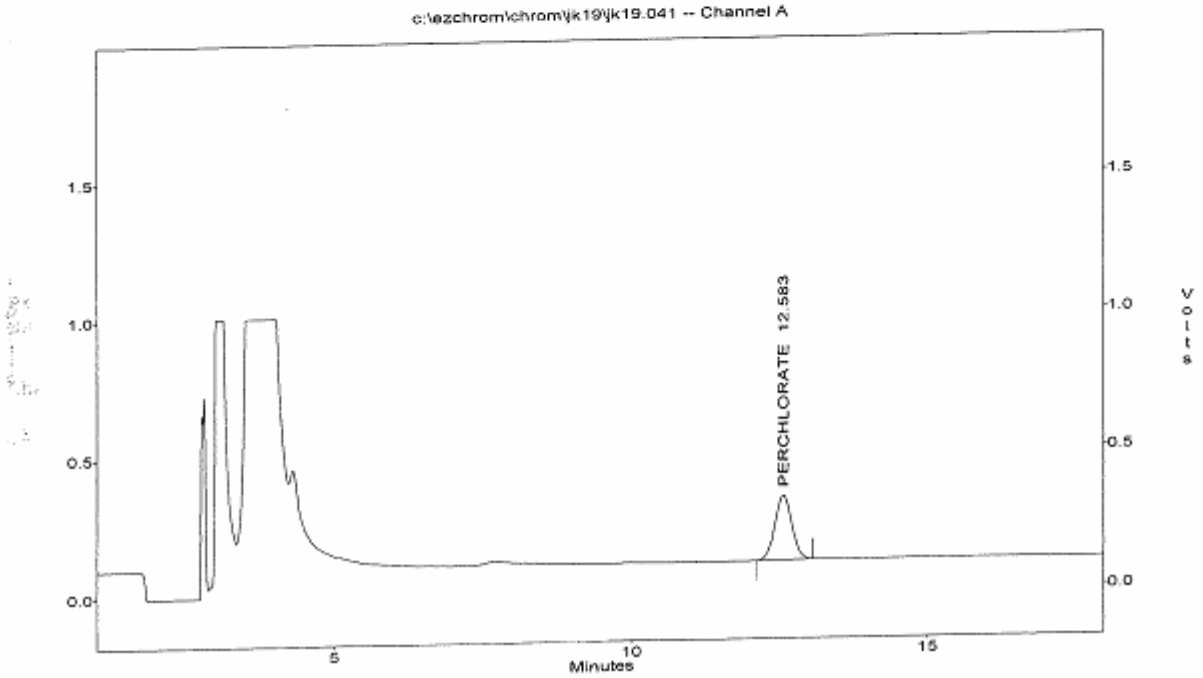


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.041
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WC
Acquired : Nov 20, 2021 00:04:44
Printed : Nov 22, 2021 11:52:11
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	4584780	231454	180791.531	24.843



REPORT ID: 21K167

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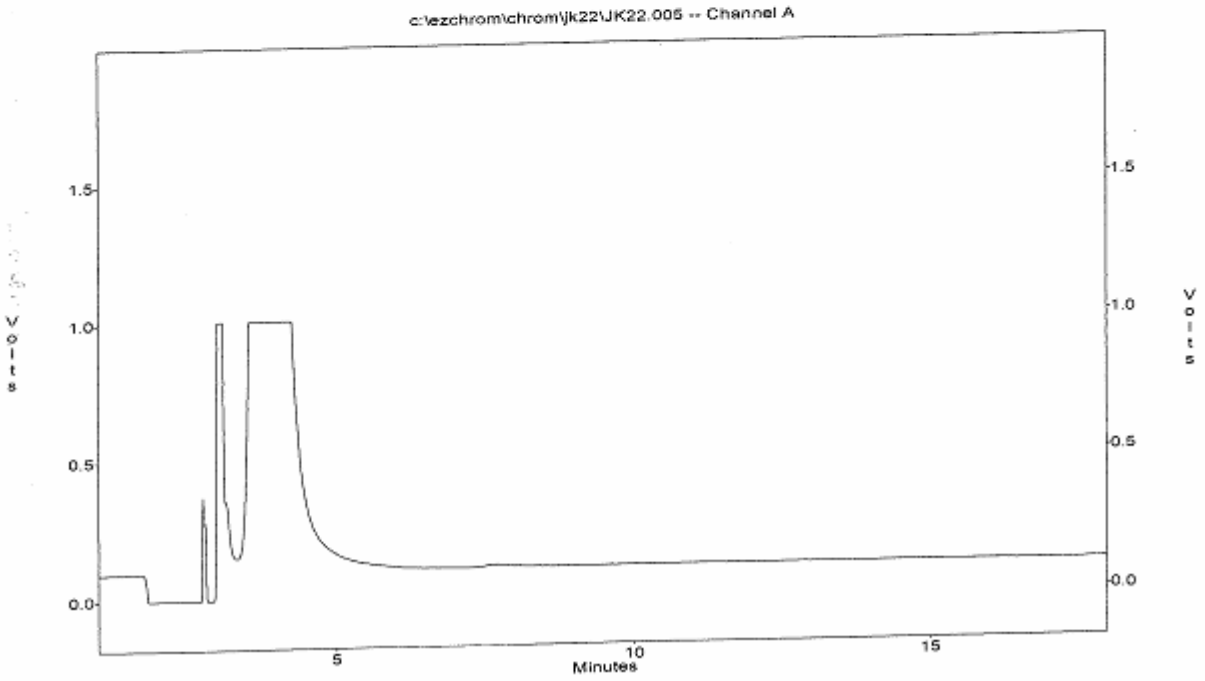
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WB
Acquired : Nov 22, 2021 17:38:07
Printed : Nov 23, 2021 09:21:51
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K167

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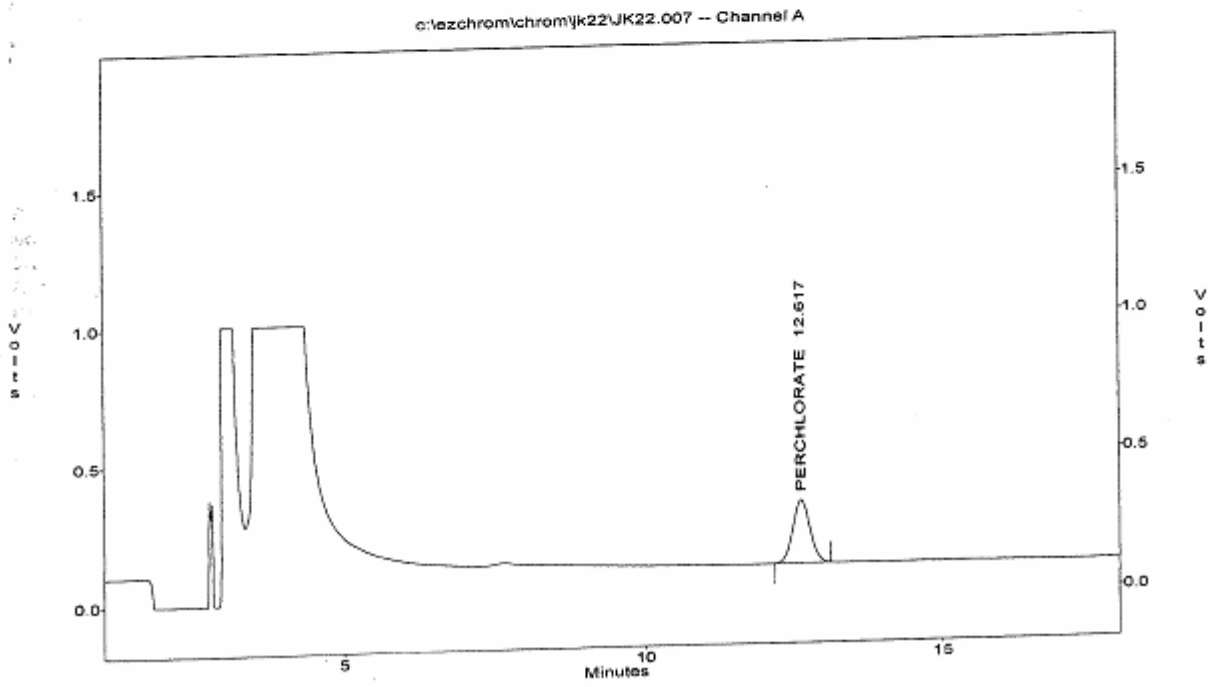
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WL
Acquired : Nov 22, 2021 18:20:10
Printed : Nov 23, 2021 09:21:57
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)	A|H
1	PERCHLORATE	12.62	4602827	226928	180791.531	24.940	20.283 ✓

$PD_{A|H} = \frac{|22.450 - 20.283|}{20.283} \times 100 = 11\%$ ✓ jlb



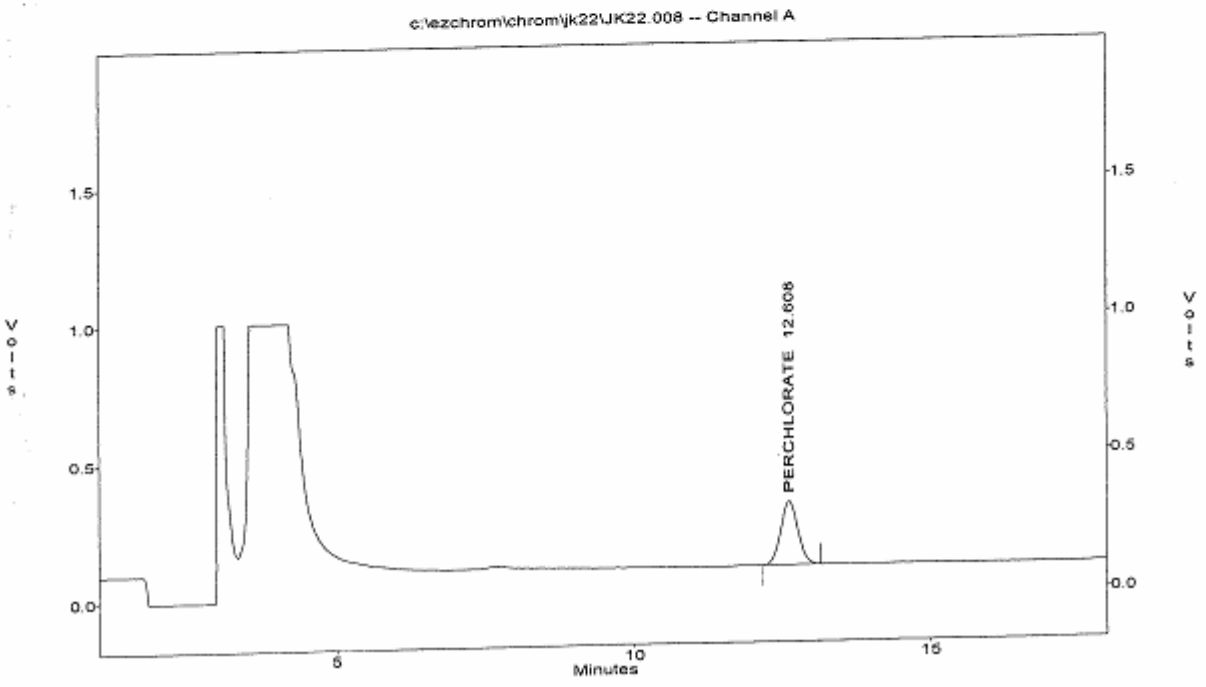
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WC
Acquired : Nov 22, 2021 18:41:10
Printed : Nov 23, 2021 09:21:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	4612770	228590	180791.531	24.993



REPORT ID: 21K167

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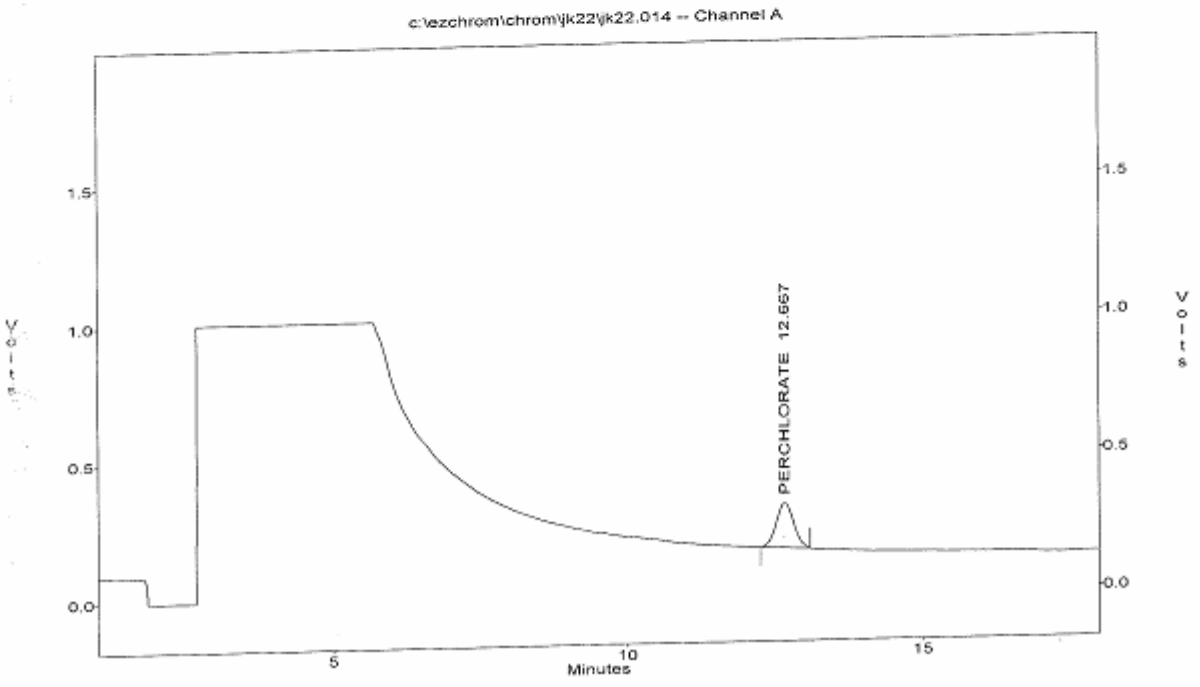
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.014
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-04M
Acquired : Nov 22, 2021 20:47:17
Printed : Nov 23, 2021 08:03:44
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.67	3271689	161309	180791.531	17.801



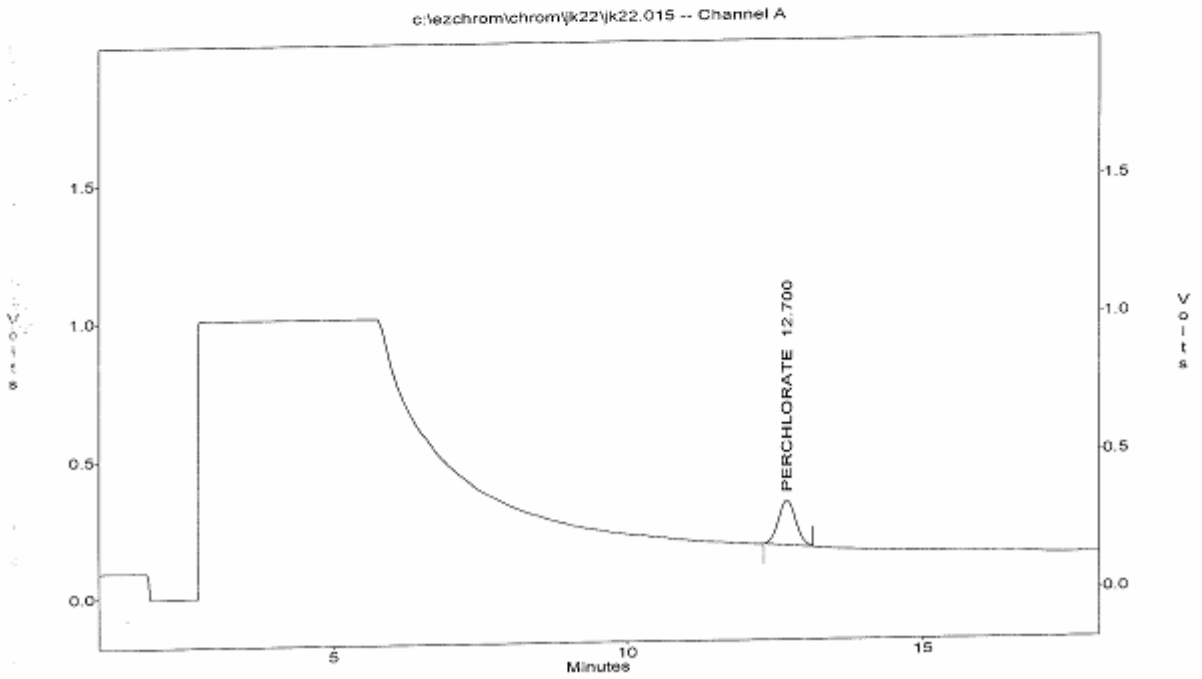
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.015
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-04S
Acquired : Nov 22, 2021 21:08:18
Printed : Nov 23, 2021 08:04:34
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.70	3292631	161726	180791.531	17.913



REPORT ID: 21K167

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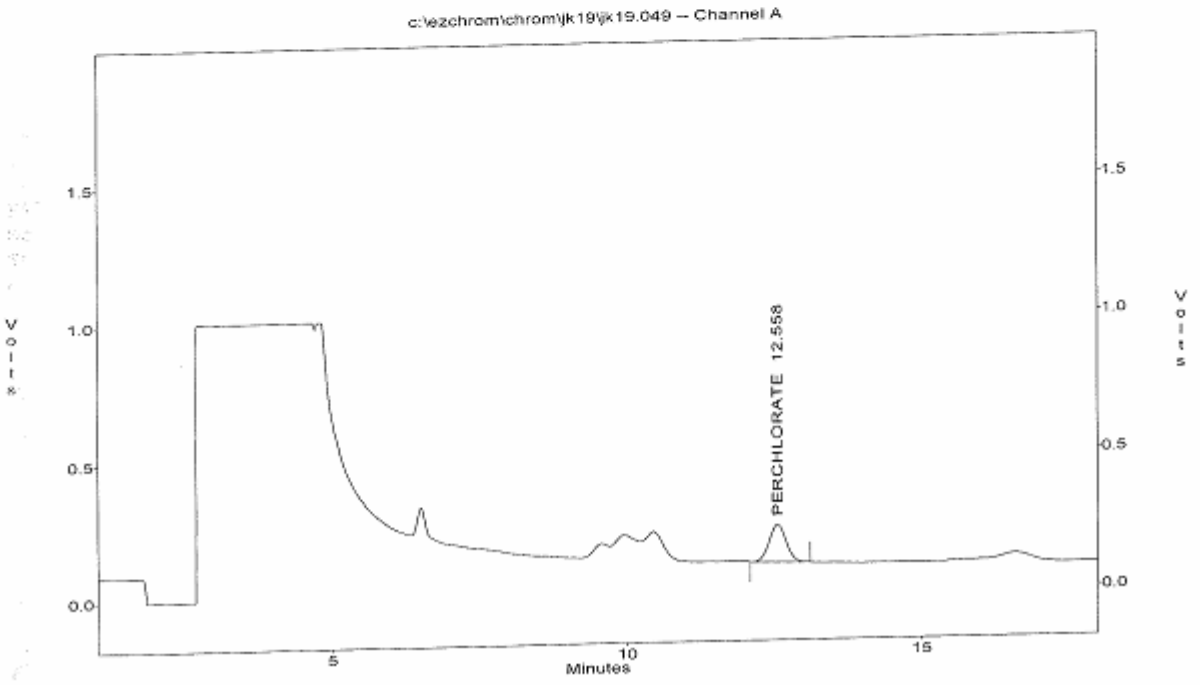
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.049
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-06M
Acquired : Nov 20, 2021 02:52:53
Printed : Nov 22, 2021 11:56:32
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	2726335	136722	180791.531	14.876



REPORT ID: 21K167

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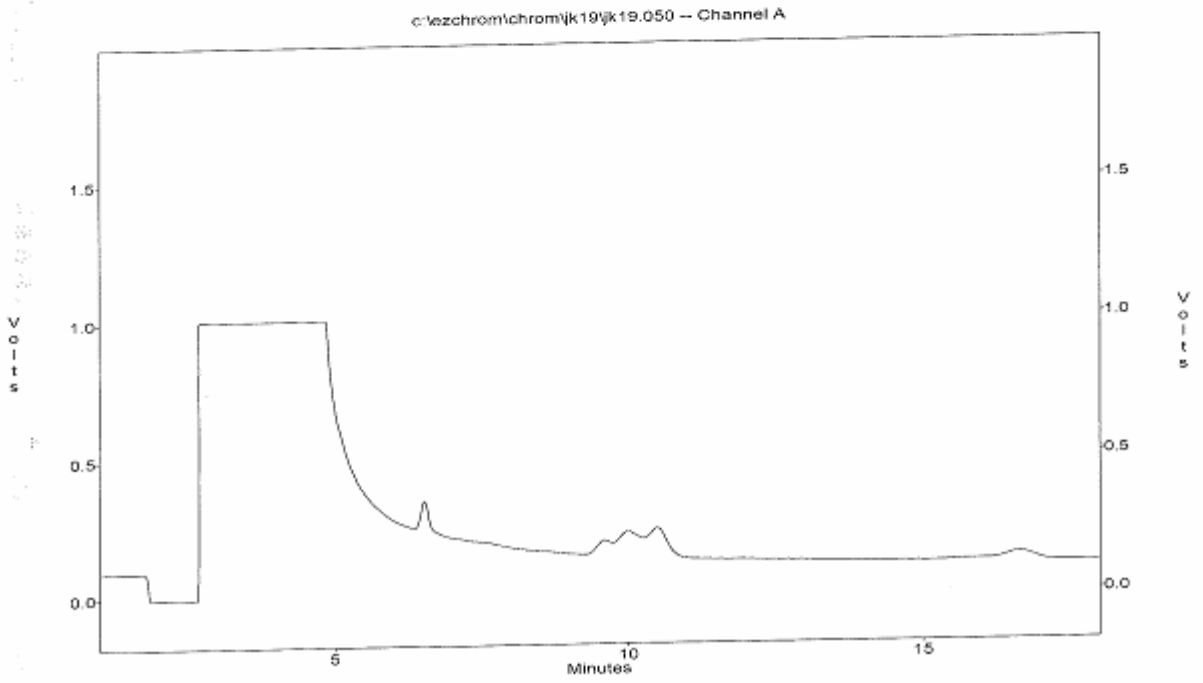
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.050
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-06D
Acquired : Nov 20, 2021 03:13:54
Printed : Nov 22, 2021 11:57:08
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K167

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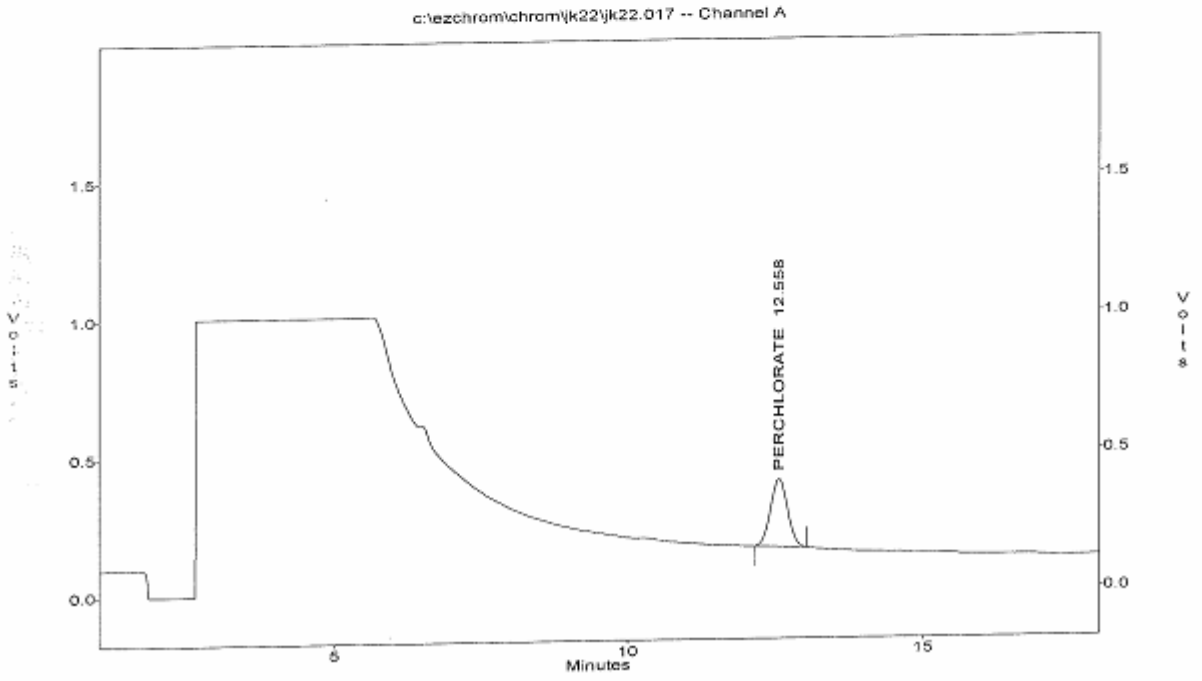
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.017
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-08M
Acquired : Nov 22, 2021 21:50:22
Printed : Nov 23, 2021 08:06:23
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.56	4891360	244682	180791.531	26.487



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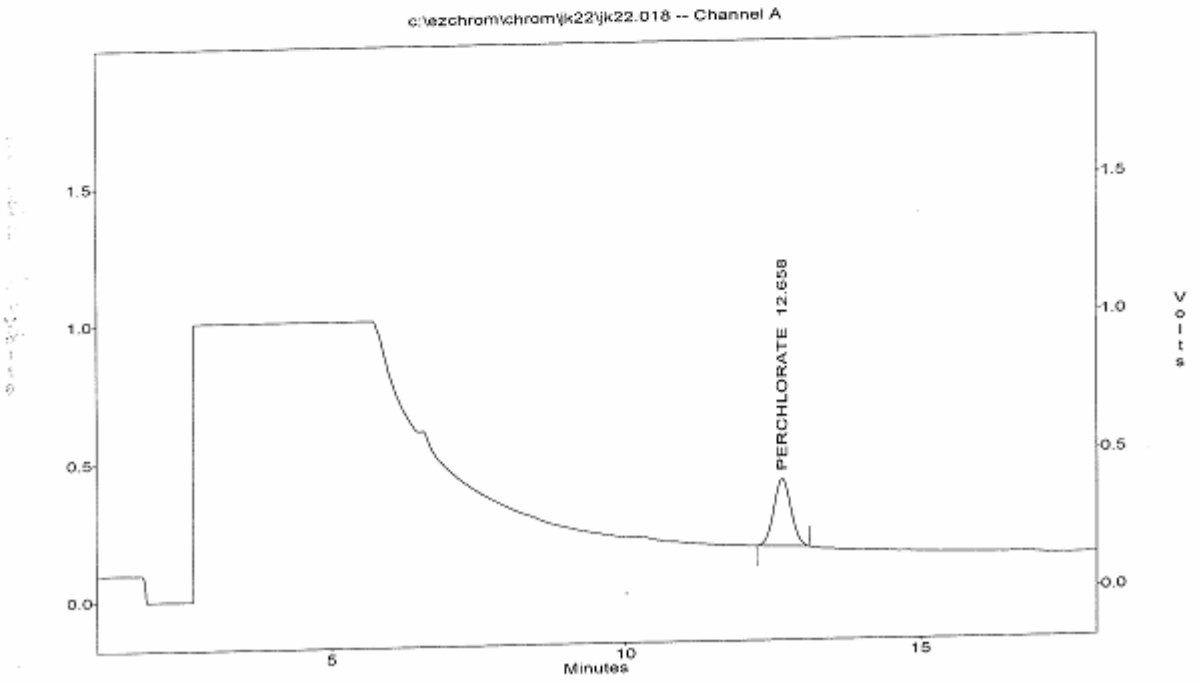
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.018
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K167-08S
Acquired : Nov 22, 2021 22:11:23
Printed : Nov 23, 2021 08:06:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.66	4922508	243162	180791.531	26.654



REPORT ID: 21K167

INITIAL CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	SD	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

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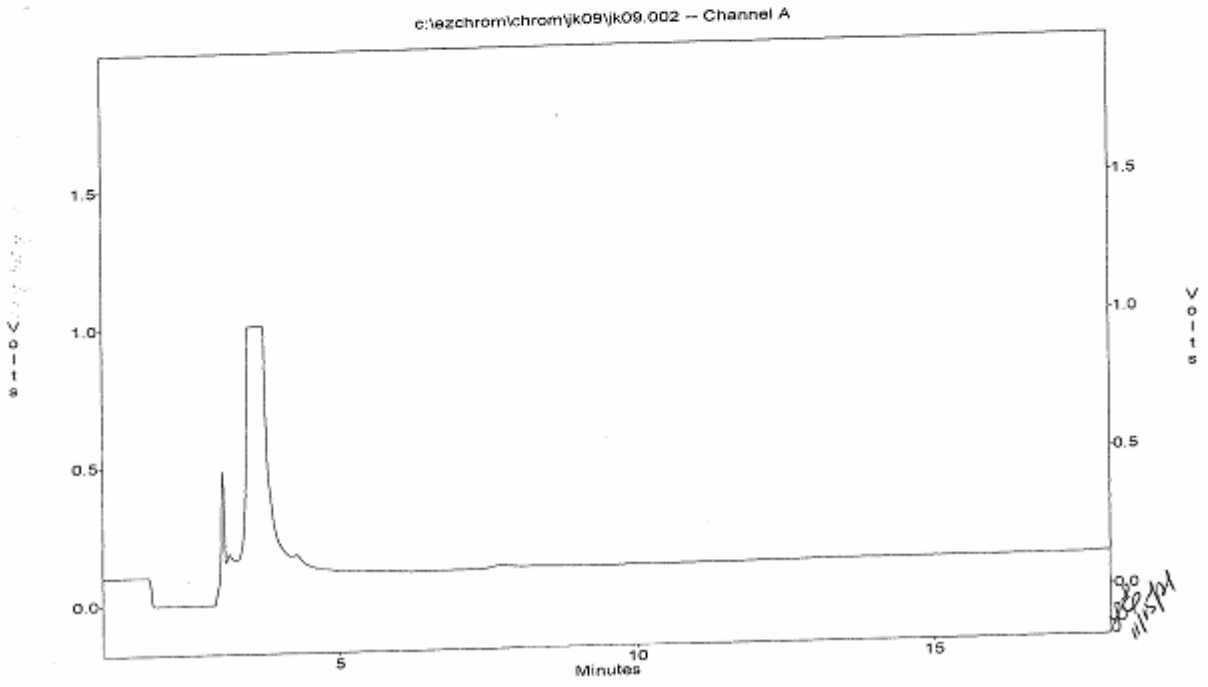
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K167

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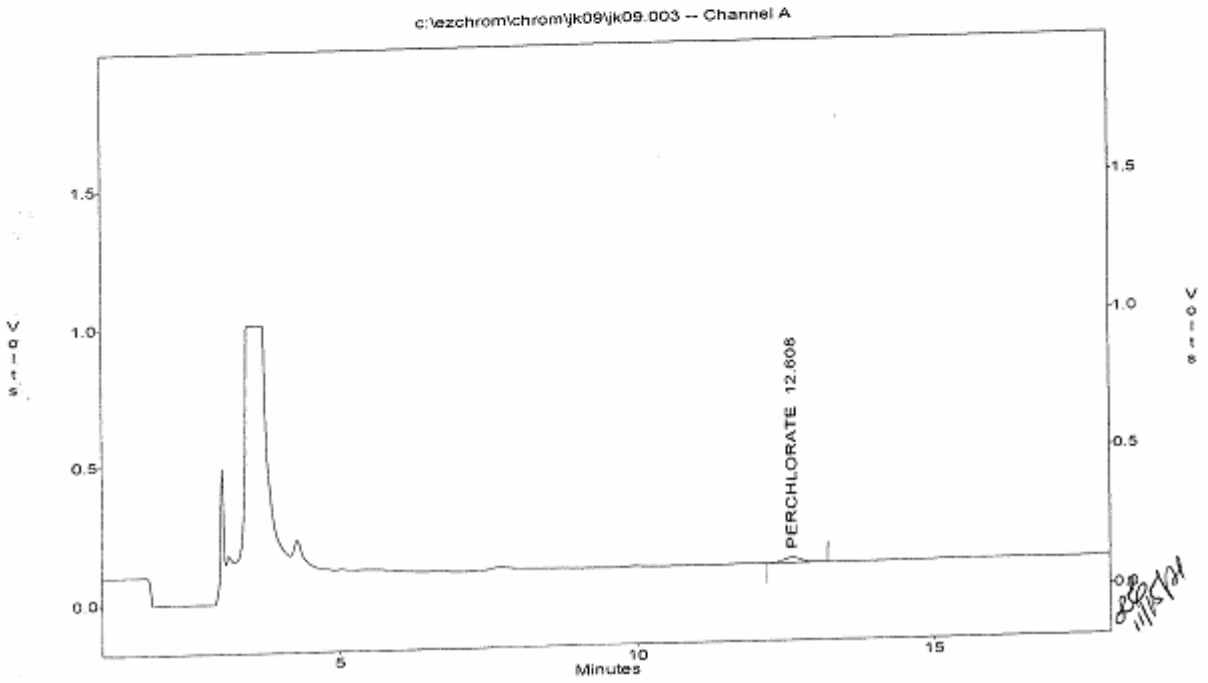
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



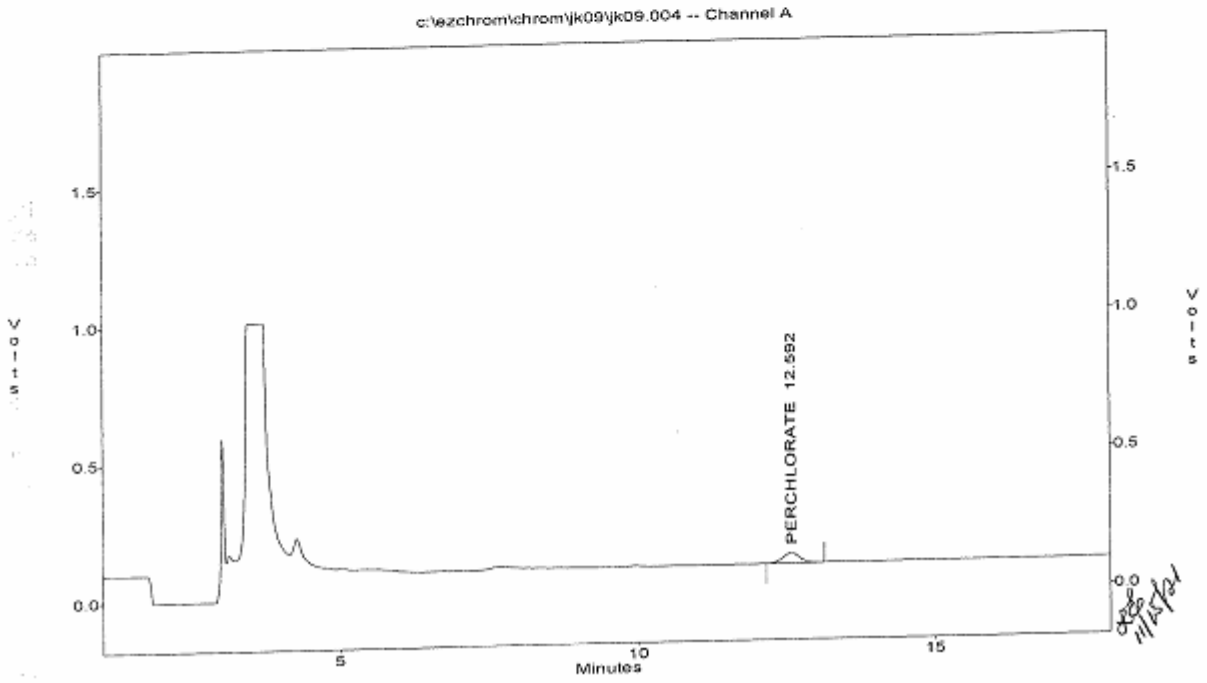
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



REPORT ID: 21K167

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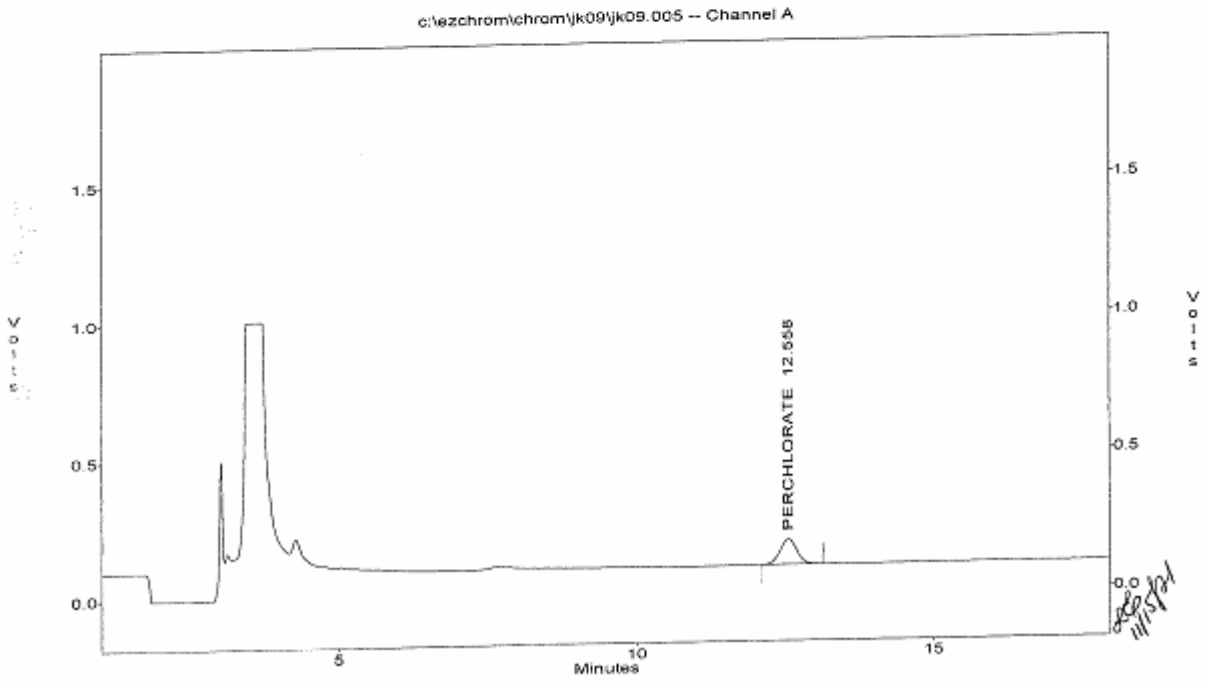
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



REPORT ID: 21K167

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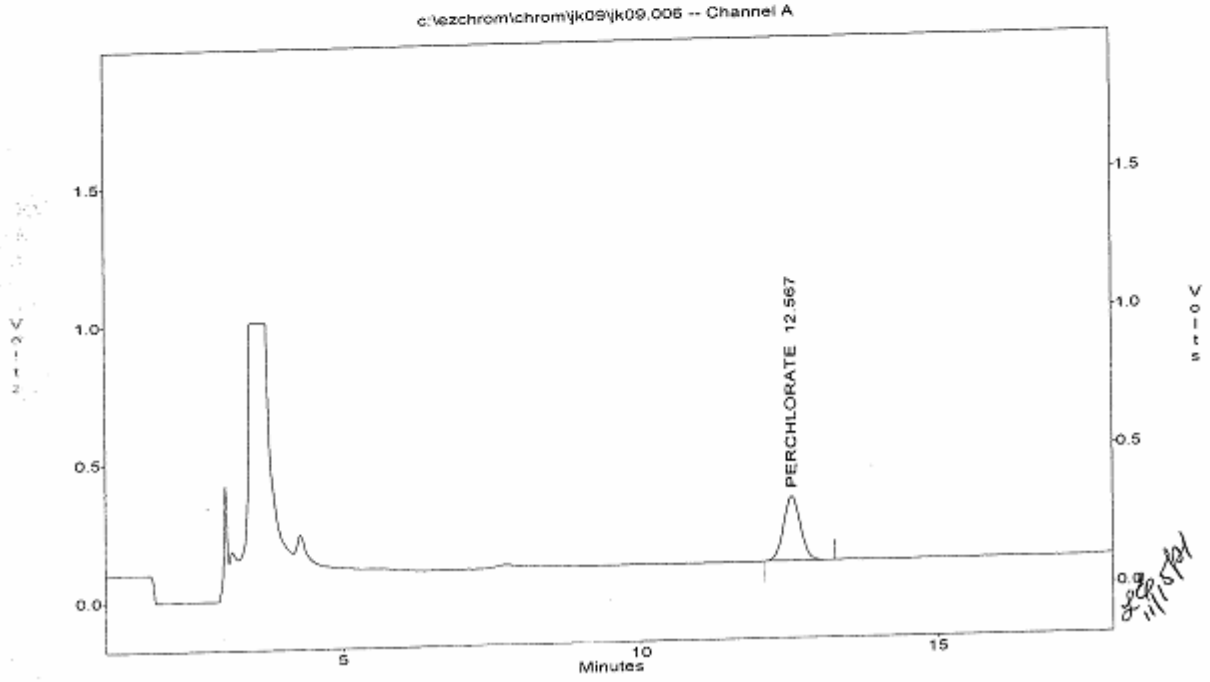
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



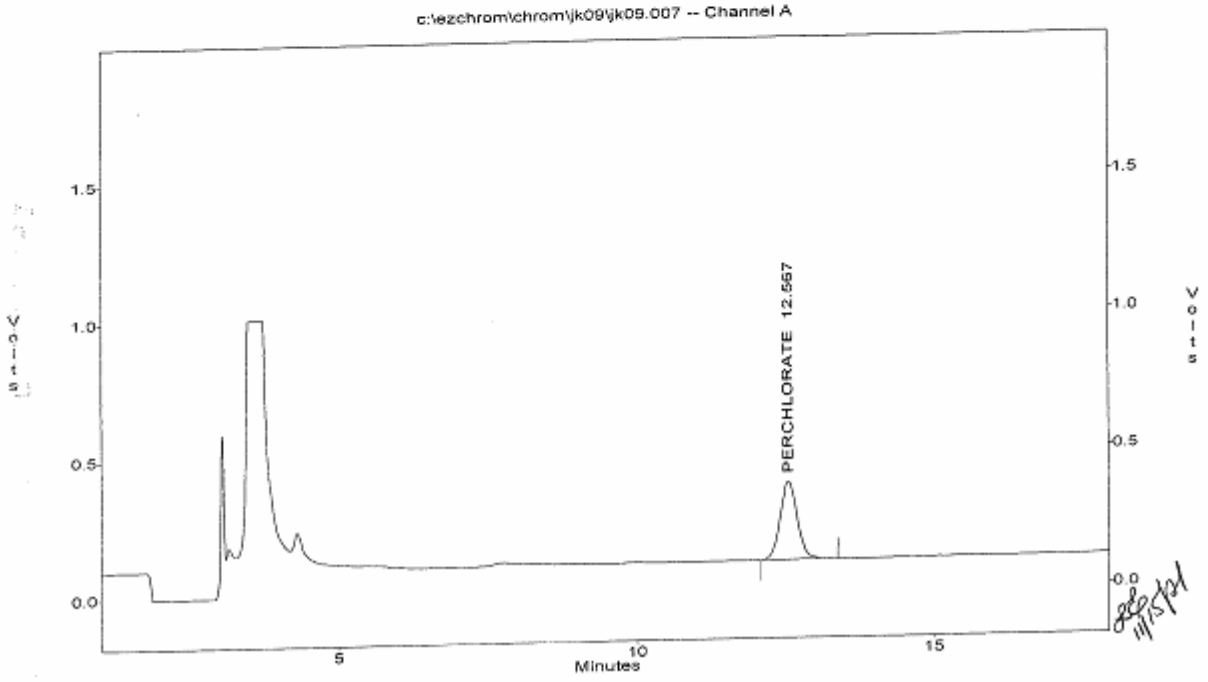
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



REPORT ID: 21K167

* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

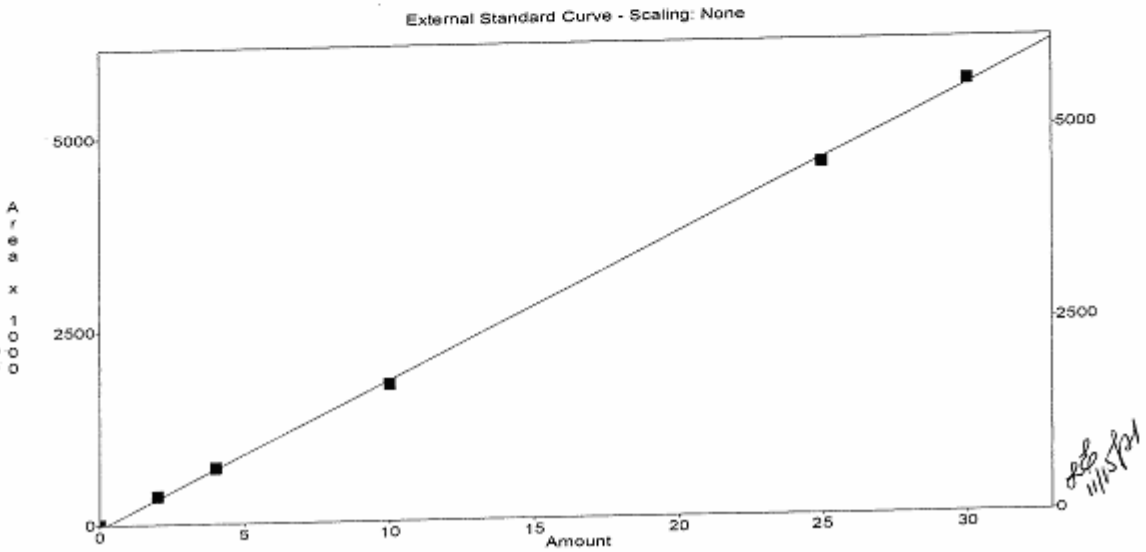
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36295e-006 * Area + 0.255269
r^2 = 0.999512



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SECOND SOURCE VERIFICATION

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

11/15/21

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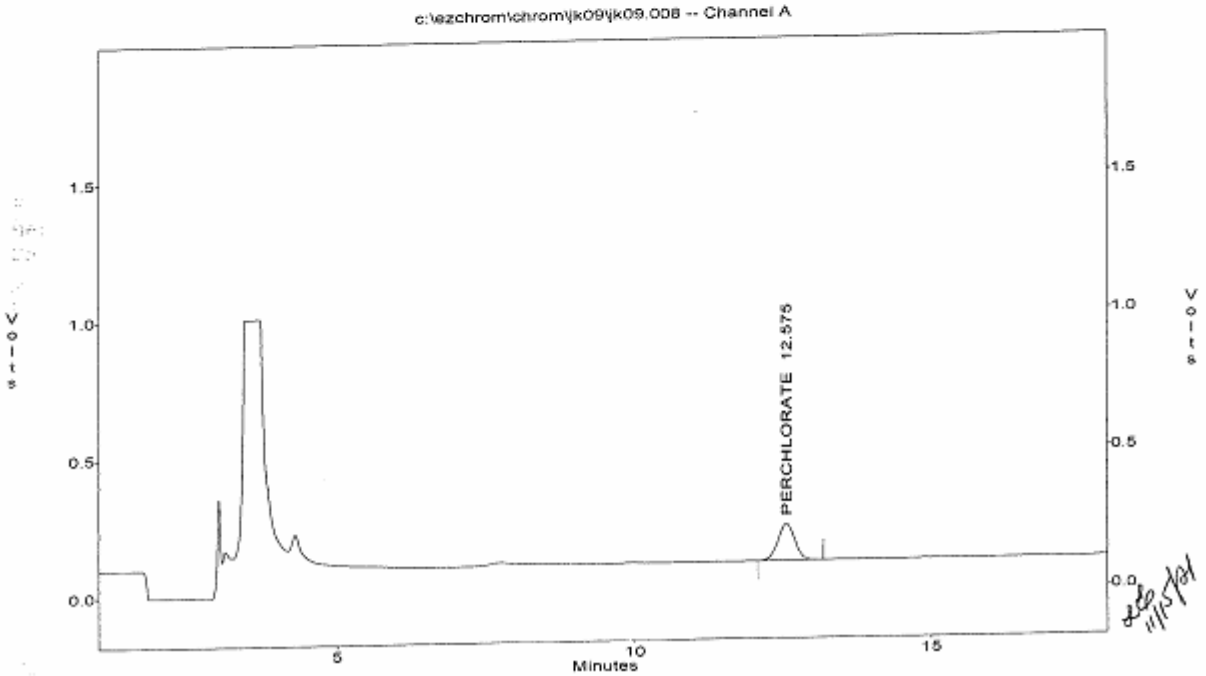
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



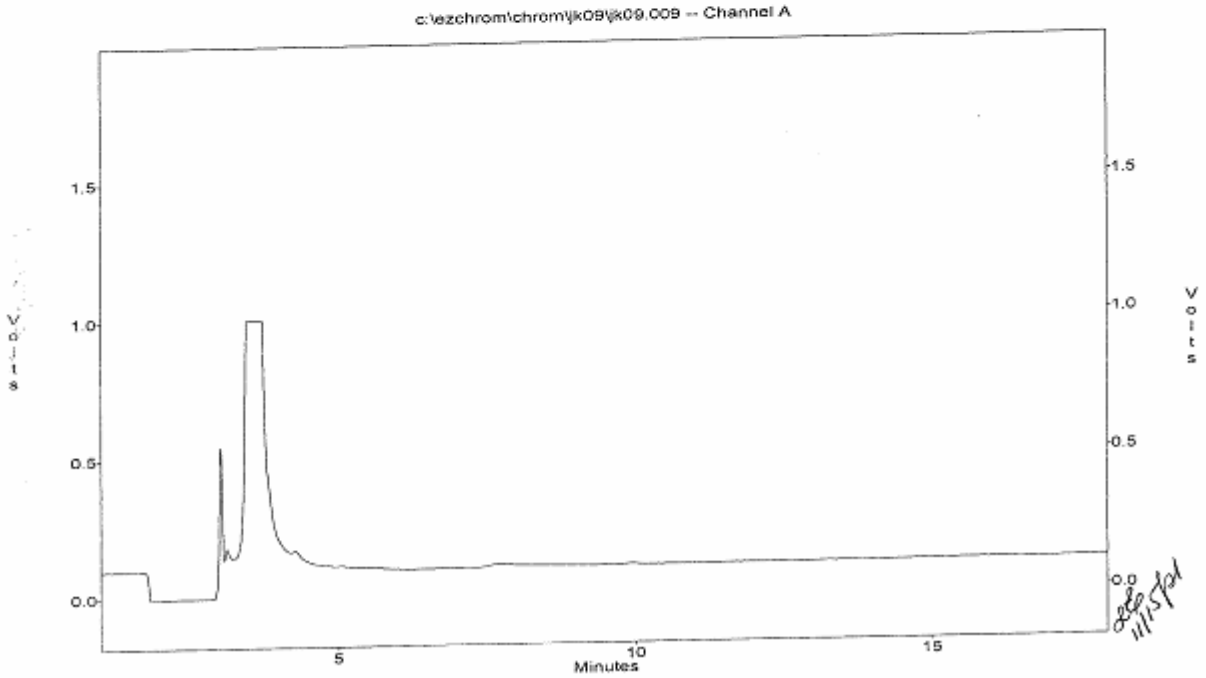
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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DAILY CALIBRATIONS

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Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2134000
SDG : 21K167
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK19042	CCV56-15	102	11/20/2100:25
21JK19053	CCV57-30	105	11/20/2104:16
21JK19064	CCV58-15	104	11/20/2108:08
21JK22009	CCV65-30	105	11/22/2119:02
21JK22019	CCV66-15	101	11/22/2122:32

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK19001	RINSE	P	IC57K08	11/19/2108:27	1
JK19002	RINSE	P	IC57K08	11/19/2108:49	1
JK19003	RINSE	P	IC57K08	11/19/2109:10	1
JK19004	IPCS	P	IC57K08	11/19/2109:33	1
JK19005	PCK002WB	P	IC57K08	11/19/2109:54	1
JK19006	MRLK1901	P	IC57K08	11/19/2110:17	1
JK19007	PCK002WL	P	IC57K08	11/19/2110:38	1
JK19008	PCK002WC	P	IC57K08	11/19/2111:00	1
JK19009	CCV52-15	P	IC57K08	11/19/2111:21	1
JK19010	QC	P	IC57K08	11/19/2111:42	1
JK19011	QC	P	IC57K08	11/19/2112:18	1
JK19012	QC	P	IC57K08	11/19/2112:39	1
JK19013	K139-01	P	IC57K08	11/19/2113:01	1
JK19014	K140-01	P	IC57K08	11/19/2113:23	1
JK19015	K141-01	P	IC57K08	11/19/2113:44	1
JK19016	K141-01M	P	IC57K08	11/19/2114:07	1
JK19017	K141-01D	P	IC57K08	11/19/2114:28	1
JK19018	K168-01	P	IC57K08	11/19/2114:49	1
JK19019	K166-01	P	IC57K08	11/19/2115:17	1
JK19020	CCV53-30	P	IC57K08	11/19/2115:38	1
JK19021	K166-02	P	IC57K08	11/19/2116:14	1
JK19022	K166-03	P	IC57K08	11/19/2116:38	1
JK19023	K166-04	P	IC57K08	11/19/2116:59	1
JK19024	K166-05	P	IC57K08	11/19/2117:21	1
JK19025	K166-06	P	IC57K08	11/19/2117:44	1
JK19026	K166-06M	P	IC57K08	11/19/2118:49	1
JK19027	K166-06D	P	IC57K08	11/19/2119:10	1
JK19028	K166-07	P	IC57K08	11/19/2119:31	1
JK19029	TEST	P	IC57K08	11/19/2119:52	1
JK19030	K166-09	P	IC57K08	11/19/2120:13	1
JK19031	CCV54-15	P	IC57K08	11/19/2120:34	1
JK19032	K166-10	P	IC57K08	11/19/2120:55	1
JK19033	K190-01	P	IC57K08	11/19/2121:16	1
JK19034	K190-02	P	IC57K08	11/19/2121:37	1
JK19035	K191-01	P	IC57K08	11/19/2121:58	1
JK19036	CCV55-30	P	IC57K08	11/19/2122:19	1
JK19037	IPCS	P	IC57K08	11/19/2122:40	1
JK19038	PCK003WB	P	IC57K08	11/19/2123:01	1
JK19039	MRLK1902	P	IC57K08	11/19/2123:22	1
JK19040	PCK003WL	P	IC57K08	11/19/2123:43	1
JK19041	PCK003WC	P	IC57K08	11/20/2100:04	1
JK19042	CCV56-15	P	IC57K08	11/20/2100:25	1
JK19043	K167-01	P	IC57K08	11/20/2100:46	1
JK19044	K167-02	P	IC57K08	11/20/2101:07	1
JK19045	K167-03	P	IC57K08	11/20/2101:28	1
JK19046	TEST	P	IC57K08	11/20/2101:49	1
JK19047	K167-05	P	IC57K08	11/20/2102:10	1
JK19048	K167-06	P	IC57K08	11/20/2102:31	1
JK19049	K167-06M	P	IC57K08	11/20/2102:52	1
JK19050	K167-06D	P	IC57K08	11/20/2103:13	1
JK19051	K167-07	P	IC57K08	11/20/2103:34	1
JK19052	TEST	P	IC57K08	11/20/2103:55	1
JK19053	CCV57-30	P	IC57K08	11/20/2104:16	1
JK19054	K167-09	P	IC57K08	11/20/2104:37	1
JK19055	K167-10	P	IC57K08	11/20/2104:59	1
JK19056	K174-01	P	IC57K08	11/20/2105:20	1
JK19057	K174-01M	P	IC57K08	11/20/2105:41	1
JK19058	K174-01D	P	IC57K08	11/20/2106:02	1
JK19059	K174-02	P	IC57K08	11/20/2106:23	1
JK19060	K174-03	P	IC57K08	11/20/2106:44	1
JK19061	K174-04	P	IC57K08	11/20/2107:05	1
JK19062	K174-05	P	IC57K08	11/20/2107:26	1
JK19063	K174-06	P	IC57K08	11/20/2107:47	1
JK19064	CCV58-15	P	IC57K08	11/20/2108:08	1
JK19065	K169-01	P	IC57K08	11/20/2108:29	1
JK19066	K169-02	P	IC57K08	11/20/2108:50	1
JK19067	K169-03	P	IC57K08	11/20/2109:11	1
JK19068	K169-04	P	IC57K08	11/20/2109:32	1
JK19069	CCV59-30	P	IC57K08	11/20/2109:53	1

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK22001	RINSE	P	IC57K08	11/22/2116:14	1
JK22002	RINSE	P	IC57K08	11/22/2116:35	1
JK22003	RINSE	P	IC57K08	11/22/2116:56	1
JK22004	1PCS	P	IC57K08	11/22/2117:17	1
JK22005	PCK005WB	P	IC57K08	11/22/2117:38	1
JK22006	MRLK2201	P	IC57K08	11/22/2117:59	1
JK22007	PCK005WL	P	IC57K08	11/22/2118:20	1
JK22008	PCK005WC	P	IC57K08	11/22/2118:41	1
JK22009	CCV65-30	P	IC57K08	11/22/2119:02	1
JK22010	K166-08	P	IC57K08	11/22/2119:23	1
JK22011	K166-08M	P	IC57K08	11/22/2119:44	1
JK22012	K166-08S	P	IC57K08	11/22/2120:05	1
JK22013	K167-04	P	IC57K08	11/22/2120:26	1
JK22014	K167-04M	P	IC57K08	11/22/2120:47	1
JK22015	K167-04S	P	IC57K08	11/22/2121:08	1
JK22016	K167-08	P	IC57K08	11/22/2121:29	1
JK22017	K167-08M	P	IC57K08	11/22/2121:50	1
JK22018	K167-08S	P	IC57K08	11/22/2122:11	1
JK22019	CCV66-15	P	IC57K08	11/22/2122:32	1
JK22020	K173-08	P	IC57K08	11/22/2122:53	1
JK22021	K173-08M	P	IC57K08	11/22/2123:14	1
JK22022	K173-08S	P	IC57K08	11/22/2123:35	1
JK22023	CCV67-30	P	IC57K08	11/22/2123:56	1

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IC RESULT FORM CalVersion: PCHL0314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK19001	RINSE	P	.000	11/19/2108:27	1
JK19002	RINSE	P	.000	11/19/2108:49	1
JK19003	RINSE	P	.000	11/19/2109:10	1
JK19004	IPCS	P	94.8%	11/19/2109:33	1
JK19005	PCK002WB	P	.000	11/19/2109:54	1
JK19006	MRLK1901	P	99.2%	11/19/2110:17	1
JK19007	PCK002WL	P	24.5	11/19/2110:38	1
JK19008	PCK002WC	P	24	11/19/2111:00	1
JK19009	CCV52-15	P	101%	11/19/2111:21	1
JK19010	QC	P	.000	11/19/2111:42	1
JK19011	QC	P	.000	11/19/2112:18	1
JK19012	QC	P	.000	11/19/2112:39	1
JK19013	K139-01	P	29.6	11/19/2113:01	1
JK19014	K140-01	P	2.92	11/19/2113:23	1
JK19015	K141-01	P	1.34	11/19/2113:44	1
JK19016	K141-01M	P	15.7	11/19/2114:07	1
JK19017	K141-01D	P	1.2	11/19/2114:28	1
JK19018	K168-01	P	.000	11/19/2114:49	1
JK19019	K166-01	P	.000	11/19/2115:17	1
JK19020	CCV53-30	P	102%	11/19/2115:38	1
JK19021	K166-02	P	8.99	11/19/2116:14	1
JK19022	K166-03	P	10.2	11/19/2116:38	1
JK19023	K166-04	P	12	11/19/2116:59	1
JK19024	K166-05	P	7.62	11/19/2117:21	1
JK19025	K166-06	P	.000	11/19/2117:44	1
JK19026	K166-06M	P	14.6	11/19/2118:49	1
JK19027	K166-06D	P	.000	11/19/2119:10	1
JK19028	K166-07	P	4.56	11/19/2119:31	1
JK19029	TEST	P	5.29	11/19/2119:52	1
JK19030	K166-09	P	4.26	11/19/2120:13	1
JK19031	CCV54-15	P	104%	11/19/2120:34	1
JK19032	K166-10	P	.000	11/19/2120:55	1
JK19033	K190-01	P	.000	11/19/2121:16	1
JK19034	K190-02	P	.000	11/19/2121:37	1
JK19035	K191-01	P	.000	11/19/2121:58	1
JK19036	CCV55-30	P	102%	11/19/2122:19	1
JK19037	IPCS	P	99.5%	11/19/2122:40	1
JK19038	PCK003WB	P	.000	11/19/2123:01	1
JK19039	MRLK1902	P	100%	11/19/2123:22	1
JK19040	PCK003WL	P	24.9	11/19/2123:43	1
JK19041	PCK003WC	P	24.8	11/20/2100:04	1
JK19042	CCV56-15	P	102%	11/20/2100:25	1
JK19043	K167-01	P	.000	11/20/2100:46	1
JK19044	K167-02	P	1.39	11/20/2101:07	1
JK19045	K167-03	P	3.61	11/20/2101:28	1
JK19046	TEST	P	2.98	11/20/2101:49	1
JK19047	K167-05	P	1.48	11/20/2102:10	1
JK19048	K167-06	P	.000	11/20/2102:31	1
JK19049	K167-06M	P	14.9	11/20/2102:52	1
JK19050	K167-06D	P	.000	11/20/2103:13	1
JK19051	K167-07	P	.000	11/20/2103:34	1
JK19052	TEST	P	12.3	11/20/2103:55	1
JK19053	CCV57-30	P	105%	11/20/2104:16	1
JK19054	K167-09	P	.000	11/20/2104:37	1
JK19055	K167-10	P	21.2	11/20/2104:59	1
JK19056	K174-01	P	.000	11/20/2105:20	1
JK19057	K174-01M	P	15	11/20/2105:41	1
JK19058	K174-01D	P	.000	11/20/2106:02	1
JK19059	K174-02	P	3.17	11/20/2106:23	1
JK19060	K174-03	P	4.84	11/20/2106:44	1
JK19061	K174-04	P	6.14	11/20/2107:05	1
JK19062	K174-05	P	3.99	11/20/2107:26	1
JK19063	K174-06	P	.000	11/20/2107:47	1
JK19064	CCV58-15	P	104%	11/20/2108:08	1
JK19065	K169-01	P	3.1	11/20/2108:29	1
JK19066	K169-02	P	3.73	11/20/2108:50	1
JK19067	K169-03	P	3.65	11/20/2109:11	1
JK19068	K169-04	P	1.42	11/20/2109:32	1
JK19069	CCV59-30	P	102%	11/20/2109:53	1

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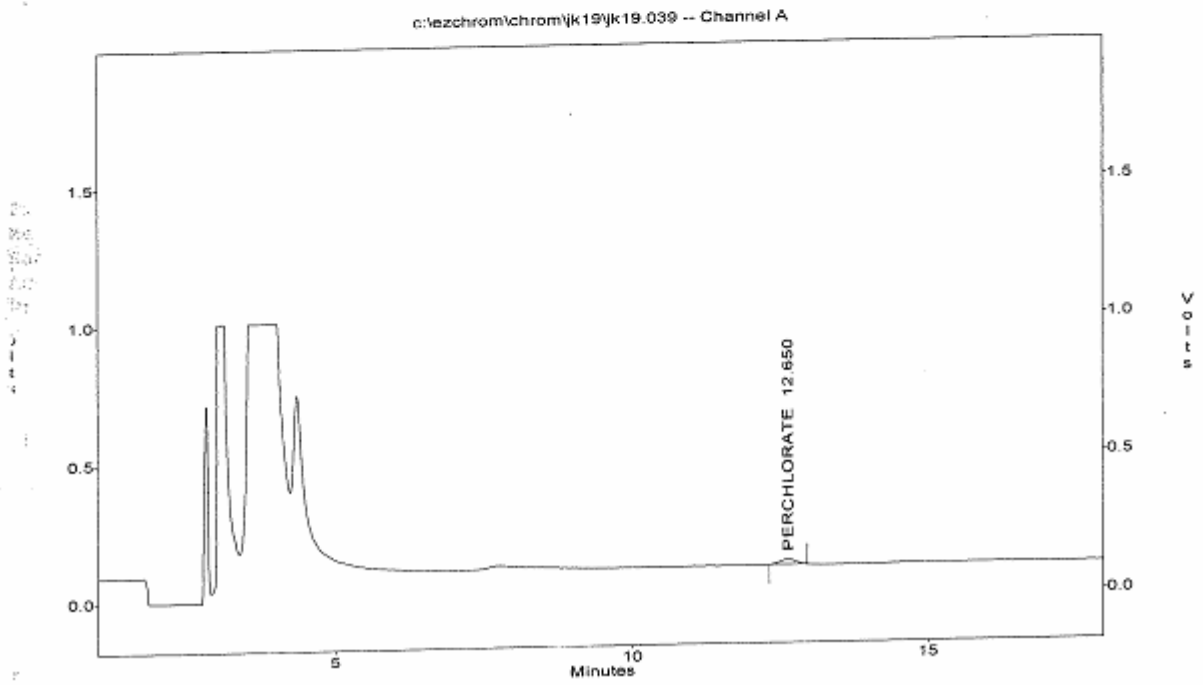
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.039
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK1902
Acquired : Nov 19, 2021 23:22:42
Printed : Nov 22, 2021 11:51:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	326685	18033	180791.531	2.007



REPORT ID: 21K167

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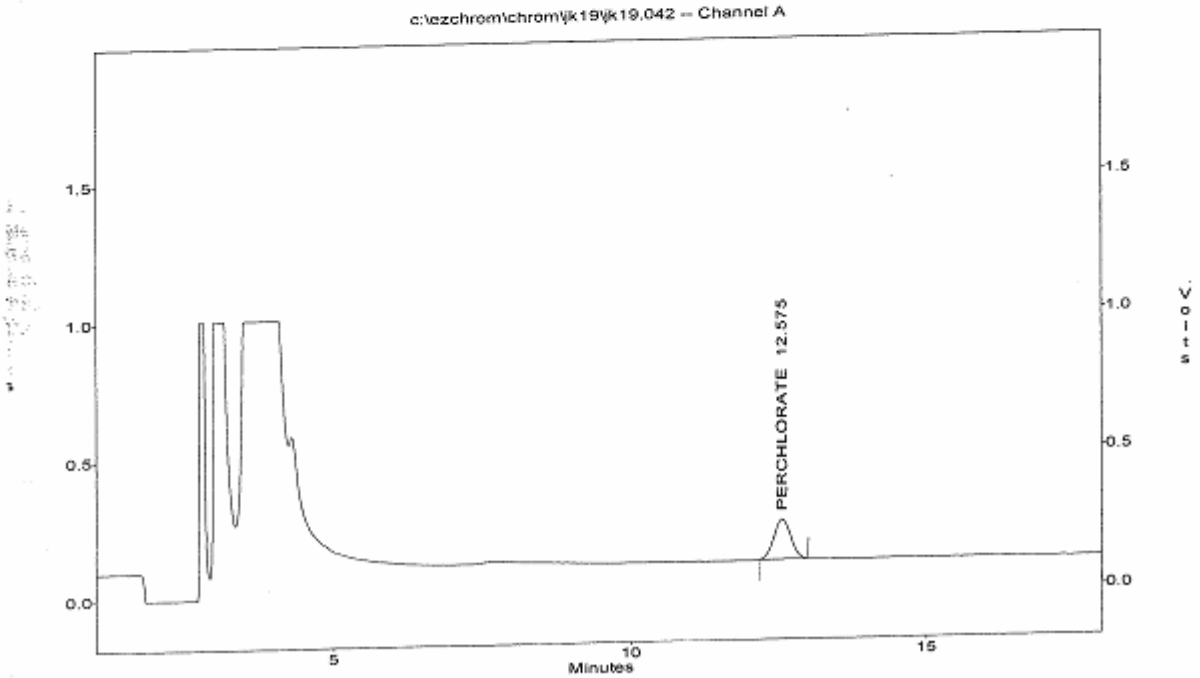
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.042
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV56-15
Acquired : Nov 20, 2021 00:25:45
Printed : Nov 22, 2021 11:52:38
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2799015	142998	180791.531	15.266



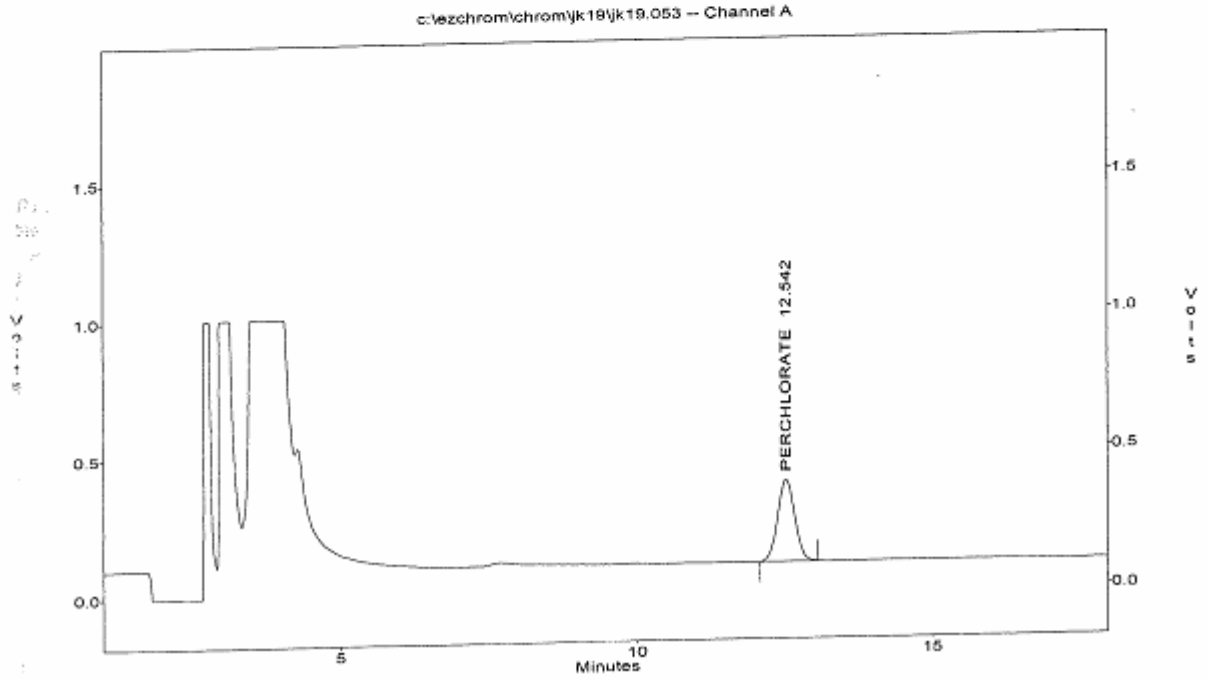
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.053
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV57-30
Acquired : Nov 20, 2021 04:16:57
Printed : Nov 22, 2021 12:02:24
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	5823075	293590	180791.531	31.484



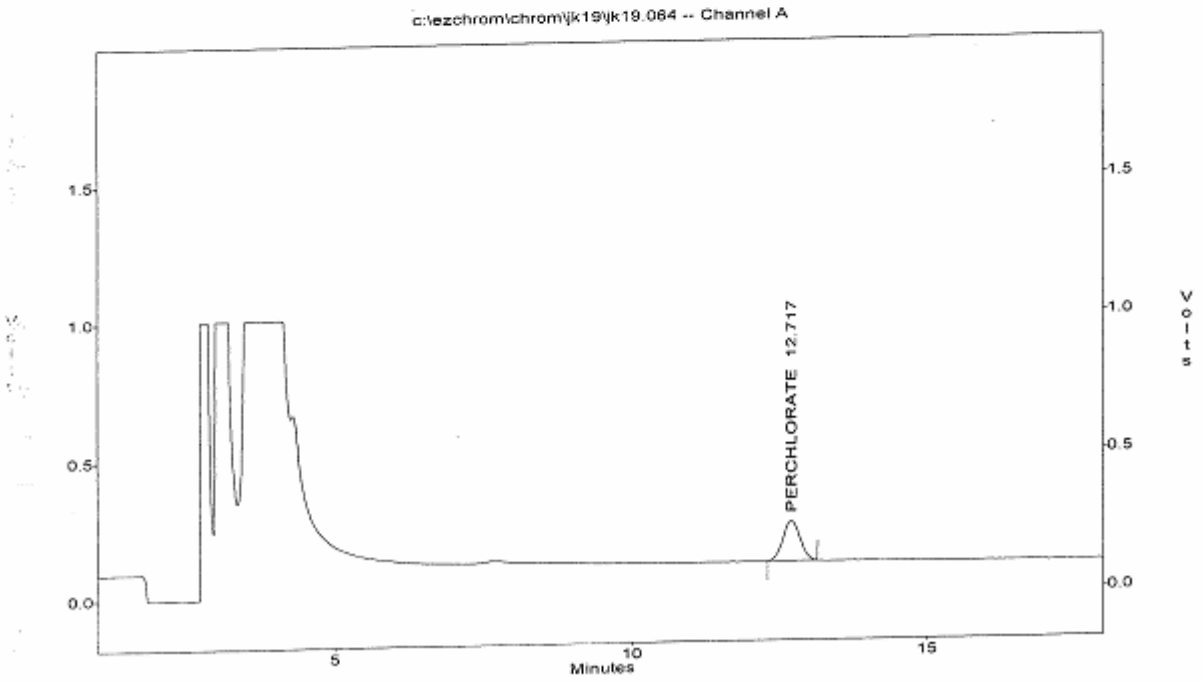
REPORT ID: 21K167

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.064
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV58-15
Acquired : Nov 20, 2021 08:08:10
Printed : Nov 22, 2021 12:06:42
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.72	2875023	144518	180791.531	15.674



REPORT ID: 21K167

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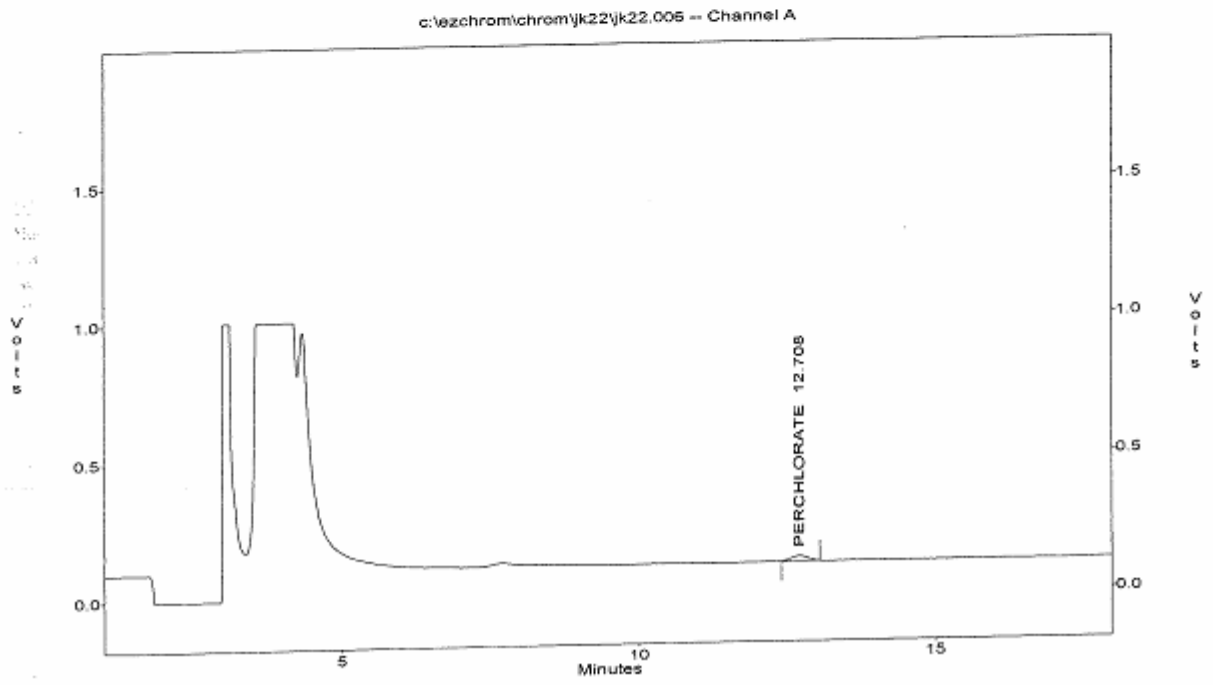
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2201
Acquired : Nov 22, 2021 17:59:08
Printed : Nov 23, 2021 07:57:26
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.71	338466	17979	180791.531	2.070

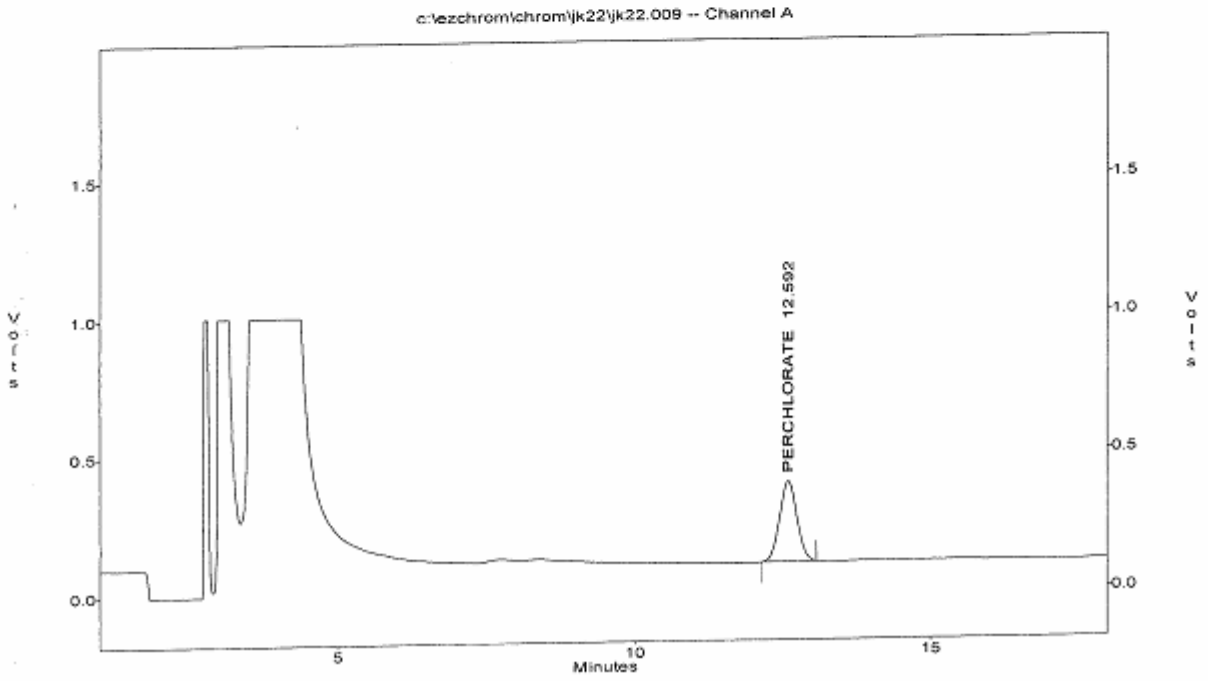


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV65-30
Acquired : Nov 22, 2021 19:02:11
Printed : Nov 23, 2021 07:59:03
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	5802324	290291	180791.531	31.373



REPORT ID: 21K167

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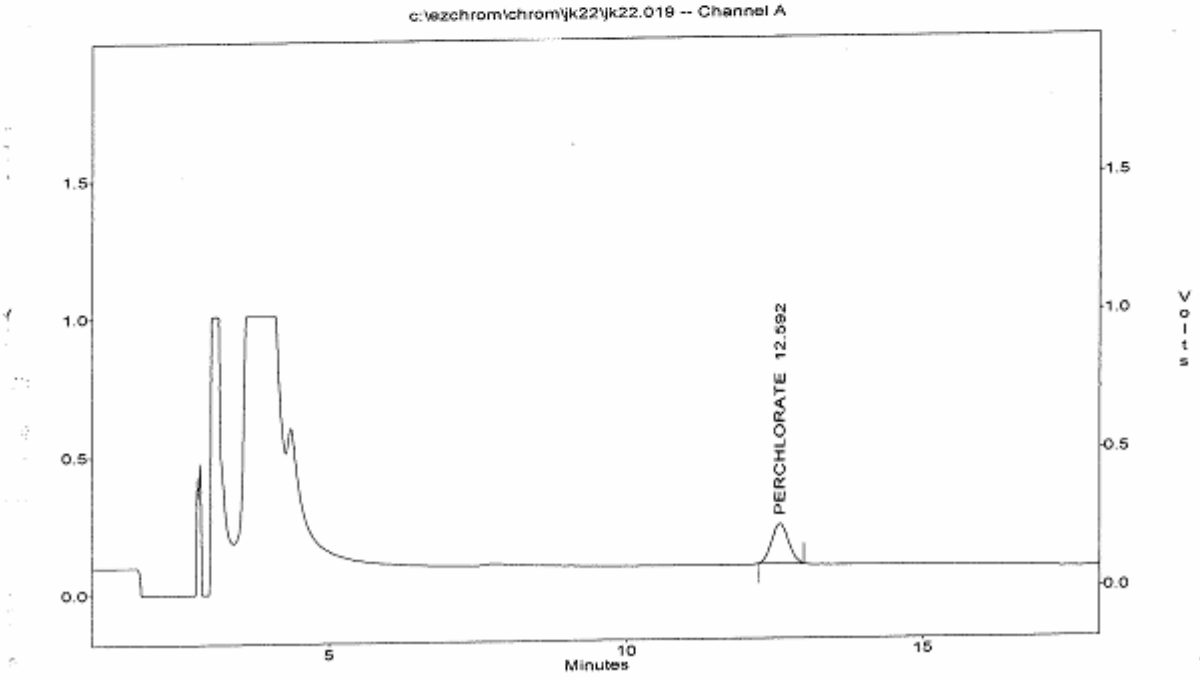
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.019
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV66-15
Acquired : Nov 22, 2021 22:32:25
Printed : Nov 23, 2021 08:07:32
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	2789638	142693	180791.531	15.216



REPORT ID: 21K167

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ANALYTICAL LOG(S)

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 17

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwR1-02-18-04

Reagent Water ID #: SwIA-611-03-01

Guard II	ID	NA
Ba		v
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
Swi-02-09-17	999	999
Swi-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
Swi-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 17011014 4
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 18101121 4
Flow: 1.50mL/min Sample loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 17011085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #; 35520012
0.2 µm filter lot #:	1.5 oz; lot #;

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57 K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	Sw48-008-04-01
ICV	Sw48-008-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/8/21

REPORT ID: 21K167

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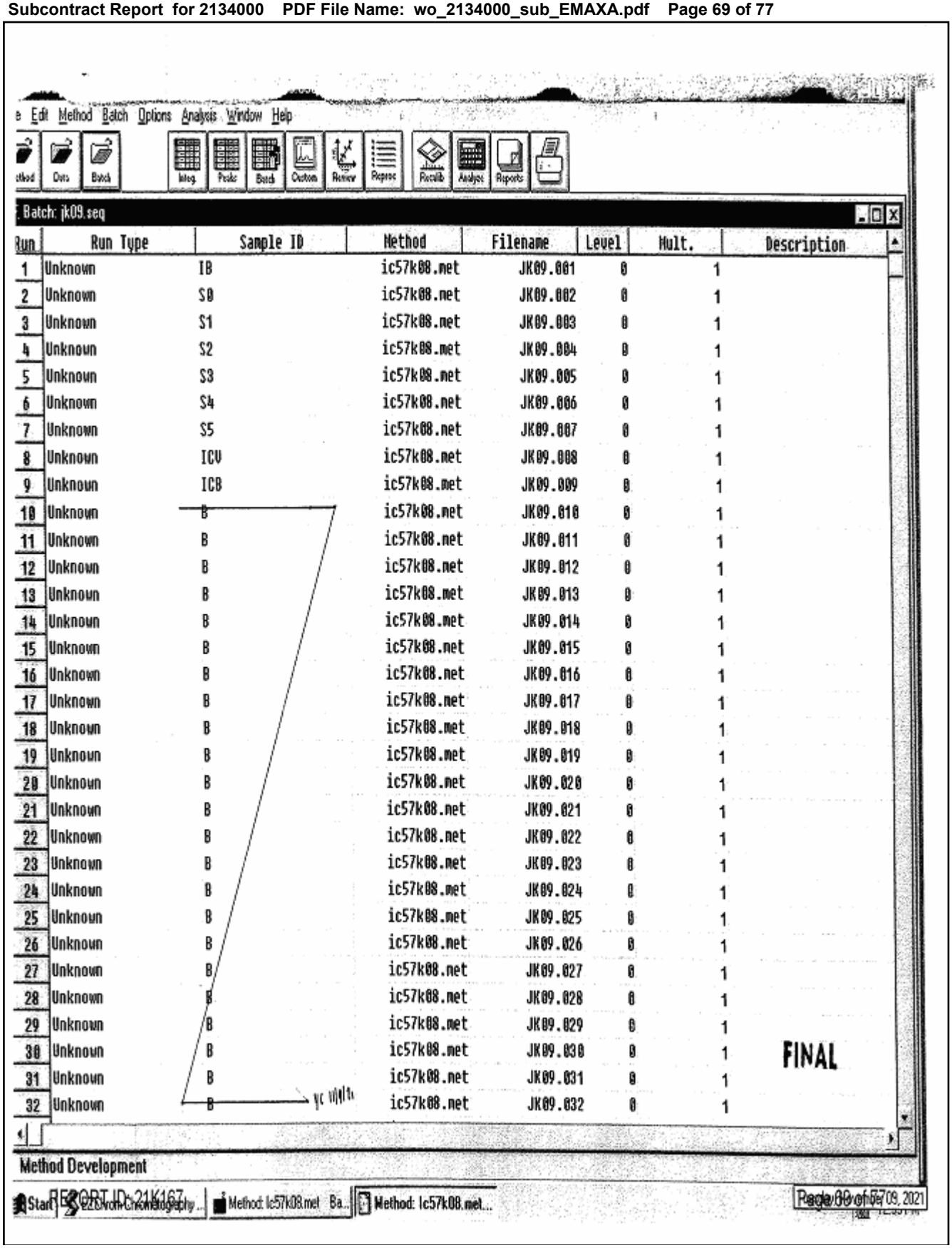

e Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

REPORT ID: 21K167

Method: ic57k08.met Ba... Method: ic57k08.met...

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
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ION CHROMATOGRAPHY

Page 21

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-02-18-04

Reagent Water ID #: SWIA-011-03-08

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99.927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

PCK002W: K139; K140; K141; K168; K166; K190; K191
- QC Water: SWIA-011-03-09
- QC Water: RWI-21-004
- QC Filter: Lot #210890103
- * MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a Volume of 10mL of Sample.

PCK003W: K167; K174; K169
- * MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a Volume of 10mL of Sample.

	Snapseal container
0.45 µm filter lot #: 210081103	4 oz; lot #: 355 20012
0.2 µm filter lot #: -	1.5 oz; lot #: 25020009

Book #: A57-038
Instrument No.: 57
CMC Instrument No.: 29
Pipette ID: SW9A-04-17
A42762405
SW9A-04-052
Balance ID: 10601202
Analytical Sequence: JK19
Method File: IC57K08
Analytical Batch: PCK002W | PCK003W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SW4B-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	SW4B-003-03-27

MCT Ref. MCT # 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC
Date: 11/19/21

REPORT ID: 21K167

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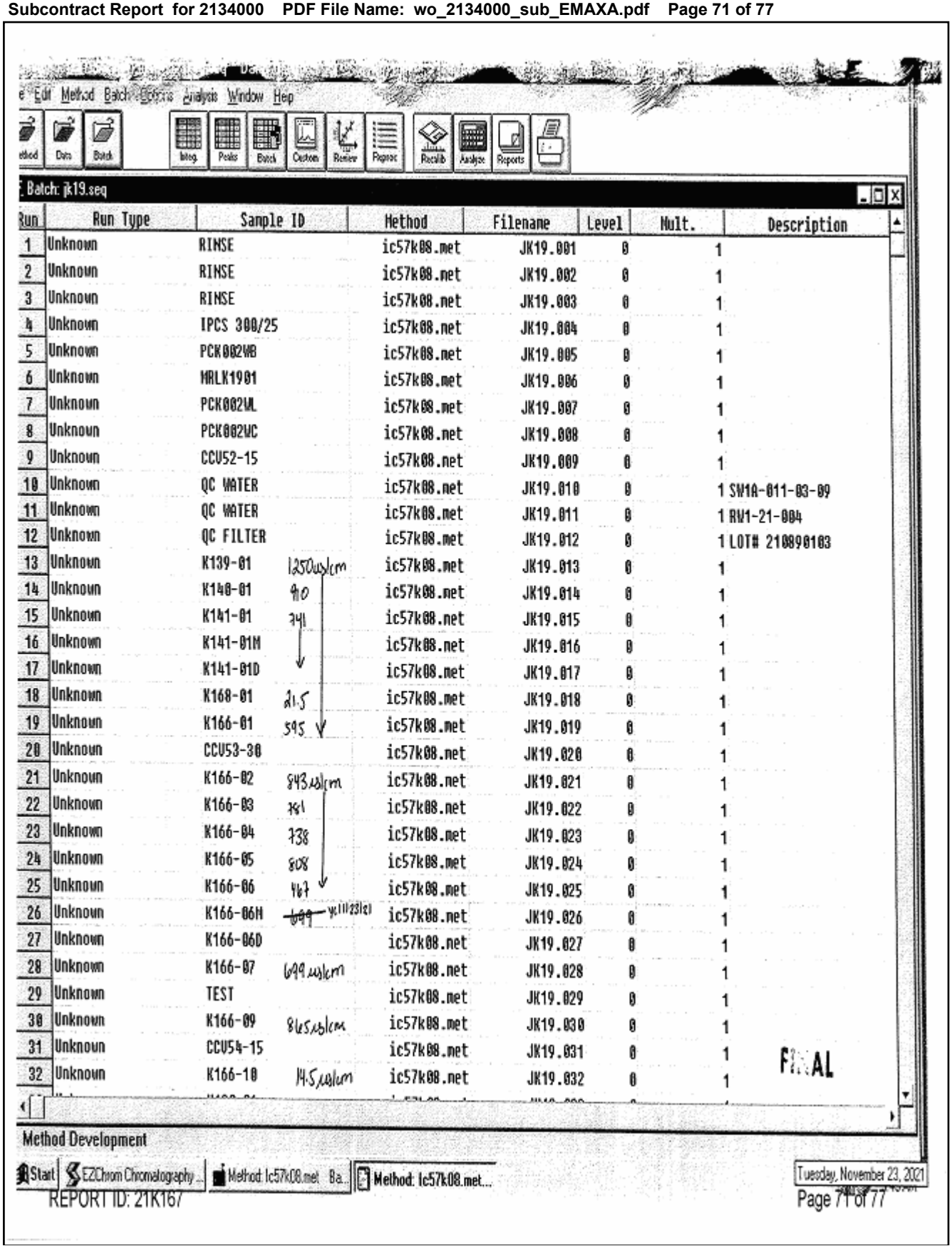

Edit Method Batch Sequence Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
1	Unknown	RINSE		ic57k08.met	JK19.001	0	1	
2	Unknown	RINSE		ic57k08.met	JK19.002	0	1	
3	Unknown	RINSE		ic57k08.met	JK19.003	0	1	
4	Unknown	IPCS 300/25		ic57k08.met	JK19.004	0	1	
5	Unknown	PCK002WB		ic57k08.met	JK19.005	0	1	
6	Unknown	MRLK1901		ic57k08.met	JK19.006	0	1	
7	Unknown	PCK002WL		ic57k08.met	JK19.007	0	1	
8	Unknown	PCK002WC		ic57k08.met	JK19.008	0	1	
9	Unknown	CCV52-15		ic57k08.met	JK19.009	0	1	
10	Unknown	QC WATER		ic57k08.met	JK19.010	0	1	SW1A-011-03-09
11	Unknown	QC WATER		ic57k08.met	JK19.011	0	1	RW1-21-004
12	Unknown	QC FILTER		ic57k08.met	JK19.012	0	1	LOT# 210898103
13	Unknown	K139-01	1250us/cm	ic57k08.met	JK19.013	0	1	
14	Unknown	K140-01	910	ic57k08.met	JK19.014	0	1	
15	Unknown	K141-01	741	ic57k08.met	JK19.015	0	1	
16	Unknown	K141-01M		ic57k08.met	JK19.016	0	1	
17	Unknown	K141-01D		ic57k08.met	JK19.017	0	1	
18	Unknown	K168-01	21.5	ic57k08.met	JK19.018	0	1	
19	Unknown	K166-01	595	ic57k08.met	JK19.019	0	1	
20	Unknown	CCV53-30		ic57k08.met	JK19.020	0	1	
21	Unknown	K166-02	843us/cm	ic57k08.met	JK19.021	0	1	
22	Unknown	K166-03	761	ic57k08.met	JK19.022	0	1	
23	Unknown	K166-04	738	ic57k08.met	JK19.023	0	1	
24	Unknown	K166-05	808	ic57k08.met	JK19.024	0	1	
25	Unknown	K166-06	767	ic57k08.met	JK19.025	0	1	
26	Unknown	K166-06M	~~699~~ 711us/cm	ic57k08.met	JK19.026	0	1	
27	Unknown	K166-06D		ic57k08.met	JK19.027	0	1	
28	Unknown	K166-07	699 us/cm	ic57k08.met	JK19.028	0	1	
29	Unknown	TEST		ic57k08.met	JK19.029	0	1	
30	Unknown	K166-09	845us/cm	ic57k08.met	JK19.030	0	1	
31	Unknown	CCV54-15		ic57k08.met	JK19.031	0	1	FINAL
32	Unknown	K166-10	14.5 us/cm	ic57k08.met	JK19.032	0	1	

Method Development

Start | EZChrom Chromatography ... | Method: ic57k08.met Ba... | Method: ic57k08.met...

Tuesday, November 23, 2021

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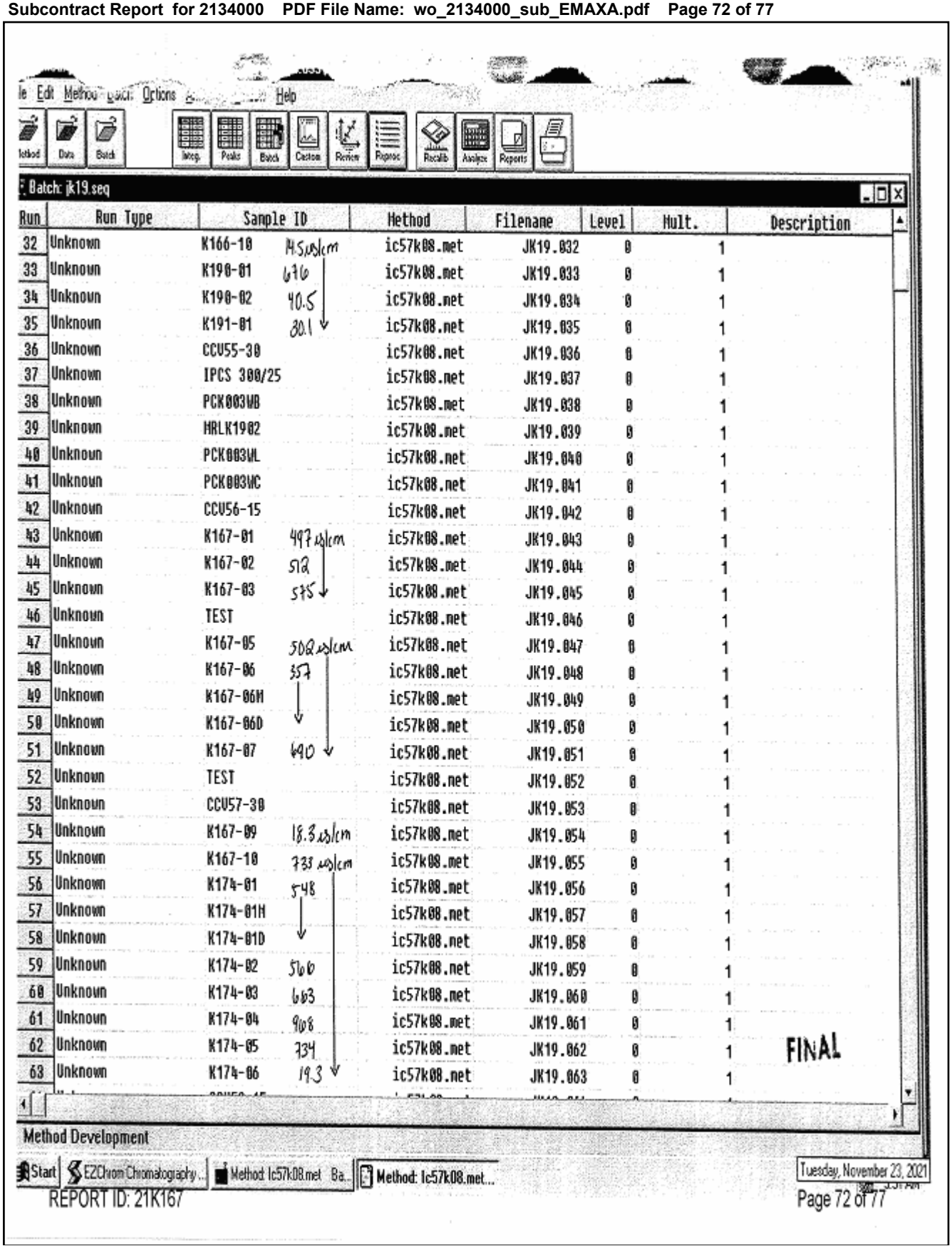

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
32	Unknown	K166-10	14.5 µs/cm	ic57k08.met	JK19.032	0	1	
33	Unknown	K190-01	616	ic57k08.met	JK19.033	0	1	
34	Unknown	K190-02	40.5	ic57k08.met	JK19.034	0	1	
35	Unknown	K191-01	30.1	ic57k08.met	JK19.035	0	1	
36	Unknown	CCU55-30		ic57k08.met	JK19.036	0	1	
37	Unknown	IPCS 300/25		ic57k08.met	JK19.037	0	1	
38	Unknown	PCK003WB		ic57k08.met	JK19.038	0	1	
39	Unknown	HRLK1902		ic57k08.met	JK19.039	0	1	
40	Unknown	PCK003WL		ic57k08.met	JK19.040	0	1	
41	Unknown	PCK003WC		ic57k08.met	JK19.041	0	1	
42	Unknown	CCU56-15		ic57k08.met	JK19.042	0	1	
43	Unknown	K167-01	497 µs/cm	ic57k08.met	JK19.043	0	1	
44	Unknown	K167-02	512	ic57k08.met	JK19.044	0	1	
45	Unknown	K167-03	535	ic57k08.met	JK19.045	0	1	
46	Unknown	TEST		ic57k08.met	JK19.046	0	1	
47	Unknown	K167-05	502 µs/cm	ic57k08.met	JK19.047	0	1	
48	Unknown	K167-06	357	ic57k08.met	JK19.048	0	1	
49	Unknown	K167-06H		ic57k08.met	JK19.049	0	1	
50	Unknown	K167-06D		ic57k08.met	JK19.050	0	1	
51	Unknown	K167-07	690	ic57k08.met	JK19.051	0	1	
52	Unknown	TEST		ic57k08.met	JK19.052	0	1	
53	Unknown	CCU57-30		ic57k08.met	JK19.053	0	1	
54	Unknown	K167-09	18.3 µs/cm	ic57k08.met	JK19.054	0	1	
55	Unknown	K167-10	733 µs/cm	ic57k08.met	JK19.055	0	1	
56	Unknown	K174-01	548	ic57k08.met	JK19.056	0	1	
57	Unknown	K174-01H		ic57k08.met	JK19.057	0	1	
58	Unknown	K174-01D		ic57k08.met	JK19.058	0	1	
59	Unknown	K174-02	566	ic57k08.met	JK19.059	0	1	
60	Unknown	K174-03	663	ic57k08.met	JK19.060	0	1	
61	Unknown	K174-04	908	ic57k08.met	JK19.061	0	1	
62	Unknown	K174-05	734	ic57k08.met	JK19.062	0	1	FINAL
63	Unknown	K174-06	19.3	ic57k08.met	JK19.063	0	1	

Method Development

Start | EZChrom Chromatography... | Method: Ic57k08.met Ba... | Method: Ic57k08.met...

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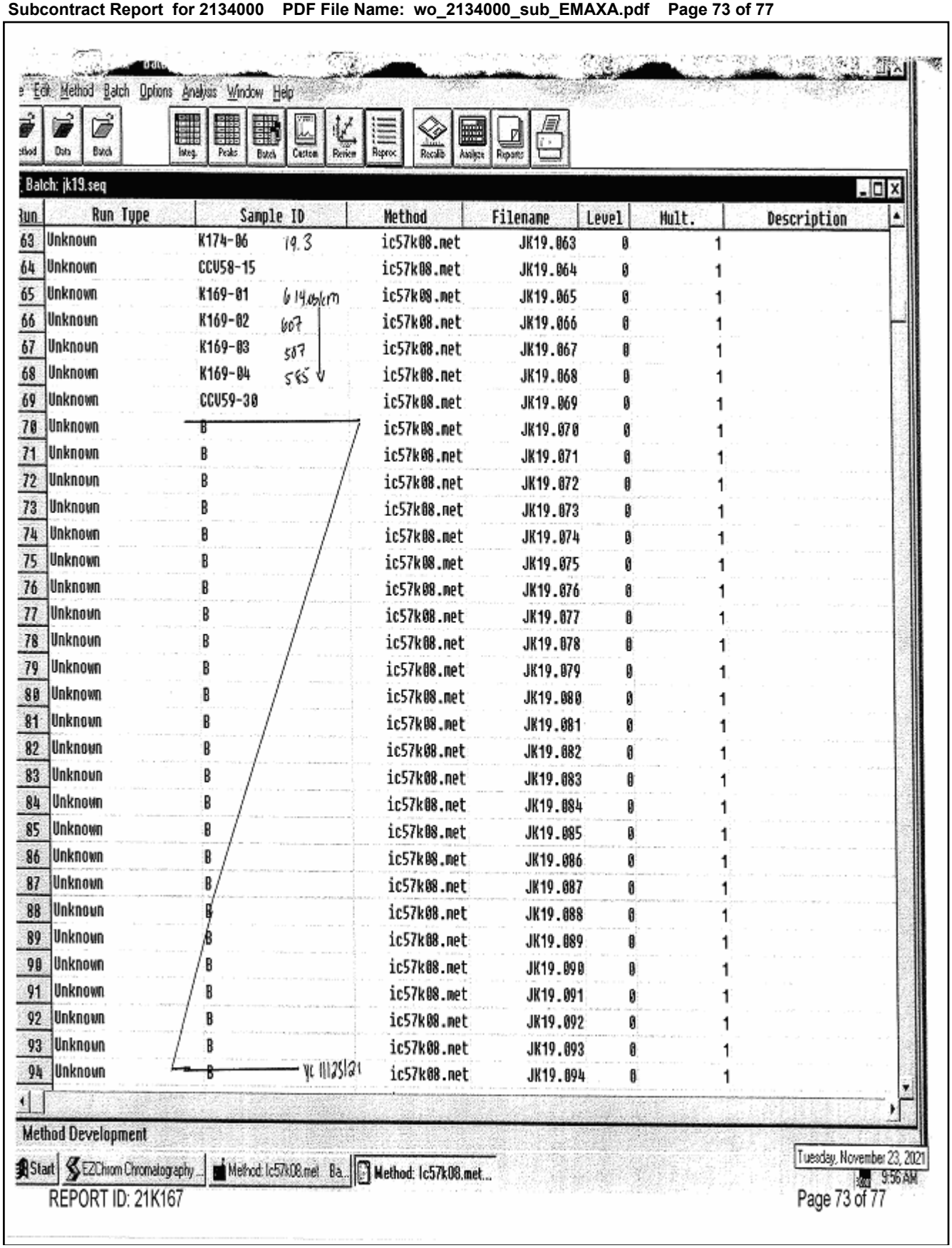

Edit Method Batch Options Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
63	Unknown	K174-06 19.3	ic57k08.met	JK19.063	0	1	
64	Unknown	CCV58-15	ic57k08.met	JK19.064	0	1	
65	Unknown	K169-01 614.6	ic57k08.met	JK19.065	0	1	
66	Unknown	K169-02 607	ic57k08.met	JK19.066	0	1	
67	Unknown	K169-03 587	ic57k08.met	JK19.067	0	1	
68	Unknown	K169-04 565	ic57k08.met	JK19.068	0	1	
69	Unknown	CCV59-30	ic57k08.met	JK19.069	0	1	
70	Unknown	B	ic57k08.met	JK19.070	0	1	
71	Unknown	B	ic57k08.met	JK19.071	0	1	
72	Unknown	B	ic57k08.met	JK19.072	0	1	
73	Unknown	B	ic57k08.met	JK19.073	0	1	
74	Unknown	B	ic57k08.met	JK19.074	0	1	
75	Unknown	B	ic57k08.met	JK19.075	0	1	
76	Unknown	B	ic57k08.met	JK19.076	0	1	
77	Unknown	B	ic57k08.met	JK19.077	0	1	
78	Unknown	B	ic57k08.met	JK19.078	0	1	
79	Unknown	B	ic57k08.met	JK19.079	0	1	
80	Unknown	B	ic57k08.met	JK19.080	0	1	
81	Unknown	B	ic57k08.met	JK19.081	0	1	
82	Unknown	B	ic57k08.met	JK19.082	0	1	
83	Unknown	B	ic57k08.met	JK19.083	0	1	
84	Unknown	B	ic57k08.met	JK19.084	0	1	
85	Unknown	B	ic57k08.met	JK19.085	0	1	
86	Unknown	B	ic57k08.met	JK19.086	0	1	
87	Unknown	B	ic57k08.met	JK19.087	0	1	
88	Unknown	B	ic57k08.met	JK19.088	0	1	
89	Unknown	B	ic57k08.met	JK19.089	0	1	
90	Unknown	B	ic57k08.met	JK19.090	0	1	
91	Unknown	B	ic57k08.met	JK19.091	0	1	
92	Unknown	B	ic57k08.met	JK19.092	0	1	
93	Unknown	B	ic57k08.met	JK19.093	0	1	
94	Unknown	B YC 11/25/21	ic57k08.met	JK19.094	0	1	

Method Development

Start | EZChrom Chromatography ... | Method: ic57k08.met Ba... | Method: ic57k08.met...

Tuesday, November 23, 2021 9:56 AM

REPORT ID: 21K167

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
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ION CHROMATOGRAPHY

Page 23

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWR1-02-18-04

Reagent Water ID #: SW1A-011-03-02

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: 04

Standard ID	TV (µS/cm)	Reading (µS/cm)
SW1-02-09-17	999	999
SW1-02-09-19	99927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SW1-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181794499

Comments:

PCK005W: K166; K167; K173
- MS/MSD: Used 0.15mL (15ppb) of SW48-003-03-27 to a volume of 10mL of sample.

Snapseal container

0.45 µm filter lot #: 21089003 4 oz; lot #; 3552001 2

0.2 µm filter lot #: - 1.5 oz; lot #; 25020009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK22
Method File:	IC57K08
Analytical Batch:	PCK005W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SIX148-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	SW48-003-04-27

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/22/21

REPORT ID: 21K167

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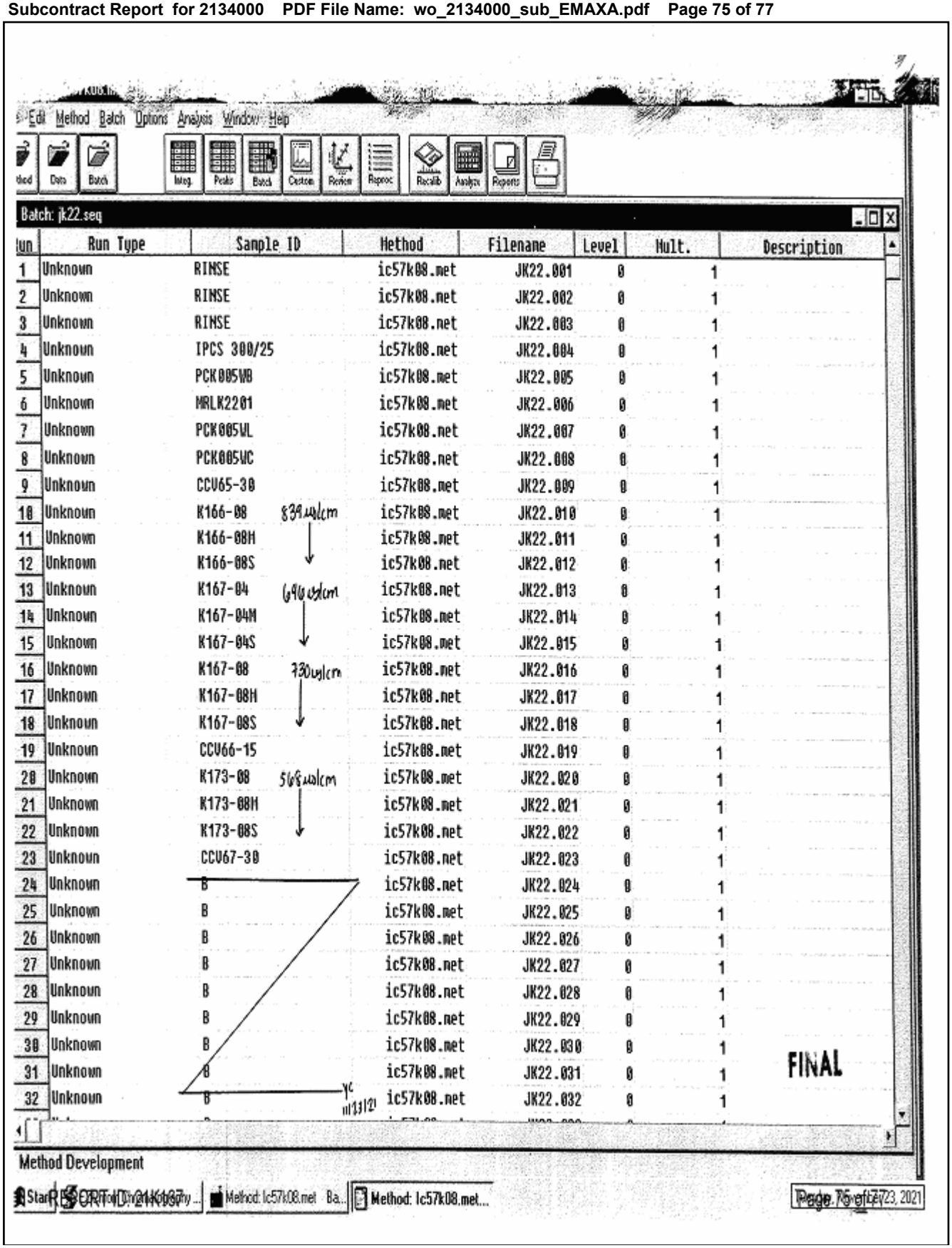

Edit Method Batch Options Analysis Window Help

Batch: jk22.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	RINSE	ic57k08.met	JK22.001	0	1	
2	Unknown	RINSE	ic57k08.met	JK22.002	0	1	
3	Unknown	RINSE	ic57k08.met	JK22.003	0	1	
4	Unknown	IPCS 300/25	ic57k08.met	JK22.004	0	1	
5	Unknown	PCK005MB	ic57k08.met	JK22.005	0	1	
6	Unknown	MRLK2201	ic57k08.met	JK22.006	0	1	
7	Unknown	PCK005ML	ic57k08.met	JK22.007	0	1	
8	Unknown	PCK005MC	ic57k08.met	JK22.008	0	1	
9	Unknown	CCV65-30	ic57k08.met	JK22.009	0	1	
10	Unknown	K166-08	ic57k08.met	JK22.010	0	1	
11	Unknown	K166-08H	ic57k08.met	JK22.011	0	1	
12	Unknown	K166-08S	ic57k08.met	JK22.012	0	1	
13	Unknown	K167-04	ic57k08.met	JK22.013	0	1	
14	Unknown	K167-04M	ic57k08.met	JK22.014	0	1	
15	Unknown	K167-04S	ic57k08.met	JK22.015	0	1	
16	Unknown	K167-08	ic57k08.met	JK22.016	0	1	
17	Unknown	K167-08H	ic57k08.met	JK22.017	0	1	
18	Unknown	K167-08S	ic57k08.met	JK22.018	0	1	
19	Unknown	CCV66-15	ic57k08.met	JK22.019	0	1	
20	Unknown	K173-08	ic57k08.met	JK22.020	0	1	
21	Unknown	K173-08H	ic57k08.met	JK22.021	0	1	
22	Unknown	K173-08S	ic57k08.met	JK22.022	0	1	
23	Unknown	CCV67-30	ic57k08.met	JK22.023	0	1	
24	Unknown	B	ic57k08.met	JK22.024	0	1	
25	Unknown	B	ic57k08.met	JK22.025	0	1	
26	Unknown	B	ic57k08.met	JK22.026	0	1	
27	Unknown	B	ic57k08.met	JK22.027	0	1	
28	Unknown	B	ic57k08.met	JK22.028	0	1	
29	Unknown	B	ic57k08.met	JK22.029	0	1	
30	Unknown	B	ic57k08.met	JK22.030	0	1	
31	Unknown	B	ic57k08.met	JK22.031	0	1	
32	Unknown	B	ic57k08.met	JK22.032	0	1	

839 ug/cm

696 ug/cm

730 ug/cm

568 ug/cm

FINAL

Method Development

Method: ic57k08.met Ba...

Method: ic57k08.met...

RETENTION TIME WINDOW

REPORT ID: 21K167

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RETENTION TIME WINDOW
METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K167

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 16:23
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	Project Manager: David Conner

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project: 4Q21
BCL Project: JPL- GW Monitoring Wells-CLP
BCL Work Order: 2134185
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 10/28/2021. 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

Table of Contents

Table of Contents

BC Laboratories, Inc.

Chain of Custody Form

*Required Fields

Page 1 of 2

Report To: Client:* Tidewater, Inc.	Project Description:* JPL-GW Monitoring
Attn:* David Conner	
Street Address:* 3761 Attucks Drive	Project Code:* 4Q21
City:* Powell State:* OH Zip:* 43065	
Phone#:* 626 | 298 - 5715 Fax#: 614 | 792 - 2897	Sampler (s):* Blaine Tech
Email Address: david.conner@tideh2o.net	
Submission #: 21-34185	

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

Are there any tests with holding times less than or equal to 48 hours? ☑ Yes ☐ No

*Standard Turnaround = 10

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4	Orthophosphate 365.1	Notes
-1	TB-3-102821	10/28/21	0800	U	X						
-2	MW-3-5		0955		X	X	X	X			
-3	MW-3-4		0945		X	X	X	X			
-4	MW-3-3		0955		X	X	X	X			
-5	MW-3-2		1025		X	X	X	X			
-6	DUP-1-4Q21		1040		X	X	X	X			
-7	MW-17-5		1315		X	X	X	X			
-8	MW-17-4		1345		X	X	X	X			
-9	MW-17-3		1415		X	X	X	X			
-10	DUP-2-4Q21		1430		X	X	X	X			
-11	~~DUP~~ MW-17-2	↓	1515	↓	X	X	X	X			

Notes: SHORT HOLDING TIME; Cr+6 NO_2 NO_3 OP SS; DO Cl_2 SOD MBAS COT

CHK BY: DISTRIBUTION: WHITE PINK SUB OUT

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

Turnaround # of working days:* ☐ 24 Hr Rush ☐ 48 Hr Rush ☐ 3-5 Day Rush ☑ Normal (10 – Days)

Lab TAT Approval: _____ *Additional Charges May Apply

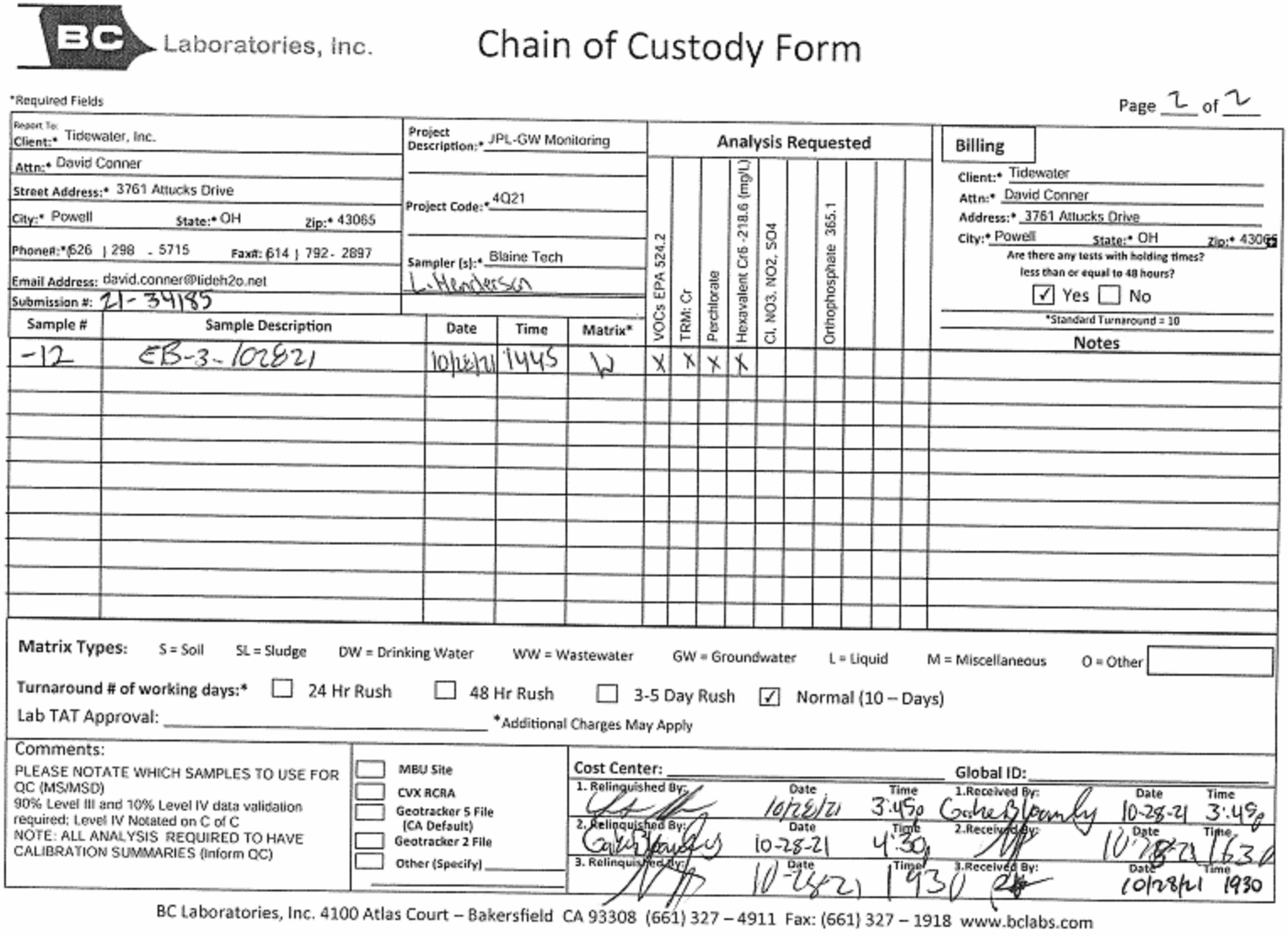
Comments:
PLEASE NOTATE WHICH SAMPLES TO USE FOR QC (MS/MSD)
90% Level III and 10% Level IV data validation required; Level IV Notated on C of C
NOTE: ALL ANALYSIS REQUIRED TO HAVE CALIBRATION SUMMARIES (Inform QC)

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

Cost Center: _____ Global ID: _____

	Date	Time		Date	Time
1. Relinquished By:	10/28/21	3:45	1. Received By:	10-28-21	3:45
2. Relinquished By:	10-28-21	4:30	2. Received By:	10-28-21	1630
3. Relinquished By:	10-28-21	1930	3. Received By:	10/28/21	1930

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



BC Laboratories, Inc.

Chain of Custody Form

*Required Fields

Page 2 of 2

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 #: 21-34185

Project Description:* JPL-GW Monitoring
Project Code:* 4Q21
Sampler (s):* Blaine Tech
L. Henderson

Analysis Requested

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 - 218.6 (mg/L)	Cl, NO3, NO2, SO4		Orthophosphate 365.1				Notes
-12	EB-3-102821	10/28/21	1445	W	X	X	X	X							

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

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)

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

Cost Center: _____ Global ID: _____

	Relinquished By:	Date	Time	Received By:	Date	Time
1.		10/28/21	3:45p		10-28-21	3:49p
2.		10-28-21	4:30p		10/28/21	1630
3.		10-28-21	1930		10/28/21	1930

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 #: 21-34185

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 1.4 °C / (C) 1.4 °C

Date/Time 10/28/21 1930

Analyst Init PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES								D	D	D
2oz Cr+6										
QT INORGANIC CHEMICAL METALS								F	F	F
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)										
PT CYANIDE								E	E	E
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: CMS Date/Time: 10/29/21 0920
A = Actual / C = Corrected

Rev 22 04/13/21
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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 3

Submission #: 21-34185

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☑ NO ☐ (W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 208 Date/Time 10/28/21 1930

Temperature: (A) 1.4 °C / (C) 1.4 °C Analyst Init: PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	D	D								
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}	F	F								
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)	E	E								
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-C	A-C								
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: CAS Date/Time: 10/29/21 0920

A = Actual / C = Corrected

Rev 22 04/13/21

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 3

Submission #: 21-34185

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 0.7 °C / (C) 0.7 °C

Date/Time 10/28/21 1930

Analyst Init: PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS 1 (AS)	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^{+6}		F	F	F	F	F	F			
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		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										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: DAS Date/Time: 10/29/21 0920
A = Actual / C = Corrected

Rev 22 04/13/21
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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134185-01	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 08:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-3-102821	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Trip Blank
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-3-102821	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-02	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 08:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-3-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-03	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 09:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-3-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134185-04	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 09:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-3-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-05	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 10:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-3-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-3-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-06	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 10:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-1-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-1-4Q21	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134185-07	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 13:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-17-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-17-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-08	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 13:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-17-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-17-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-09	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 14:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-17-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-17-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134185-10	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 14:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-2-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-2-4Q21	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-11	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 15:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-17-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-17-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134185-12	**COC Number:**	---	**Receive Date:**	10/28/2021 19:30
	Project Number:	NASA/JPL	**Sampling Date:**	10/28/2021 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-3-102821	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Blank Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): EB-3-102821	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-01 | **Client Sample Name:** NASA/JPL, TB-3-102821, 10/28/2021 8:00:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-01 | **Client Sample Name:** NASA/JPL, TB-3-102821, 10/28/2021 8:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-01 | **Client Sample Name:** NASA/JPL, TB-3-102821, 10/28/2021 8:00:00AM

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	5.0	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	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 22:35	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-01 | **Client Sample Name:** NASA/JPL, TB-3-102821, 10/28/2021 8:00:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 22:35	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-02 | **Client Sample Name:** NASA/JPL, MW-3-5, 10/28/2021 8:55:00AM

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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-02 | **Client Sample Name:** NASA/JPL, MW-3-5, 10/28/2021 8:55:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-02 | **Client Sample Name:** NASA/JPL, MW-3-5, 10/28/2021 8:55:00AM

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	5.0	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	5.0	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	V11	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)	93.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 22:59	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-02 | **Client Sample Name:** NASA/JPL, MW-3-5, 10/28/2021 8:55:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 22:59	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-02 | **Client Sample Name:** NASA/JPL, MW-3-5, 10/28/2021 8:55:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00043**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**53**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 12:09	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:02	AK1	PE-EL2	1	B124604	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-03 | **Client Sample Name:** NASA/JPL, MW-3-4, 10/28/2021 9:25:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-03 | **Client Sample Name:** NASA/JPL, MW-3-4, 10/28/2021 9:25:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-03 | **Client Sample Name:** NASA/JPL, MW-3-4, 10/28/2021 9:25:00AM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 23:24	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-03 | **Client Sample Name:** NASA/JPL, MW-3-4, 10/28/2021 9:25:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 23:24	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-03 | **Client Sample Name:** NASA/JPL, MW-3-4, 10/28/2021 9:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00059**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**31**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 12:19	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:03	AK1	PE-EL2	1	B124604	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-04 | **Client Sample Name:** NASA/JPL, MW-3-3, 10/28/2021 9:55:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-04 | **Client Sample Name:** NASA/JPL, MW-3-3, 10/28/2021 9:55:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-04 | **Client Sample Name:** NASA/JPL, MW-3-3, 10/28/2021 9:55:00AM

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	5.0	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	5.0	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	V11	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)	90.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 23:48	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-04 | **Client Sample Name:** NASA/JPL, MW-3-3, 10/28/2021 9:55:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	10/31/21 23:48	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-04 | **Client Sample Name:** NASA/JPL, MW-3-3, 10/28/2021 9:55:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00066**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**3.8**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 12:29	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:05	AK1	PE-EL2	1	B124604	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-05 | **Client Sample Name:** NASA/JPL, MW-3-2, 10/28/2021 10:25:00AM

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: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-05 | **Client Sample Name:** NASA/JPL, MW-3-2, 10/28/2021 10:25:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-05 | **Client Sample Name:** NASA/JPL, MW-3-2, 10/28/2021 10:25:00AM

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	5.0	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	5.0	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	V11	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)	91.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 00:12	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-05 | **Client Sample Name:** NASA/JPL, MW-3-2, 10/28/2021 10:25:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 00:12	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-05 | **Client Sample Name:** NASA/JPL, MW-3-2, 10/28/2021 10:25:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00079**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**0.53**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 11:31	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:06	AK1	PE-EL2	1	B124604	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-06 | **Client Sample Name:** NASA/JPL, DUP-1-4Q21, 10/28/2021 10:40:00AM

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: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-06 | **Client Sample Name:** NASA/JPL, DUP-1-4Q21, 10/28/2021 10:40:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-06 | **Client Sample Name:** NASA/JPL, DUP-1-4Q21, 10/28/2021 10:40:00AM

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	5.0	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	5.0	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	V11	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)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 00:36	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-06 | **Client Sample Name:** NASA/JPL, DUP-1-4Q21, 10/28/2021 10:40:00AM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 00:36	MGC	MS-V5	1	B123824	EPA 524.2

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Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-06 | **Client Sample Name:** NASA/JPL, DUP-1-4Q21, 10/28/2021 10:40:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00074**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**0.70**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 13:07	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:08	AK1	PE-EL2	1	B124604	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-07 | **Client Sample Name:** NASA/JPL, MW-17-5, 10/28/2021 1:15:00PM

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	**0.59**	**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: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-07 | **Client Sample Name:** NASA/JPL, MW-17-5, 10/28/2021 1:15:00PM

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	**0.24**	**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	**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	**0.73**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-07 | **Client Sample Name:** NASA/JPL, MW-17-5, 10/28/2021 1:15:00PM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	112	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 01:01	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-07 | **Client Sample Name:** NASA/JPL, MW-17-5, 10/28/2021 1:15:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 01:01	MGC	MS-V5	1	B123824	EPA 524.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-07 | **Client Sample Name:** NASA/JPL, MW-17-5, 10/28/2021 1:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0015**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**2.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 13:17	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:09	AK1	PE-EL2	1	B124604	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-08 | **Client Sample Name:** NASA/JPL, MW-17-4, 10/28/2021 1:45:00PM

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	**0.18**	**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	**1.0**	**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	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. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-08 | **Client Sample Name:** NASA/JPL, MW-17-4, 10/28/2021 1:45:00PM

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	**1.4**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-08 | **Client Sample Name:** NASA/JPL, MW-17-4, 10/28/2021 1:45:00PM

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	5.0	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	5.0	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	V11	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)	89.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 01:25	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-08 | **Client Sample Name:** NASA/JPL, MW-17-4, 10/28/2021 1:45:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 01:25	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-08 | **Client Sample Name:** NASA/JPL, MW-17-4, 10/28/2021 1:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0022**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022		1
Total Recoverable Chromium	**2.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 13:26	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 17:50	11/09/21 23:11	AK1	PE-EL2	1	B124604	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-09 | **Client Sample Name:** NASA/JPL, MW-17-3, 10/28/2021 2:15:00PM

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. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-09 | **Client Sample Name:** NASA/JPL, MW-17-3, 10/28/2021 2:15:00PM

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	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-09 | **Client Sample Name:** NASA/JPL, MW-17-3, 10/28/2021 2:15:00PM

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	5.0	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	5.0	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	V11	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)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 01:49	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-09 | **Client Sample Name:** NASA/JPL, MW-17-3, 10/28/2021 2:15:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 01:49	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-09 | **Client Sample Name:** NASA/JPL, MW-17-3, 10/28/2021 2:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000061**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022	**J**	1
Total Recoverable Chromium	**0.60**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	0.66	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 13:36	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 23:24	ARD	PE-EL2	1	B124605	EPA 200.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-10 | **Client Sample Name:** NASA/JPL, DUP-2-4Q21, 10/28/2021 2:30:00PM

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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-10 | **Client Sample Name:** NASA/JPL, DUP-2-4Q21, 10/28/2021 2:30:00PM

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	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-10 | **Client Sample Name:** NASA/JPL, DUP-2-4Q21, 10/28/2021 2:30:00PM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	110	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 02:13	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-10 | **Client Sample Name:** NASA/JPL, DUP-2-4Q21, 10/28/2021 2:30:00PM

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	Prep Method
1	EPA-524.2	10/31/21 07:00	11/01/21 02:13	MGC	MS-V5	1	B123824	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-10 | **Client Sample Name:** NASA/JPL, DUP-2-4Q21, 10/28/2021 2:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000067**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.66		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 13:45	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 18:10	11/10/21 00:34	ARD	PE-EL2	1	B124605	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-11 | **Client Sample Name:** NASA/JPL, MW-17-2, 10/28/2021 3:15:00PM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-11 | **Client Sample Name:** NASA/JPL, MW-17-2, 10/28/2021 3:15:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-11 | **Client Sample Name:** NASA/JPL, MW-17-2, 10/28/2021 3:15:00PM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	87.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 09:00	11/01/21 02:38	MGC	MS-V5	1	B123825	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-11 | **Client Sample Name:** NASA/JPL, MW-17-2, 10/28/2021 3:15:00PM

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	Prep Method
1	EPA-524.2	10/31/21 09:00	11/01/21 02:38	MGC	MS-V5	1	B123825	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-11 | **Client Sample Name:** NASA/JPL, MW-17-2, 10/28/2021 3:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000071**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000028	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.66		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 13:55	SAV	IC-4	1	B124255	No Prep
2	EPA-200.8	11/08/21 18:10	11/10/21 00:36	ARD	PE-EL2	1	B124605	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-12 | **Client Sample Name:** NASA/JPL, EB-3-102821, 10/28/2021 2:45:00PM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-12 | **Client Sample Name:** NASA/JPL, EB-3-102821, 10/28/2021 2:45:00PM

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	**0.56**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134185-12 | **Client Sample Name:** NASA/JPL, EB-3-102821, 10/28/2021 2:45:00PM

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	5.0	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	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	10/31/21 09:00	11/01/21 03:02	MGC	MS-V5	1	B123825	EPA 524.2

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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134185-12 | **Client Sample Name:** NASA/JPL, EB-3-102821, 10/28/2021 2:45:00PM

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	Prep Method
1	EPA-524.2	10/31/21 09:00	11/01/21 03:02	MGC	MS-V5	1	B123825	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134185-12 | **Client Sample Name:** NASA/JPL, EB-3-102821, 10/28/2021 2:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00010**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000022	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	0.66		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 10:00	11/04/21 12:57	SAV	IC-4	1	B124254	No Prep
2	EPA-200.8	11/08/21 18:10	11/10/21 00:38	ARD	PE-EL2	1	B124605	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123824						
Benzene	B123824-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B123824-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B123824-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B123824-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B123824-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B123824-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B123824-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B123824-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B123824-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B123824-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B123824-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B123824-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B123824-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B123824-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B123824-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B123824-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B123824-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B123824-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B123824-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B123824-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B123824-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B123824-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B123824-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B123824-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B123824-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B123824-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B123824-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B123824-BLK1	ND	ug/L	0.50	0.14	

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Tidewater Inc. - Powell
3761 Attucks Drive
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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123824						
trans-1,3-Dichloropropene	B123824-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B123824-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B123824-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B123824-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B123824-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B123824-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B123824-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B123824-BLK1	ND	ug/L	0.50	0.12	
Styrene	B123824-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B123824-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B123824-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B123824-BLK1	ND	ug/L	0.50	0.23	
Toluene	B123824-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B123824-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B123824-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B123824-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B123824-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B123824-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B123824-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B123824-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B123824-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B123824-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B123824-BLK1	ND	ug/L	0.50	0.18	
Acetone	B123824-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B123824-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B123824-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B123824-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B123824-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B123824-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B123824-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B123824-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B123824-BLK1	ND	ug/L	4.0	1.3	

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Project Number: 4Q21
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: B123824						
Ethyl t-butyl ether	B123824-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B123824-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B123824-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B123824-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B123824-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B123824-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B123824-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B123824-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B123824-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B123824-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B123824-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B123824-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B123824-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B123824-BLK1**	**106**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B123824-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B123824-BLK1**	**90.8**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: B123825						
Benzene	B123825-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B123825-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B123825-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B123825-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B123825-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B123825-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B123825-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B123825-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B123825-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B123825-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B123825-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B123825-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B123825-BLK1	ND	ug/L	0.50	0.093	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B123825						
Dibromochloromethane	B123825-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B123825-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B123825-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B123825-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B123825-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B123825-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B123825-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B123825-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B123825-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B123825-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B123825-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B123825-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B123825-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B123825-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B123825-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B123825-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B123825-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B123825-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B123825-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B123825-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B123825-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B123825-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B123825-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B123825-BLK1	ND	ug/L	0.50	0.12	
Styrene	B123825-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B123825-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B123825-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B123825-BLK1	ND	ug/L	0.50	0.23	
Toluene	B123825-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B123825-BLK1	ND	ug/L	0.50	0.15	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:02
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B123825						
1,1,1-Trichloroethane	B123825-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B123825-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B123825-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B123825-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B123825-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B123825-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B123825-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B123825-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B123825-BLK1	ND	ug/L	0.50	0.18	
Acetone	B123825-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B123825-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B123825-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B123825-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B123825-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B123825-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B123825-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B123825-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B123825-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B123825-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B123825-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B123825-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B123825-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B123825-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B123825-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B123825-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B123825-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B123825-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B123825-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B123825-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B123825-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B123825-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B123825-BLK1**	**104**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B123825-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B123825-BLK1**	**94.7**	%	**80 - 120 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B123824										
Benzene	B123824-BS1	LCS	25.010	25.000	ug/L	100		70 - 130		
Bromodichloromethane	B123824-BS1	LCS	27.050	25.000	ug/L	108		70 - 130		
Chlorobenzene	B123824-BS1	LCS	25.140	25.000	ug/L	101		70 - 130		
Chloroethane	B123824-BS1	LCS	25.720	25.000	ug/L	103		70 - 130		
1,4-Dichlorobenzene	B123824-BS1	LCS	25.160	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	B123824-BS1	LCS	25.950	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	B123824-BS1	LCS	25.400	25.000	ug/L	102		70 - 130		
Toluene	B123824-BS1	LCS	25.550	25.000	ug/L	102		70 - 130		
Trichloroethene	B123824-BS1	LCS	25.710	25.000	ug/L	103		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B123824-BS1	LCS	10.330	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	B123824-BS1	LCS	10.560	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B123824-BS1	LCS	9.9000	10.000	ug/L	99.0		80 - 120		
QC Batch ID: B123825										
Benzene	B123825-BS1	LCS	26.440	25.000	ug/L	106		70 - 130		
Bromodichloromethane	B123825-BS1	LCS	27.790	25.000	ug/L	111		70 - 130		
Chlorobenzene	B123825-BS1	LCS	25.440	25.000	ug/L	102		70 - 130		
Chloroethane	B123825-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
1,4-Dichlorobenzene	B123825-BS1	LCS	25.970	25.000	ug/L	104		70 - 130		
1,1-Dichloroethane	B123825-BS1	LCS	27.090	25.000	ug/L	108		70 - 130		
1,1-Dichloroethene	B123825-BS1	LCS	26.770	25.000	ug/L	107		70 - 130		
Toluene	B123825-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
Trichloroethene	B123825-BS1	LCS	26.370	25.000	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B123825-BS1	LCS	10.590	10.000	ug/L	106		75 - 125		
Toluene-d8 (Surrogate)	B123825-BS1	LCS	10.600	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B123825-BS1	LCS	9.7000	10.000	ug/L	97.0		80 - 120		

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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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123824	Used client sample: N										
Benzene	MS	2134000-05	ND	25.970	25.000	ug/L		104		70 - 130	
	MSD	2134000-05	ND	25.250	25.000	ug/L	2.8	101	20	70 - 130	
Bromodichloromethane	MS	2134000-05	ND	27.710	25.000	ug/L		111		70 - 130	
	MSD	2134000-05	ND	27.790	25.000	ug/L	0.3	111	20	70 - 130	
Chlorobenzene	MS	2134000-05	ND	25.980	25.000	ug/L		104		70 - 130	
	MSD	2134000-05	ND	25.540	25.000	ug/L	1.7	102	20	70 - 130	
Chloroethane	MS	2134000-05	ND	26.690	25.000	ug/L		107		70 - 130	
	MSD	2134000-05	ND	26.000	25.000	ug/L	2.6	104	20	70 - 130	
1,4-Dichlorobenzene	MS	2134000-05	ND	26.420	25.000	ug/L		106		70 - 130	
	MSD	2134000-05	ND	26.040	25.000	ug/L	1.4	104	20	70 - 130	
1,1-Dichloroethane	MS	2134000-05	ND	27.030	25.000	ug/L		108		70 - 130	
	MSD	2134000-05	ND	26.360	25.000	ug/L	2.5	105	20	70 - 130	
1,1-Dichloroethene	MS	2134000-05	ND	26.720	25.000	ug/L		107		70 - 130	
	MSD	2134000-05	ND	26.280	25.000	ug/L	1.7	105	20	70 - 130	
Toluene	MS	2134000-05	ND	25.780	25.000	ug/L		103		70 - 130	
	MSD	2134000-05	ND	25.680	25.000	ug/L	0.4	103	20	70 - 130	
Trichloroethene	MS	2134000-05	ND	25.690	25.000	ug/L		103		70 - 130	
	MSD	2134000-05	ND	25.320	25.000	ug/L	1.5	101	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134000-05	ND	10.350	10.000	ug/L		104		75 - 125	
	MSD	2134000-05	ND	10.110	10.000	ug/L	2.3	101		75 - 125	
Toluene-d8 (Surrogate)	MS	2134000-05	ND	10.180	10.000	ug/L		102		80 - 120	
	MSD	2134000-05	ND	10.380	10.000	ug/L	1.9	104		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134000-05	ND	9.8200	10.000	ug/L		98.2		80 - 120	
	MSD	2134000-05	ND	9.9000	10.000	ug/L	0.8	99.0		80 - 120	
QC Batch ID: B123825	Used client sample: N										
Benzene	MS	2134000-09	ND	25.290	25.000	ug/L		101		70 - 130	
	MSD	2134000-09	ND	24.790	25.000	ug/L	2.0	99.2	20	70 - 130	
Bromodichloromethane	MS	2134000-09	ND	28.250	25.000	ug/L		113		70 - 130	
	MSD	2134000-09	ND	27.570	25.000	ug/L	2.4	110	20	70 - 130	
Chlorobenzene	MS	2134000-09	ND	25.590	25.000	ug/L		102		70 - 130	
	MSD	2134000-09	ND	25.290	25.000	ug/L	1.2	101	20	70 - 130	
Chloroethane	MS	2134000-09	ND	25.740	25.000	ug/L		103		70 - 130	
	MSD	2134000-09	ND	24.710	25.000	ug/L	4.1	98.8	20	70 - 130	
1,4-Dichlorobenzene	MS	2134000-09	ND	25.710	25.000	ug/L		103		70 - 130	
	MSD	2134000-09	ND	24.690	25.000	ug/L	4.0	98.8	20	70 - 130	
1,1-Dichloroethane	MS	2134000-09	0.23000	26.280	25.000	ug/L		104		70 - 130	
	MSD	2134000-09	0.23000	25.780	25.000	ug/L	1.9	102	20	70 - 130	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B123825	Used client sample: N										
1,1-Dichloroethene	MS	2134000-09	ND	25.890	25.000	ug/L		104		70 - 130	
	MSD	2134000-09	ND	25.570	25.000	ug/L	1.2	102	20	70 - 130	
Toluene	MS	2134000-09	ND	25.080	25.000	ug/L		100		70 - 130	
	MSD	2134000-09	ND	24.910	25.000	ug/L	0.7	99.6	20	70 - 130	
Trichloroethene	MS	2134000-09	ND	24.950	25.000	ug/L		99.8		70 - 130	
	MSD	2134000-09	ND	24.670	25.000	ug/L	1.1	98.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134000-09	ND	10.600	10.000	ug/L		106		75 - 125	
	MSD	2134000-09	ND	10.240	10.000	ug/L	3.5	102		75 - 125	
Toluene-d8 (Surrogate)	MS	2134000-09	ND	10.210	10.000	ug/L		102		80 - 120	
	MSD	2134000-09	ND	10.220	10.000	ug/L	0.1	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134000-09	ND	9.9800	10.000	ug/L		99.8		80 - 120	
	MSD	2134000-09	ND	9.6600	10.000	ug/L	3.3	96.6		80 - 120	

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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: B123824						
Chloroacetonitrile	B123824-BLK1	0	ug/L			
1-Chlorobutane	B123824-BLK1	0	ug/L			
1,1-Dichloropropanone	B123824-BLK1	0	ug/L			
Methyl acrylate	B123824-BLK1	0	ug/L			
Nitrobenzene	B123824-BLK1	0	ug/L			
2-Nitropropane	B123824-BLK1	0	ug/L			
QC Batch ID: B123825						
Chloroacetonitrile	B123825-BLK1	0	ug/L			
1-Chlorobutane	B123825-BLK1	0	ug/L			
1,1-Dichloropropanone	B123825-BLK1	0	ug/L			
Methyl acrylate	B123825-BLK1	0	ug/L			
Nitrobenzene	B123825-BLK1	0	ug/L			
2-Nitropropane	B123825-BLK1	0	ug/L			

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Project Number: 4Q21
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: B124254						
Hexavalent Chromium	**B124254-BLK1**	**0.000022000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124255						
Hexavalent Chromium	**B124255-BLK1**	**0.000028000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124604						
Total Recoverable Chromium	B124604-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124605						
Total Recoverable Chromium	**B124605-BLK1**	**0.65500**	**ug/L**	**3.0**	**0.50**	**J**

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Metals Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124254										
Hexavalent Chromium	B124254-BS1	LCS	0.021828	0.020000	mg/L	109		90 - 110		
	B124254-BSD1	LCSD	0.021822	0.020000	mg/L	109	0.0	90 - 110	10	
QC Batch ID: B124255										
Hexavalent Chromium	B124255-BS1	LCS	0.021971	0.020000	mg/L	110		90 - 110		
QC Batch ID: B124604										
Total Recoverable Chromium	B124604-BS1	LCS	43.934	40.000	ug/L	110		85 - 115		
QC Batch ID: B124605										
Total Recoverable Chromium	B124605-BS1	LCS	43.551	40.000	ug/L	109		85 - 115		

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Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124254	Used client sample: Y - Description: MW-3-2, 10/28/2021 10:25										
Hexavalent Chromium	DUP	2134185-05	0.00079000	0.00076900		mg/L	2.7		10		
	MS	2134185-05	0.00079000	0.022505	0.020202	mg/L		107		90 - 110	
	MSD	2134185-05	0.00079000	0.020993	0.020202	mg/L	7.0	100	10	90 - 110	
QC Batch ID: B124255	Used client sample: Y - Description: MW-17-2, 10/28/2021 15:15										
Hexavalent Chromium	DUP	2134185-11	0.000071000	0.000072000		mg/L	1.4		10		J
	MS	2134185-11	0.000071000	0.019429	0.020202	mg/L		95.8		90 - 110	
	MSD	2134185-11	0.000071000	0.021304	0.020202	mg/L	9.2	105	10	90 - 110	
QC Batch ID: B124604	Used client sample: N										
Total Recoverable Chromium	DUP	2134138-01	0.65500	0.72000		ug/L	9.5		20		J
	MS	2134138-01	0.65500	40.002	40.000	ug/L		98.4		70 - 130	
	MSD	2134138-01	0.65500	39.833	40.000	ug/L	0.4	97.9	20	70 - 130	
QC Batch ID: B124605	Used client sample: Y - Description: MW-17-3, 10/28/2021 14:15										
Total Recoverable Chromium	DUP	**2134185-09**	**0.59700**	**0.99700**		**ug/L**	**50.2**		**20**		**J,A02**
	MS	**2134185-09**	**0.59700**	**39.882**	**40.000**	**ug/L**		**98.2**		**70 - 130**	
	MSD	**2134185-09**	**0.59700**	**41.104**	**40.000**	**ug/L**	**3.0**	**101**	**20**	**70 - 130**	

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-09-2021
EMAX Batch No.: 21K169

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2134185

Enclosed is the Laboratory report for samples received on 11/19/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2134185-02	K169-01	10/28/21	WATER	PERCHLORATE BY IC
2134185-03	K169-02	10/28/21	WATER	PERCHLORATE BY IC
2134185-04	K169-03	10/28/21	WATER	PERCHLORATE BY IC
2134185-05	K169-04	10/28/21	WATER	PERCHLORATE BY IC
2134185-06	K169-05	10/28/21	WATER	PERCHLORATE BY IC
2134185-07	K169-06	10/28/21	WATER	PERCHLORATE BY IC
2134185-08	K169-07	10/28/21	WATER	PERCHLORATE BY IC
2134185-09	K169-08	10/28/21	WATER	PERCHLORATE BY IC
2134185-10	K169-09	10/28/21	WATER	PERCHLORATE BY IC
2134185-11	K169-10	10/28/21	WATER	PERCHLORATE BY IC
2134185-12	K169-11	10/28/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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SUBCONTRACT ORDER

21K169

BC Laboratories

2134185

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory $EMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

Q 11/18/21 9:20

	Analysis	Due	Expires	Laboratory ID	Comments
					Need EDF
1	**Sample ID: 2134185-02**	**Water**	**Sampled:10/28/21 08:55**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 08:55		
	Containers Supplied:				
2	**Sample ID: 2134185-03**	**Water**	**Sampled:10/28/21 09:25**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 09:25		
	Containers Supplied:				
3	**Sample ID: 2134185-04**	**Water**	**Sampled:10/28/21 09:55**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 09:55		
	Containers Supplied:				
4	**Sample ID: 2134185-05**	**Water**	**Sampled:10/28/21 10:25**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 10:25		
	Containers Supplied:				
5	**Sample ID: 2134185-06**	**Water**	**Sampled:10/28/21 10:40**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 10:40		
	Containers Supplied:				

Released By	11-18-21 Date	Received By	Date
Released By	Date	Received By	11/19/21 10:00 Date

Temp : 01.9°

Page 1 of 2

REPORT ID: 21K169

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SUBCONTRACT ORDER

21K169

BC Laboratories

2134185

Analysis	Due	Expires	Laboratory ID	Comments
6 **Sample ID: 2134185-07**	**Water**	**Sampled: 10/28/21 13:15**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 13:15		
Containers Supplied:				
7 **Sample ID: 2134185-08**	**Water**	**Sampled: 10/28/21 13:45**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 13:45		
Containers Supplied:				
8 **Sample ID: 2134185-09**	**Water**	**Sampled: 10/28/21 14:15**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 14:15		
Containers Supplied:				
9 **Sample ID: 2134185-10**	**Water**	**Sampled: 10/28/21 14:30**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 14:30		
Containers Supplied:				
10 **Sample ID: 2134185-11**	**Water**	**Sampled: 10/28/21 15:15**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 15:15		
Containers Supplied:				
11 **Sample ID: 2134185-12**	**Water**	**Sampled: 10/28/21 14:45**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/11/21 17:00	11/25/21 14:45		
Containers Supplied:				

Released By	11-18-21 Date	Received By	Date
Released By	Date	Received By 11/19/21	10:00 Date

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SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K169
☐ Fedex ☐ UPS ☐ GSO ☑ Others GLS	470571118213718037670	Recipient Jolelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 11/19/21 Time 16:00

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: COC arrived wet & on the bottom of samples

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other			
Condition	☐ Custody Seal	☐ Intact	☐ Damaged			
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____	
Temperatures (Cool, ≤6 °C but not frozen)	☐ Cooler 1_____ °C	☑ Cooler 2 19 °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C	
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C	
Thermometer:	A - S/N 210191066	(B) S/N 210271396	C - S/N _____	D - S/N _____		

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-11	1-11	D1		R1

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND: ☐ Continue to next page.

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
(D1)	Analysis is not indicated in 8260	D13	Out of Holding Time	(R1)	Proceed as indicated in ☐ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in _____	D16	Preservation not indicated in _____	R4	Use vial with smallest bubble first
D5	Container -[improper] [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in _____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	
D10	No initial/date on corrections in COC/label	D22		R10	
D11	Container count mismatch COC vs received	D23		R11	
D12	Container size mismatch COC vs received	D24		R12	

REVIEWS:
Sample Labeling JOLELYNE Solis-Ramos Date 11/19/21
SRF Date 11/19/21
PM Date 11/22/21

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REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

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LABORATORY REPORT FOR

PACE ANALYTICAL

2134185

METHOD E314.0
PERCHLORATE

SDG#: 21K169

REPORT ID: 21K169 Page 6 of 73

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2134185

SDG : 21K169

METHOD E314.0
PERCHLORATE

A total of eleven(11) water samples were received on 11/19/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. PCK003WB and PCK004WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. PCK003WL/PCK003WC and PCK004WL/PCK004WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) MS was analyzed. Percent recovery for Perchlorate was within MS QC limits in K169-05M. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2134185
Batch No. : 21K169

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK3W	PCX0034B	ND	1	NA	2.00	0.500	1.00	11/19/2123:01	NA	21JK19038	21JK19037	PCX0033W	NA	NA
LCS3W	PCX0034L	24.9	1	NA	2.00	0.500	1.00	11/19/2123:43	NA	21JK19040	21JK19037	PCX0033W	NA	NA
LCD3W	PCX0034C	24.8	1	NA	2.00	0.500	1.00	11/20/2100:04	NA	21JK19041	21JK19037	PCX0033W	NA	NA
2134185-02	K169-01	3.10	1	NA	2.00	0.500	1.00	11/20/2108:29	NA	21JK19065	21JK19064	PCX0033W	10/28/2108:55	11/19/21
2134185-03	K169-02	3.73	1	NA	2.00	0.500	1.00	11/20/2108:50	NA	21JK19066	21JK19064	PCX0033W	10/28/2109:25	11/19/21
2134185-04	K169-03	3.65	1	NA	2.00	0.500	1.00	11/20/2109:11	NA	21JK19067	21JK19064	PCX0033W	10/28/2109:55	11/19/21
2134185-05	K169-04	1.42J	1	NA	2.00	0.500	1.00	11/20/2109:32	NA	21JK19068	21JK19064	PCX0033W	10/28/2110:25	11/19/21
MBLK2W	PCX0044B	ND	1	NA	2.00	0.500	1.00	11/21/2119:31	NA	21JK21005	21JK21004	PCX0034W	NA	NA
LCS2W	PCX0044L	24.3	1	NA	2.00	0.500	1.00	11/21/2120:14	NA	21JK21007	21JK21004	PCX0034W	NA	NA
LCD2W	PCX0044C	24.5	1	NA	2.00	0.500	1.00	11/21/2120:35	NA	21JK21008	21JK21004	PCX0034W	NA	NA
2134185-06	K169-05	ND	1	NA	2.00	0.500	1.00	11/21/2121:38	NA	21JK21011	21JK21009	PCX0034W	10/28/2110:40	11/19/21
2134185-06MS	K169-05M	14.8	1	NA	2.00	0.500	1.00	11/21/2121:59	NA	21JK21012	21JK21009	PCX0034W	10/28/2110:40	11/19/21
2134185-06DUP	K169-05D	ND	1	NA	2.00	0.500	1.00	11/21/2122:20	NA	21JK21013	21JK21009	PCX0034W	10/28/2110:40	11/19/21
2134185-07	K169-06	4.71	1	NA	2.00	0.500	1.00	11/21/2122:41	NA	21JK21014	21JK21009	PCX0034W	10/28/2113:15	11/19/21
2134185-08	K169-07	4.26	1	NA	2.00	0.500	1.00	11/21/2123:02	NA	21JK21015	21JK21009	PCX0034W	10/28/2113:45	11/19/21
2134185-09	K169-08	1.49J	1	NA	2.00	0.500	1.00	11/21/2123:23	NA	21JK21016	21JK21009	PCX0034W	10/28/2114:15	11/19/21
2134185-10	K169-09	1.23J	1	NA	2.00	0.500	1.00	11/21/2123:44	NA	21JK21017	21JK21009	PCX0034W	10/28/2114:30	11/19/21
2134185-11	K169-10	2.05	1	NA	2.00	0.500	1.00	11/22/2100:05	NA	21JK21018	21JK21009	PCX0034W	10/28/2115:15	11/19/21
2134185-12	K169-11	ND	1	NA	2.00	0.500	1.00	11/22/2100:26	NA	21JK21019	21JK21009	PCX0034W	10/28/2114:45	11/19/21

Note: Detection limits are reported relative to sample result significant figures.

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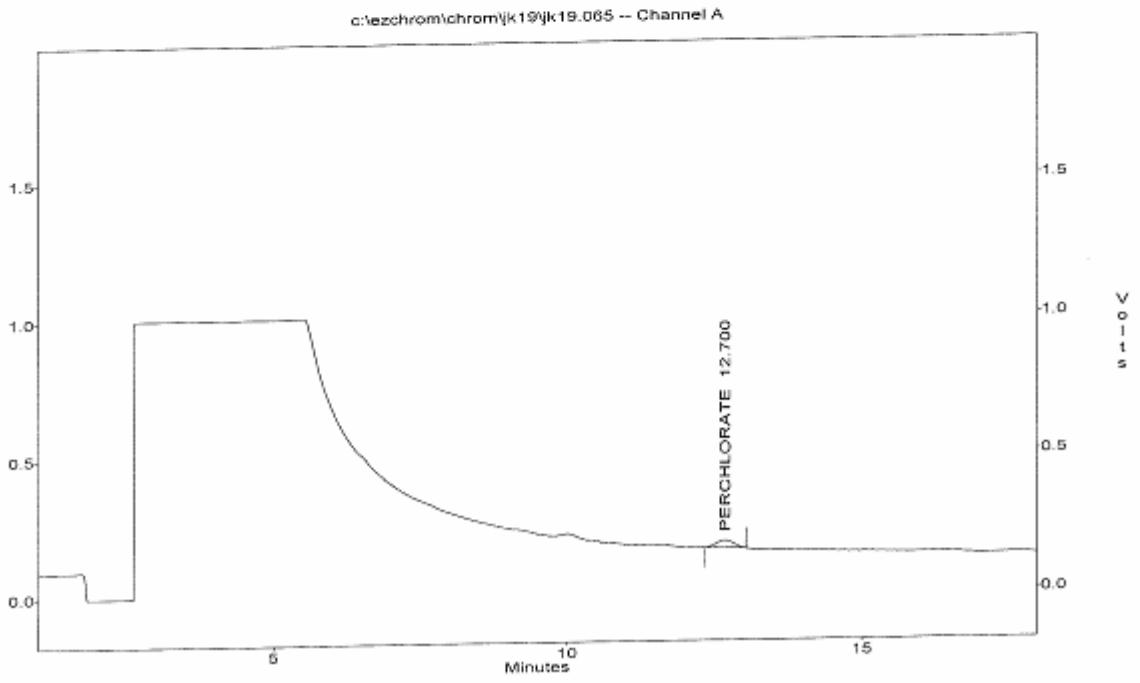
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.065
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-01
Acquired : Nov 20, 2021 08:29:12
Printed : Nov 22, 2021 12:07:00
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.70	531005	26899	180791.531	3.103



REPORT ID: 21K169

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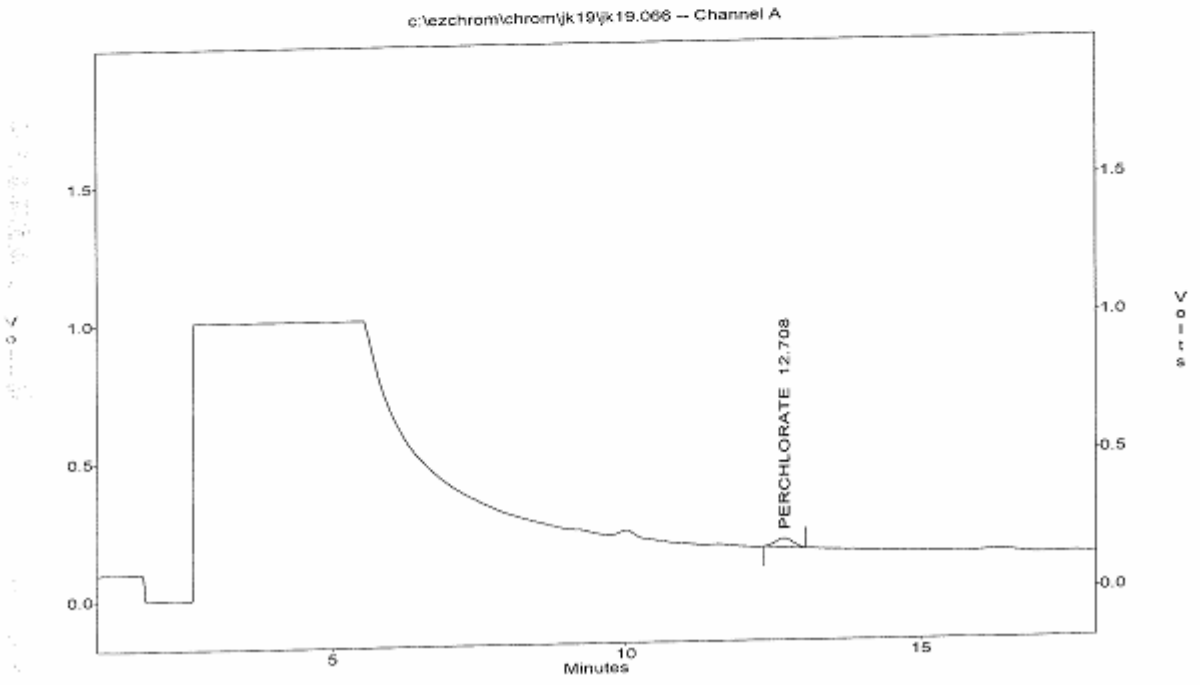
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.066
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-02
Acquired : Nov 20, 2021 08:50:13
Printed : Nov 22, 2021 12:07:24
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.71	647666	31646	180791.531	3.729



REPORT ID: 21K169

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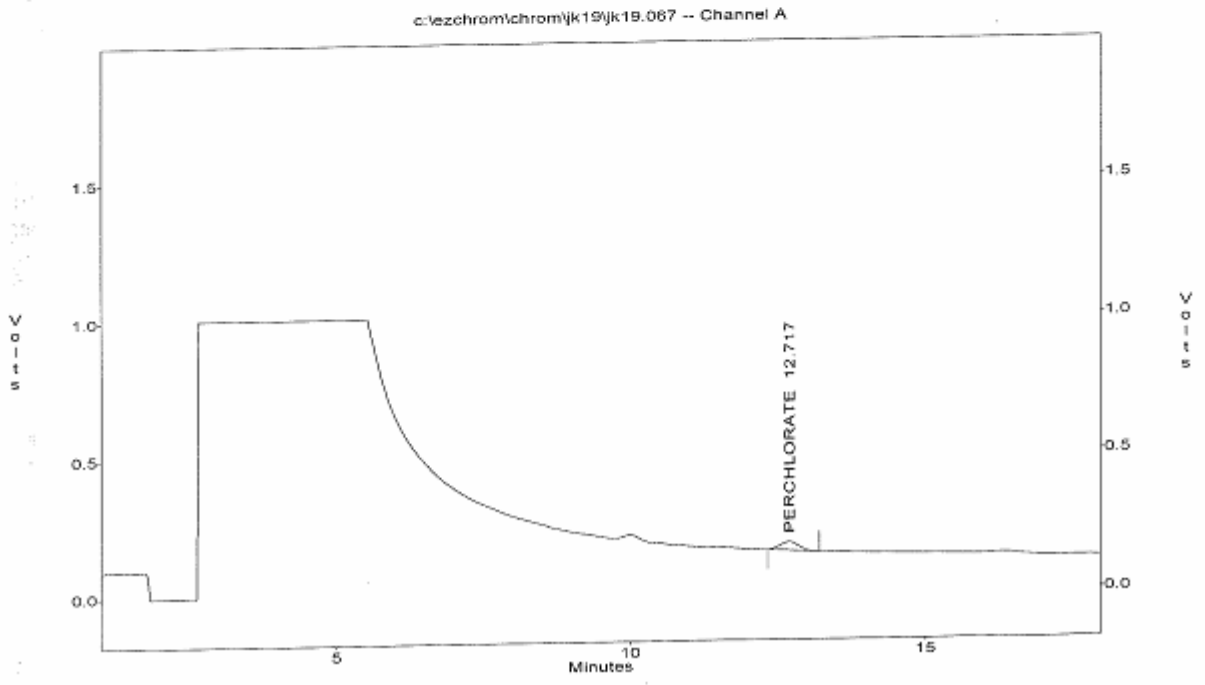
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.067
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-03
Acquired : Nov 20, 2021 09:11:14
Printed : Nov 22, 2021 12:07:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.72	633526	30595	180791.531	3.653



REPORT ID: 21K169

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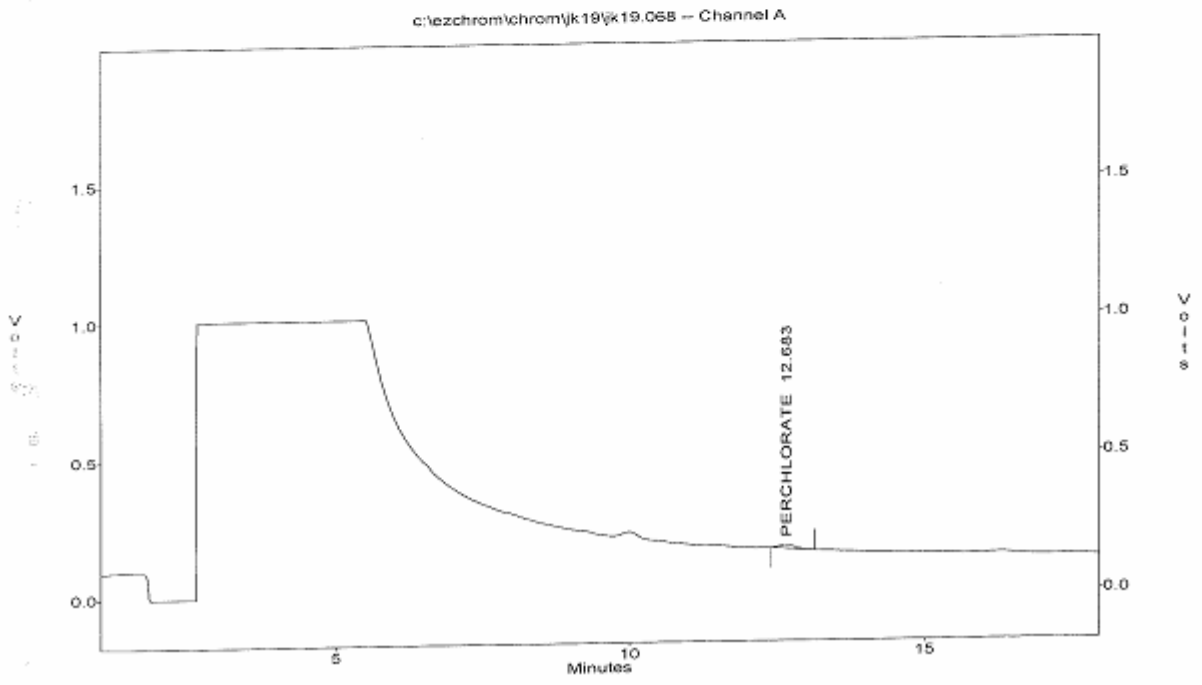
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.068
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-04
Acquired : Nov 20, 2021 09:32:15
Printed : Nov 22, 2021 12:08:02
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.68	218151	10351	180791.531	1.425



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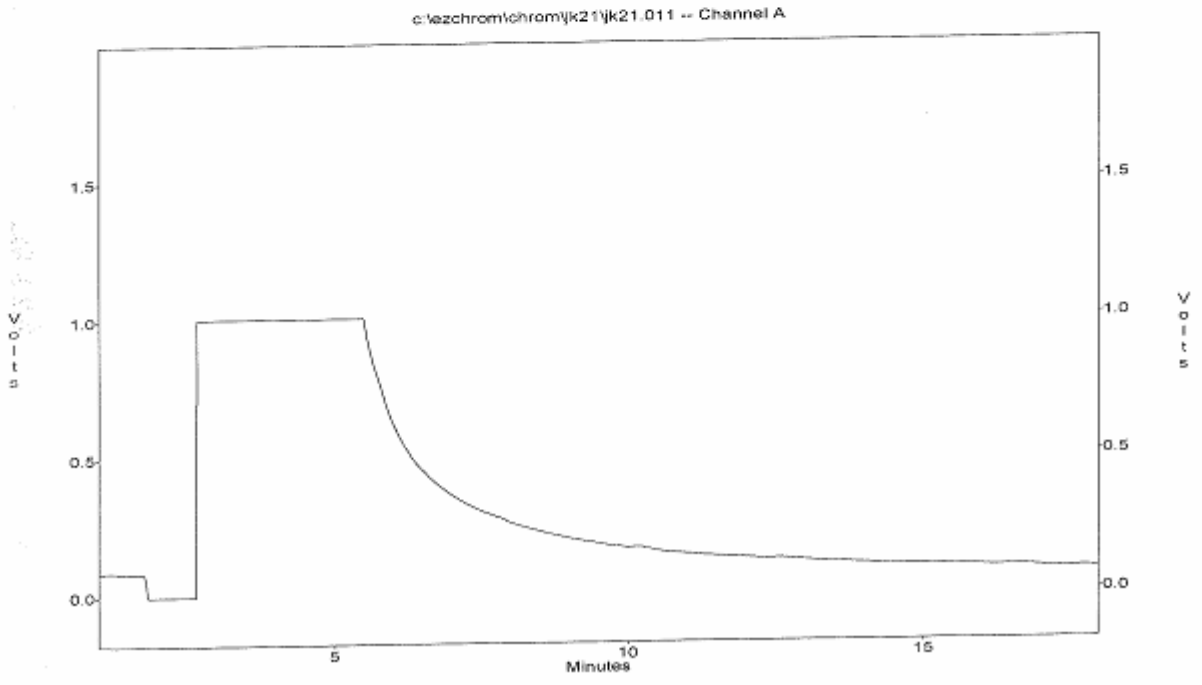
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.011
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-05
Acquired : Nov 21, 2021 21:38:05
Printed : Nov 23, 2021 08:18:32
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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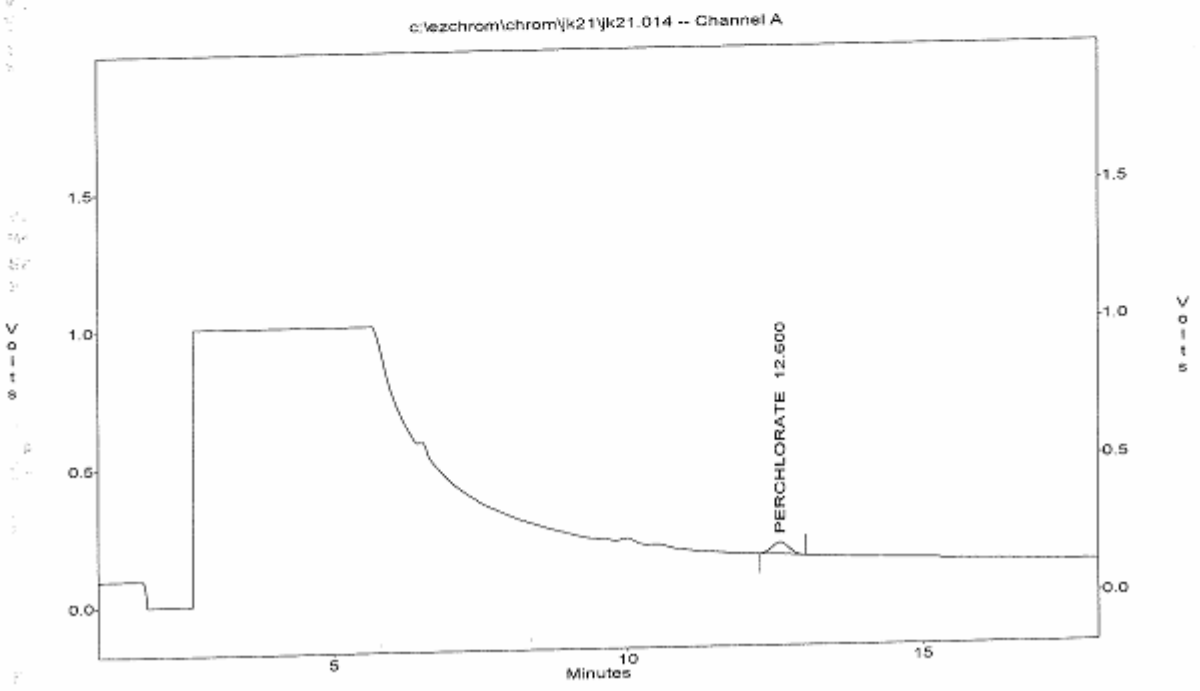
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.014
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-06
Acquired : Nov 21, 2021 22:41:10
Printed : Nov 23, 2021 08:19:52
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.60	831193	42459	180791.531	4.713



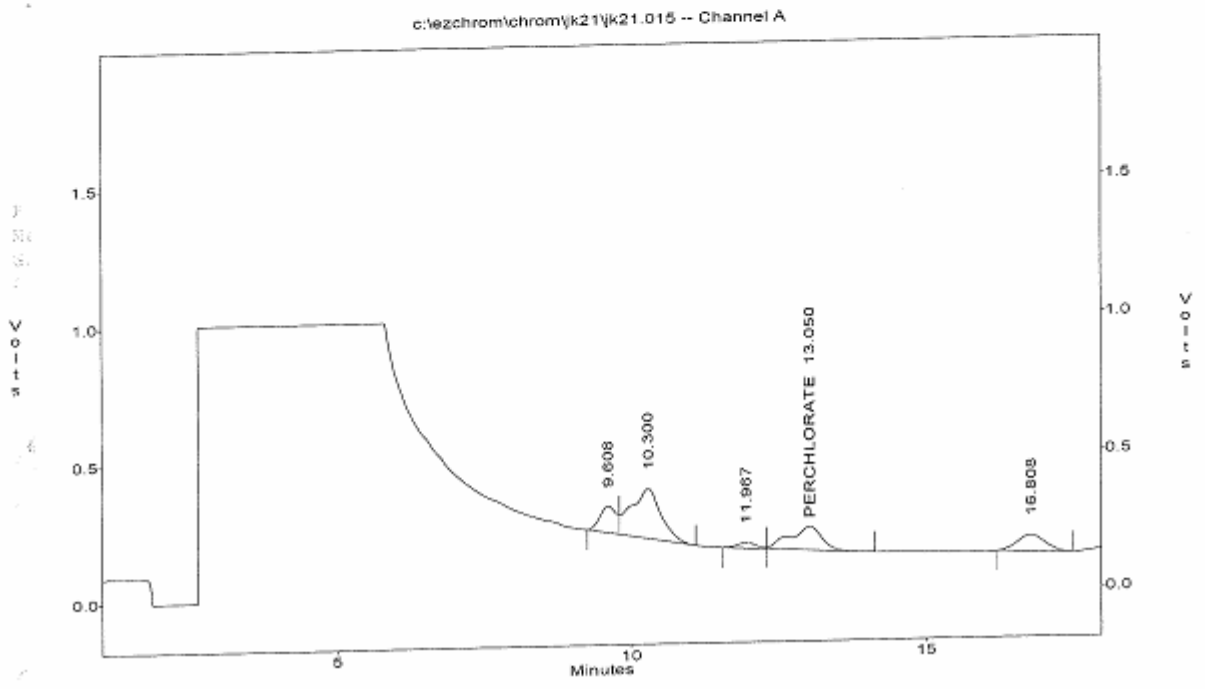
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.015
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-07
Acquired : Nov 21, 2021 23:02:11
Printed : Nov 23, 2021 08:20:03
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
4	PERCHLORATE	13.05	3179340	85772	180791.531	17.306



REPORT ID: 21K169

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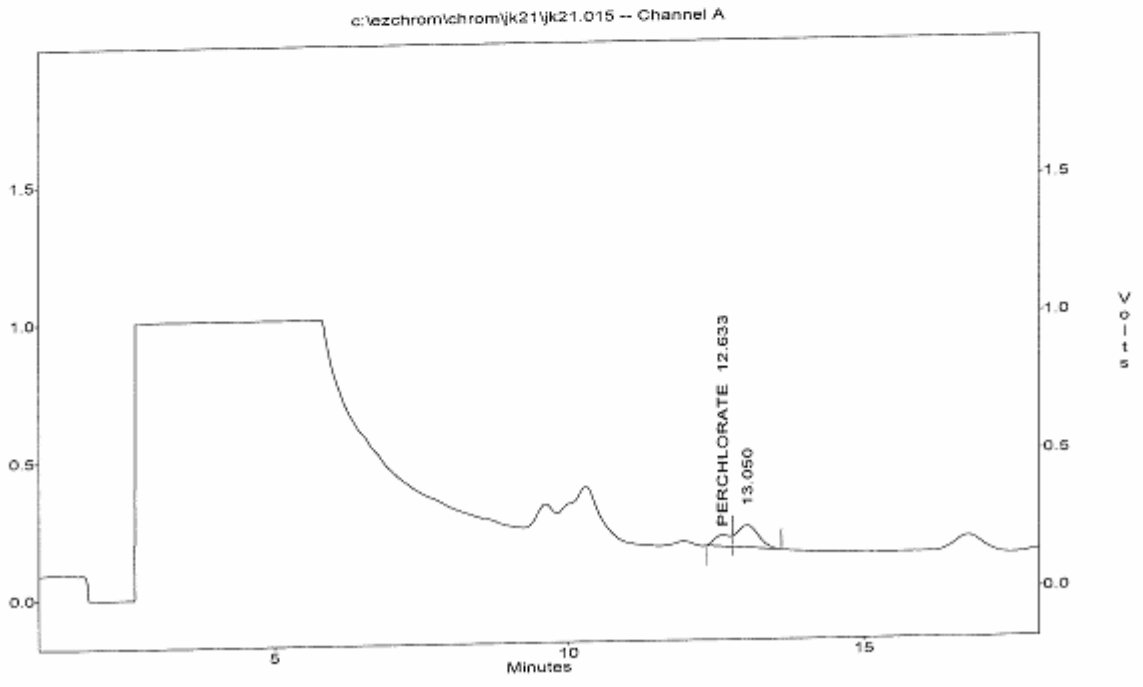
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.015
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-07
Acquired : Nov 21, 2021 23:02:11
Printed : Nov 23, 2021 08:20:56
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	746698	41039	180791.531	4.260



REPORT ID: 21K169

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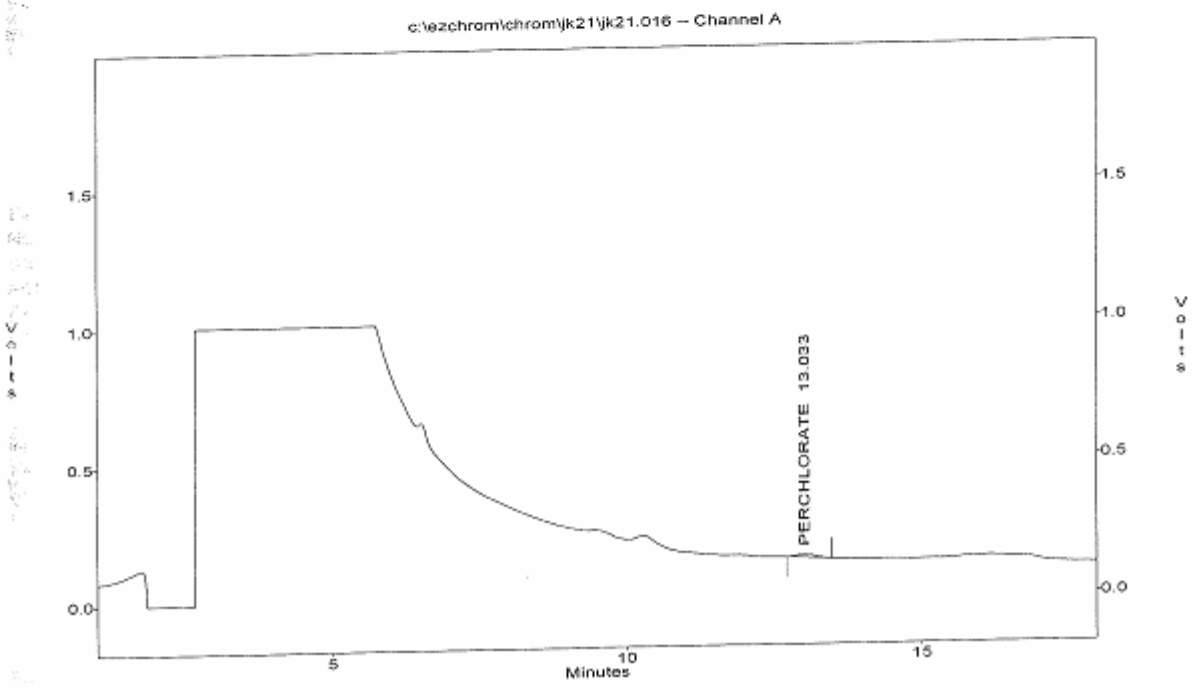
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.016
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-08
Acquired : Nov 21, 2021 23:23:13
Printed : Nov 23, 2021 08:22:49
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	13.03	230083	10500	180791.531	1.489



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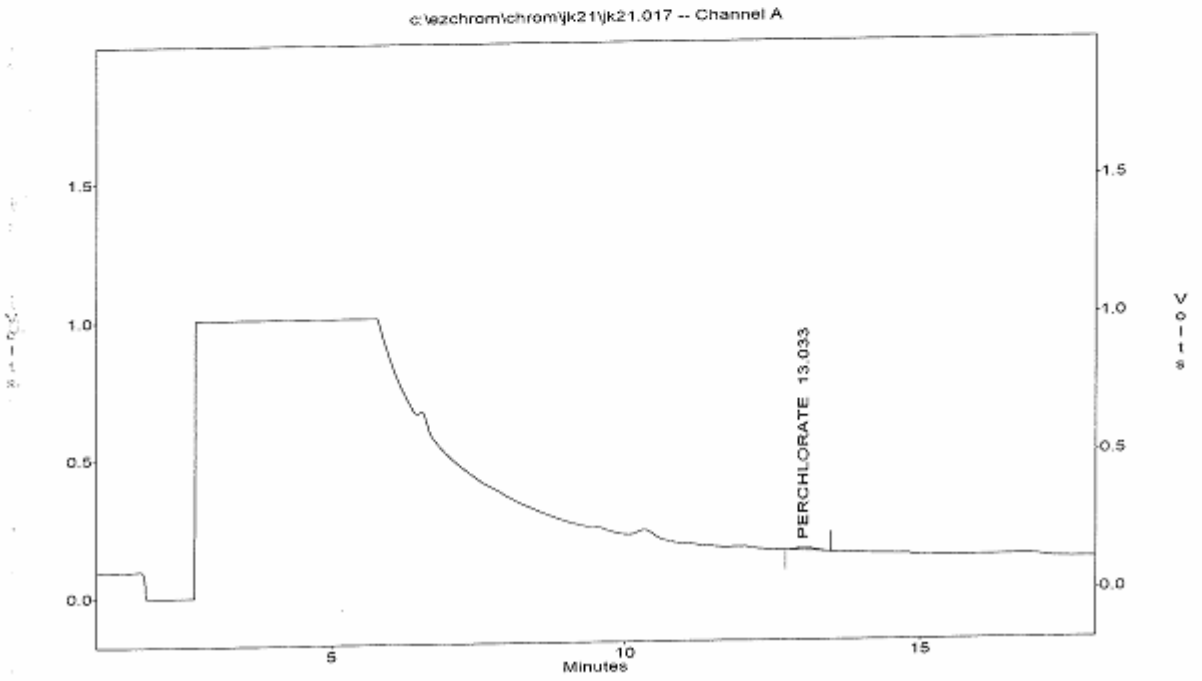
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.017
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-09
Acquired : Nov 21, 2021 23:44:15
Printed : Nov 23, 2021 08:24:15
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	13.03	180732	7989	180791.531	1.225



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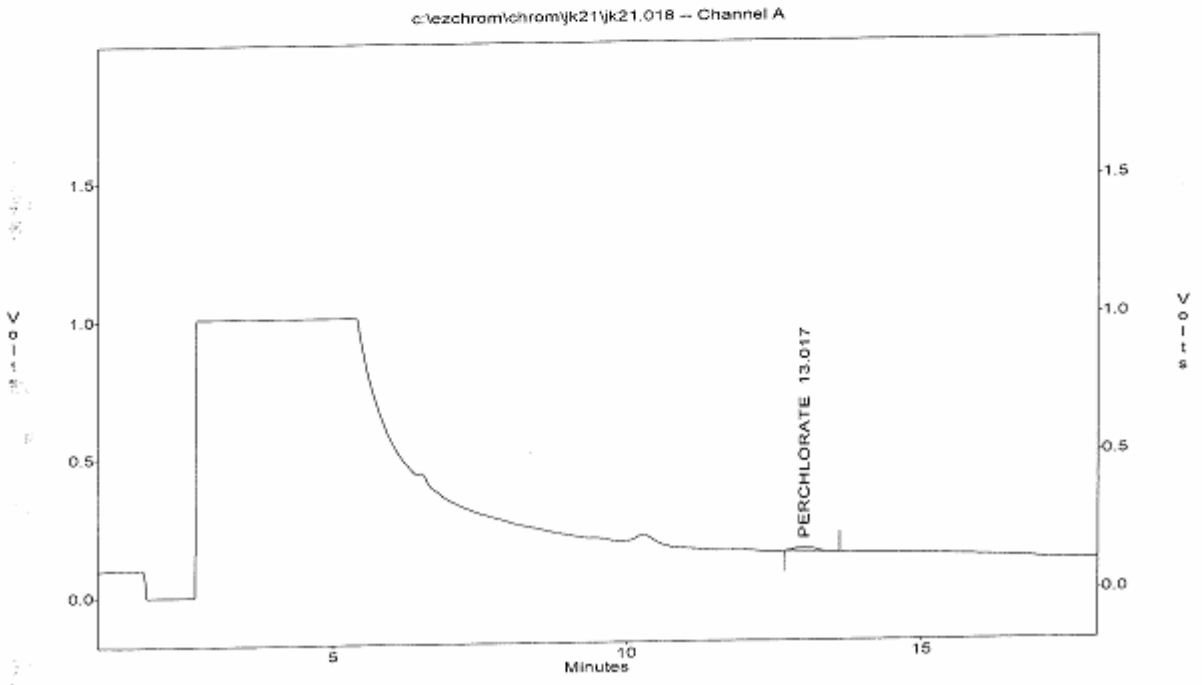
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.018
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-10
Acquired : Nov 22, 2021 00:05:15
Printed : Nov 23, 2021 08:24:43
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	13.02	334876	14083	180791.531	2.051



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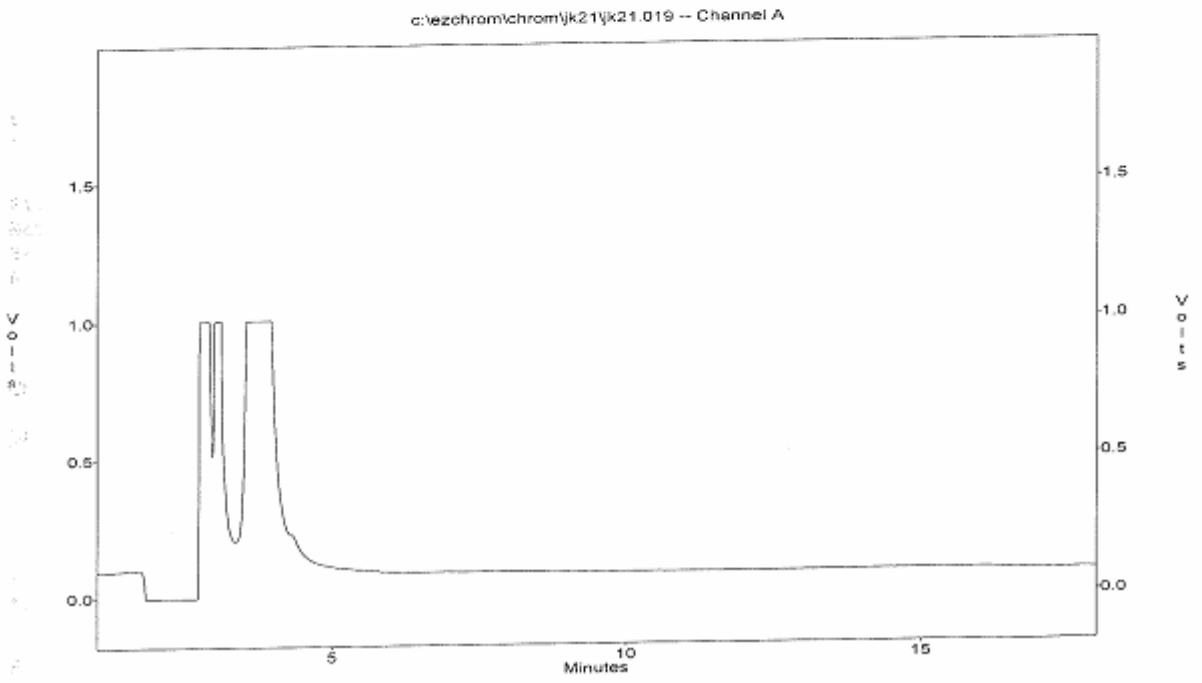
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.019
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-11
Acquired : Nov 22, 2021 00:26:16
Printed : Nov 23, 2021 08:24:51
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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QC SUMMARIES

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134185
BATCH NO. : 21K169
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK003WB	PCK003WL	PCK003WC
LAB FILE ID :	21JK19038	21JK19040	21JK19041
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/19/2123:01	11/19/2123:43	11/20/2100:04
PREP BATCH :	PCK003W	PCK003W	PCK003W
CALIBRATION REF:	21JK19037	21JK19037	21JK19037

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.9	100	25	24.8	99	0	85-115	15

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134185
BATCH NO. : 21K169
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	PCK004WB	PCK004WL	PCK004WC
LAB FILE ID :	21JK21005	21JK21007	21JK21008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/21/2119:31	11/21/2120:14	11/21/2120:35
PREP BATCH :	PCK004W	PCK004W	PCK004W
CALIBRATION REF:	21JK21004	21JK21004	21JK21004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.3	97	25	24.5	98	1	85-115	15

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EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134185
BATCH NO. : 21K169
METHOD : E314.0

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2134185-06	2134185-06MS
LAB SAMPLE ID	: K169-05	K169-05M
LAB FILE ID	: 21JK21011	21JK21012
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/21/2121:38	11/21/2121:59
PREP BATCH	: PCK004W	PCK004W
CALIBRATION REF	: 21JK21009	21JK21009

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Perchlorate	ND	15.00	14.8	99	80-120

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EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134185
BATCH NO. : 21K169
METHOD : E314.0

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2134185-06	2134185-06DUP
LAB SAMPLE ID	: K169-05	K169-05D
LAB FILE ID	: 21JK21011	21JK21013
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/21/2121:38	11/21/2122:20
PREP BATCH	: PCKD04W	PCKD04W
CALIBRATION REF	: 21JK21009	21JK21009

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	DUP RESULT (ug/L)	RPD (%)	MAX RPD (%)
Perchlorate	ND	ND	0	15

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QC DATA

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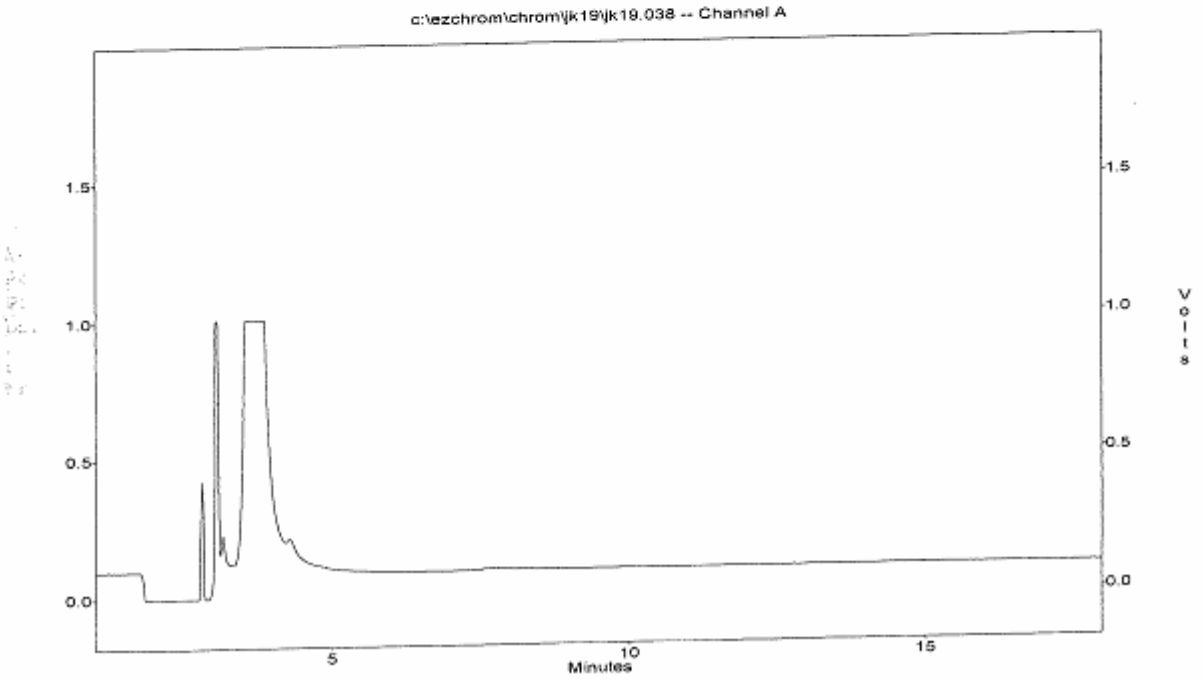
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.038
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WB
Acquired : Nov 19, 2021 23:01:40
Printed : Nov 22, 2021 11:51:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

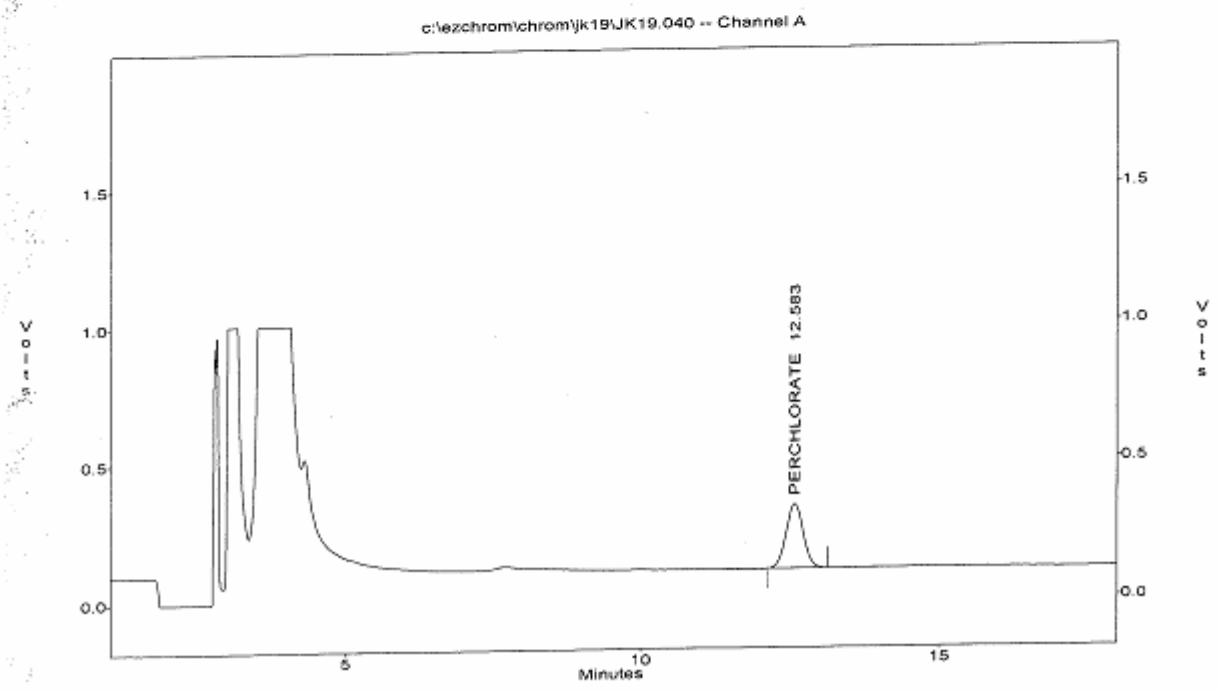
File : c:\ezchrom\chrom\jk19\JK19.040
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WL
Acquired : Nov 19, 2021 23:43:43
Printed : Dec 02, 2021 11:48:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	4588679	231103	180791.531	24.864

A|H
19.856 ✓

$$PD_{A|H} = \frac{|22.097 - 19.856|}{19.856} \times 100 = 11\%$$ ✓ LL



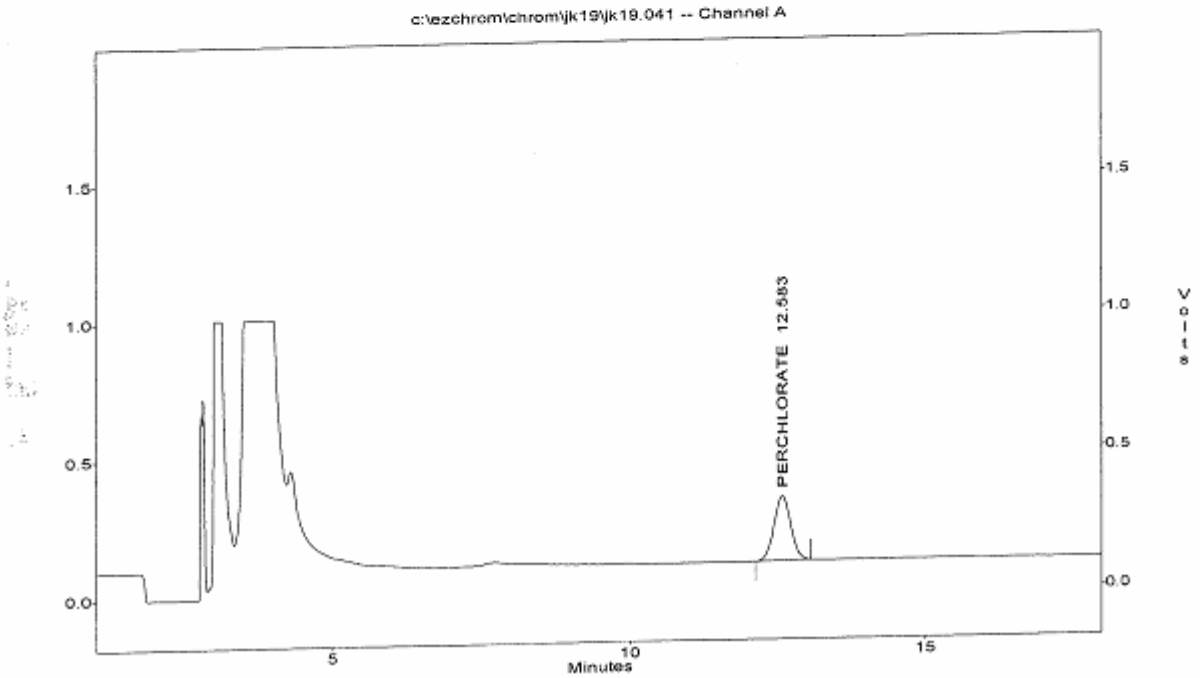
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.041
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WC
Acquired : Nov 20, 2021 00:04:44
Printed : Nov 22, 2021 11:52:11
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	4584780	231454	180791.531	24.843



REPORT ID: 21K169

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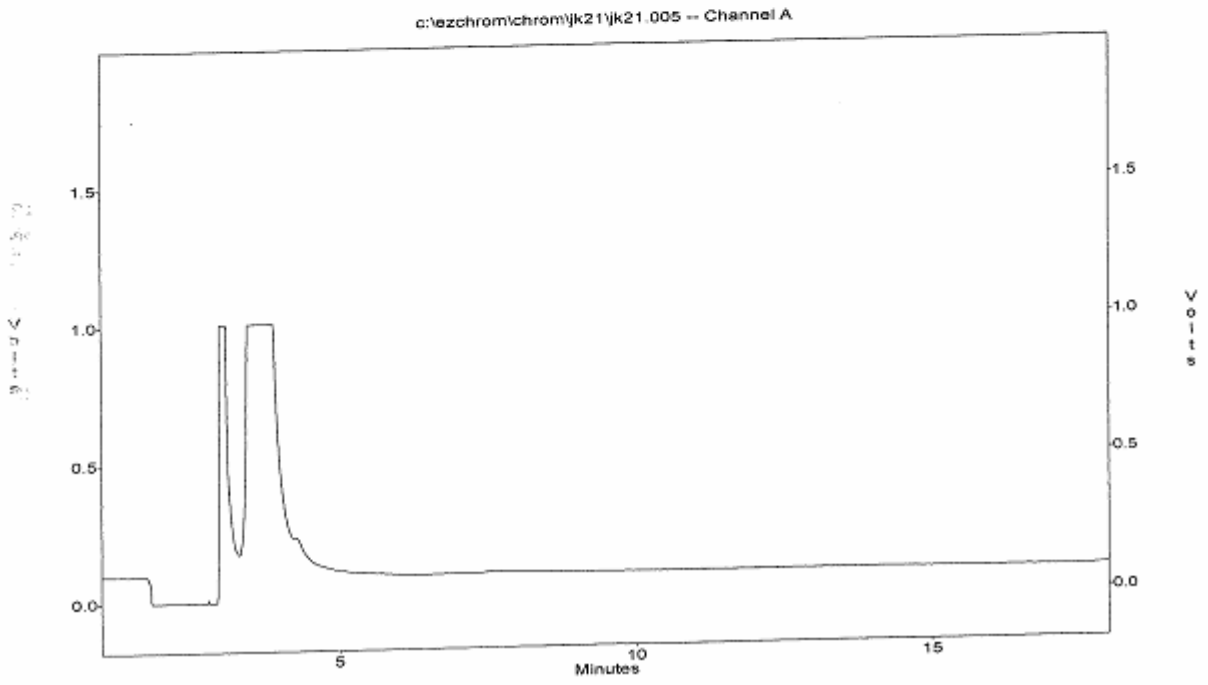
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK004WB
Acquired : Nov 21, 2021 19:31:58
Printed : Nov 23, 2021 08:15:26
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K169

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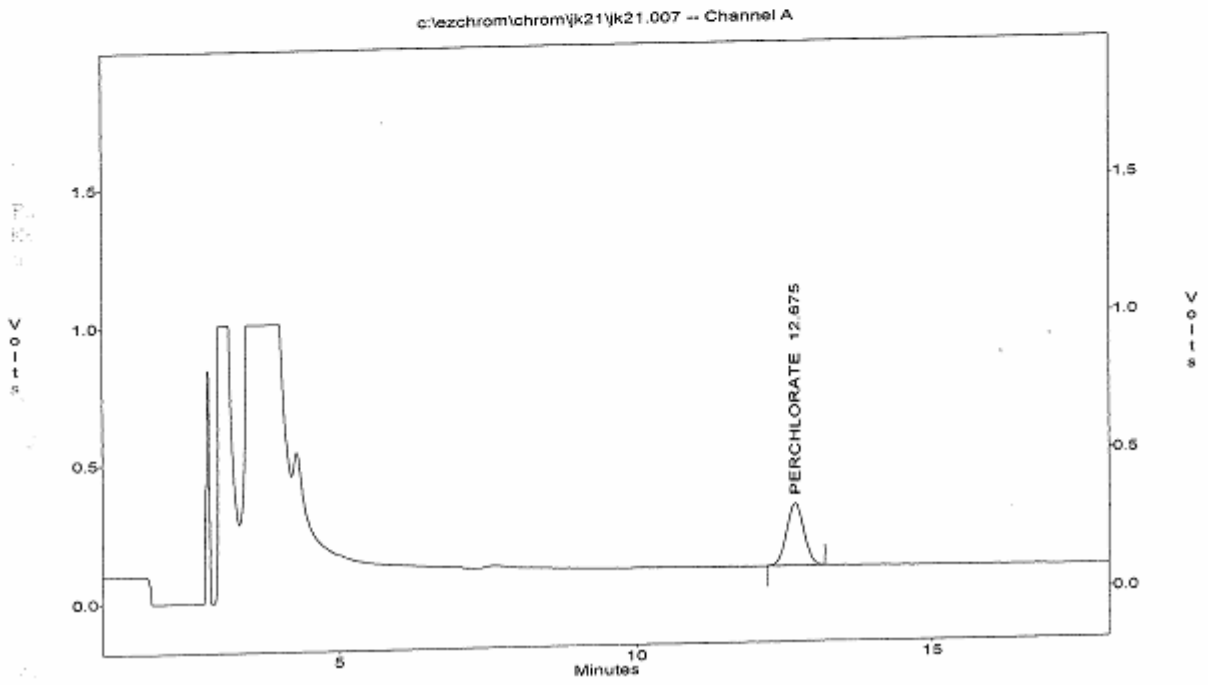
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK004WL
Acquired : Nov 21, 2021 20:14:01
Printed : Nov 23, 2021 08:16:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)	A|H
1	PERCHLORATE	12.68	4492462	223069	180791.531	24.348	20.139

$$PD_{A|H} = \frac{|22.330 - 20.139|}{20.139} \times 100 = 11\%$$



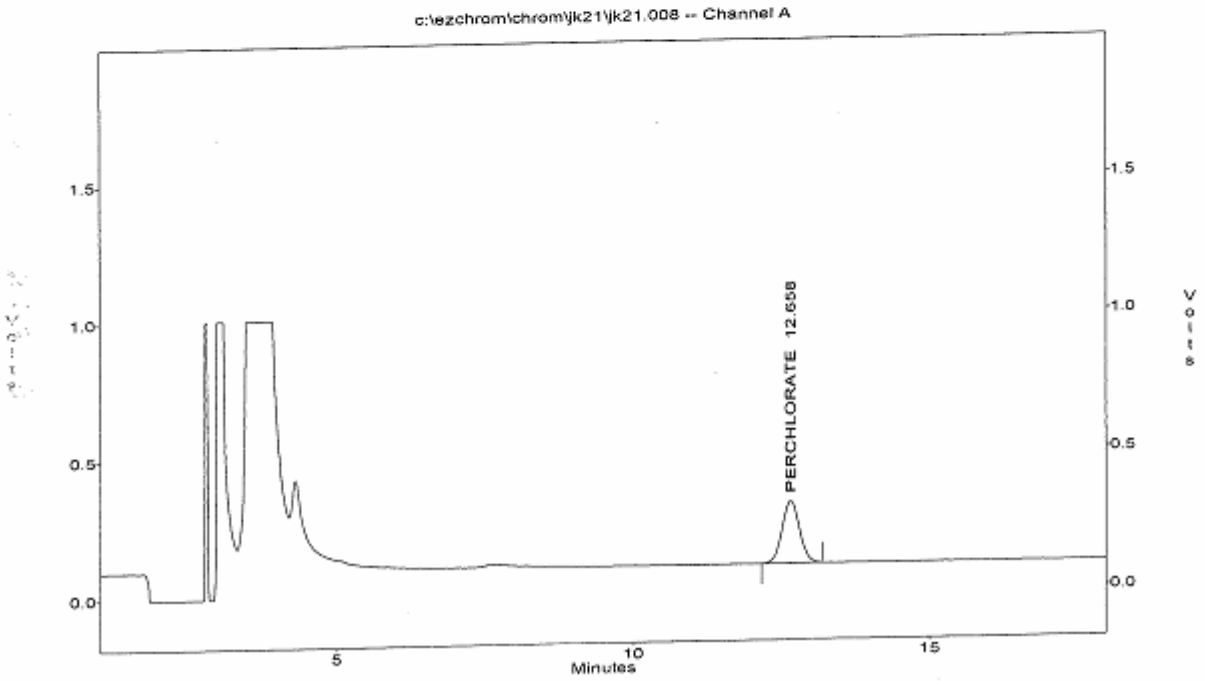
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK004WC
Acquired : Nov 21, 2021 20:35:02
Printed : Nov 23, 2021 08:16:49
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.66	4520136	224576	180791.531	24.497



REPORT ID: 21K169

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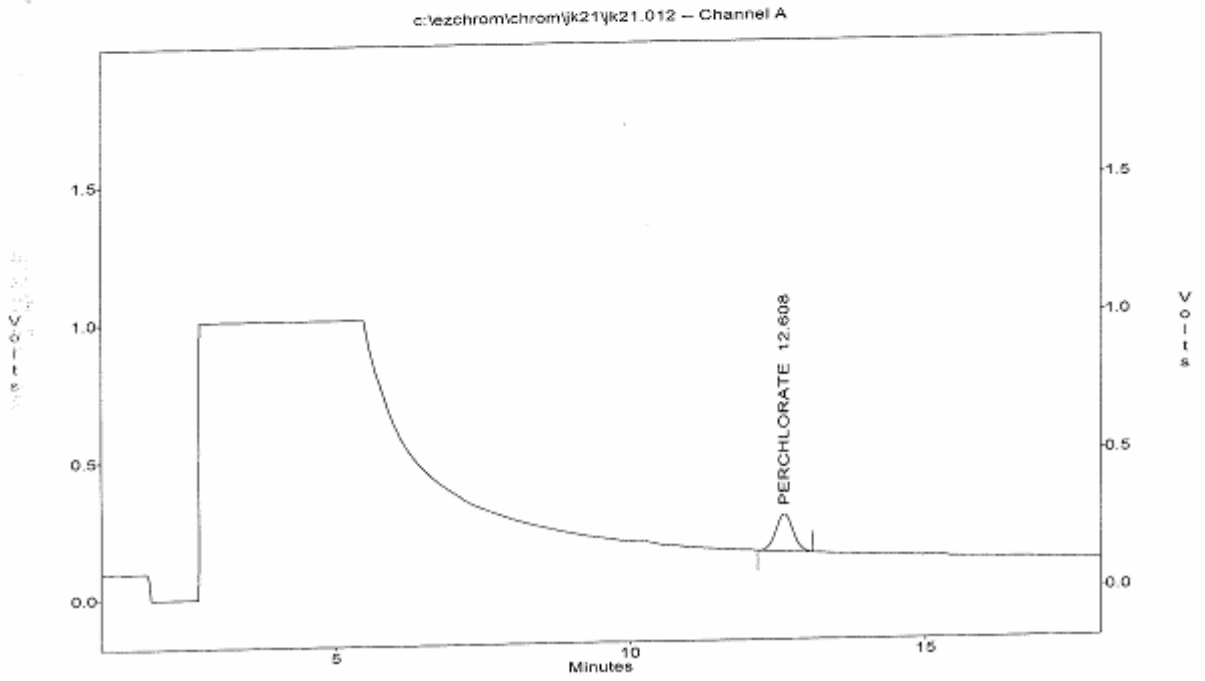
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.012
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-05M
Acquired : Nov 21, 2021 21:59:07
Printed : Nov 23, 2021 08:18:42
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	2705406	134165	180791.531	14.764



REPORT ID: 21K169

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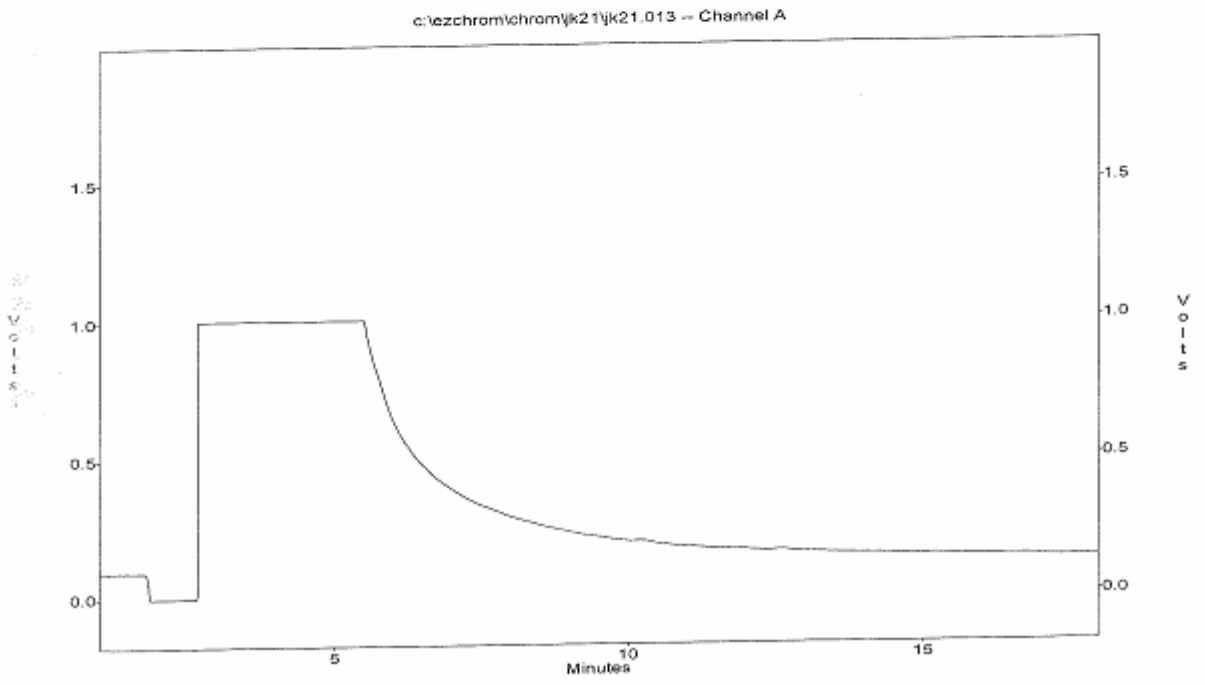
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.013
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K169-05D
Acquired : Nov 21, 2021 22:20:08
Printed : Nov 23, 2021 08:18:54
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K169

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INITIAL CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K169

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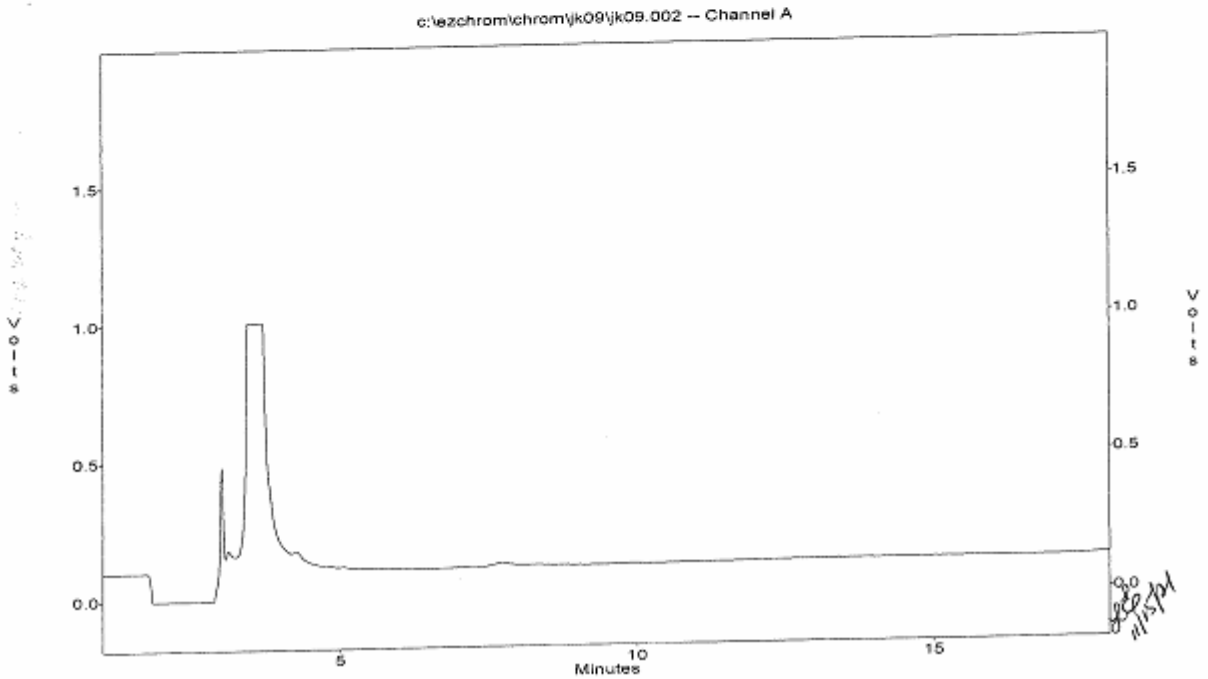
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



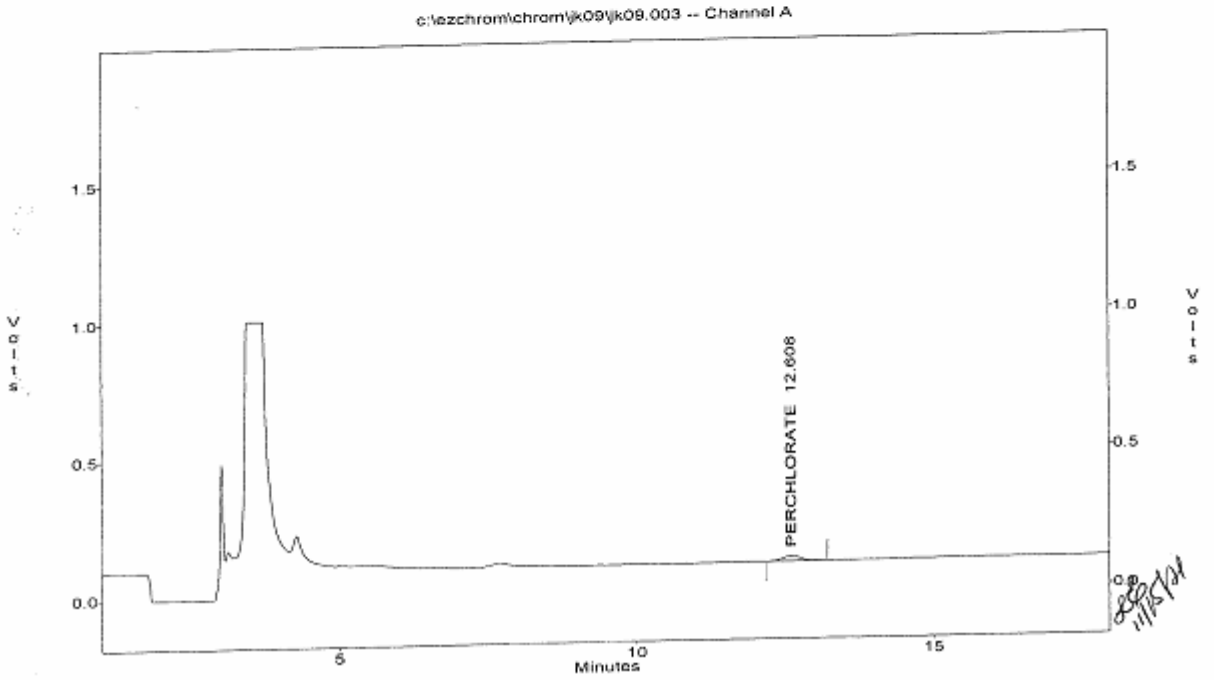
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



REPORT ID: 21K169

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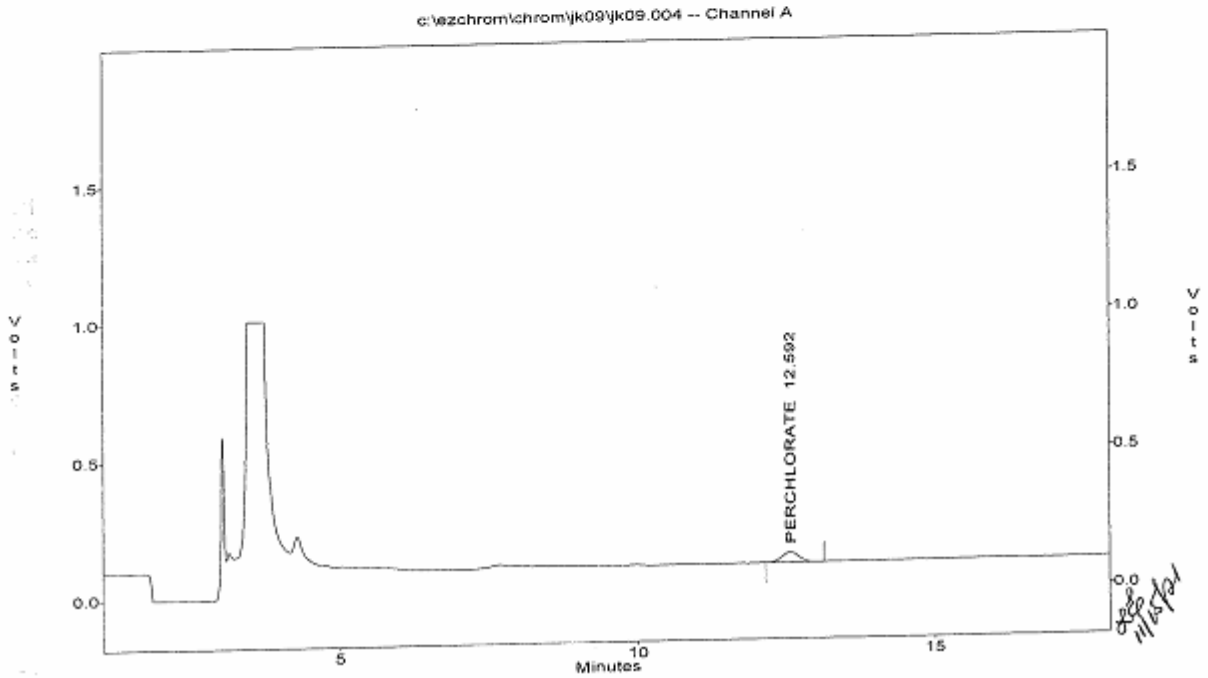
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



REPORT ID: 21K169

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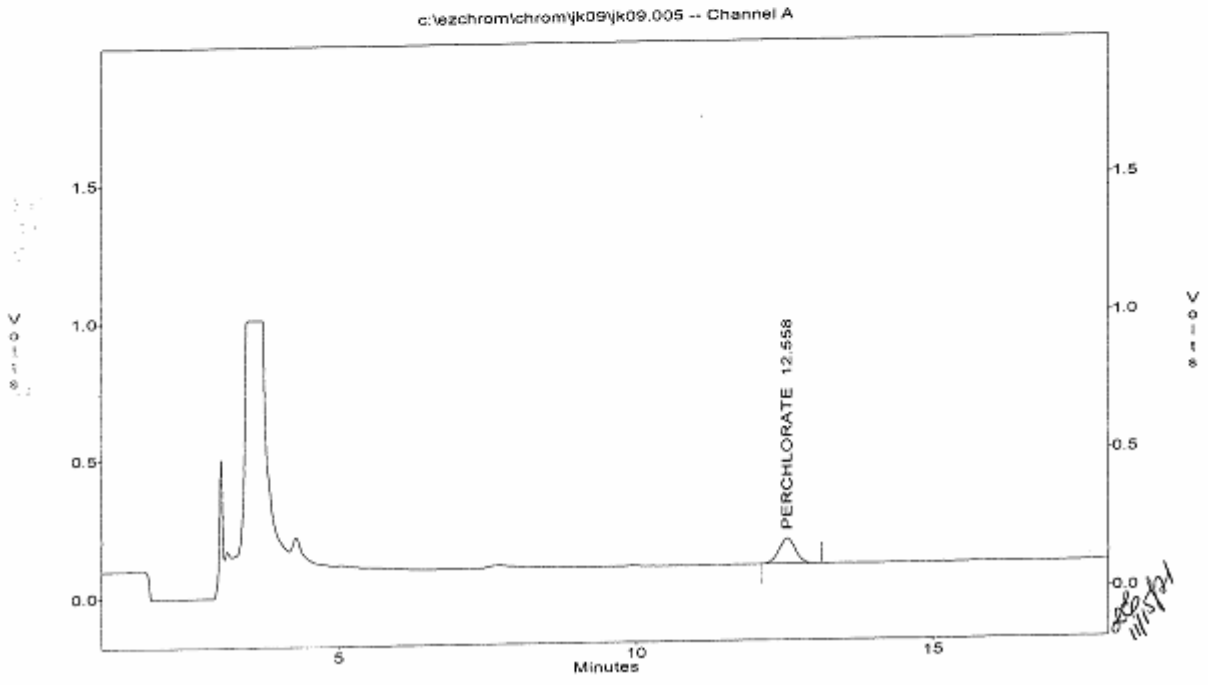
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



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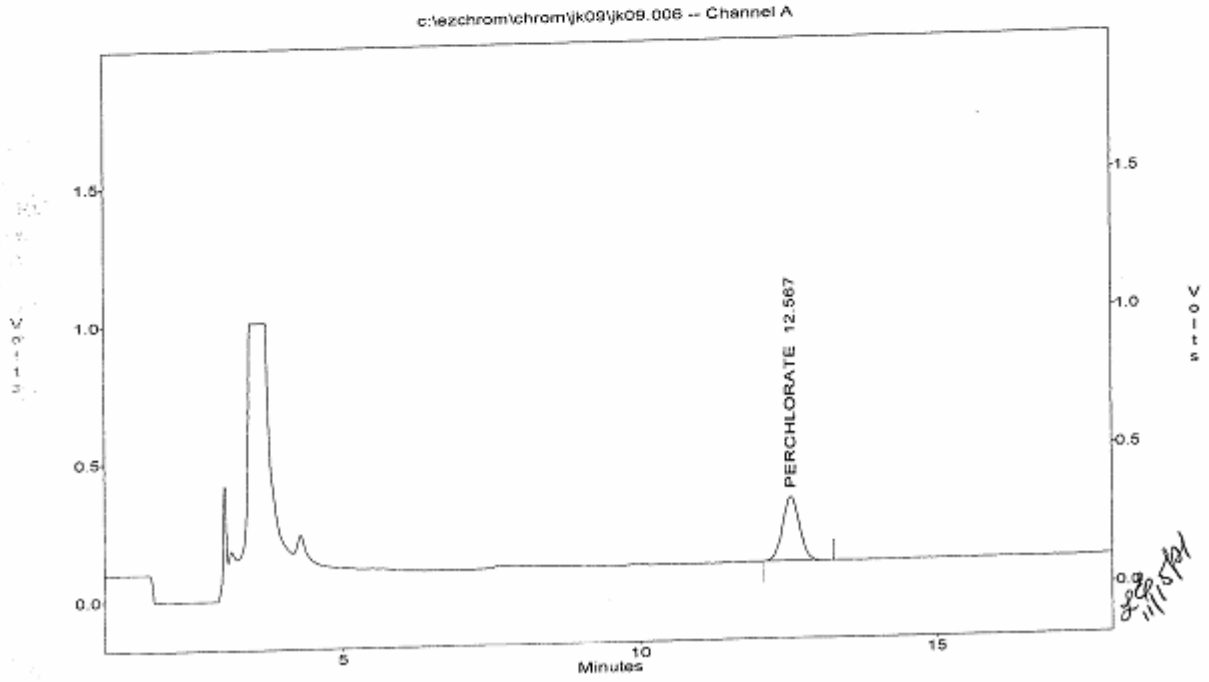
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



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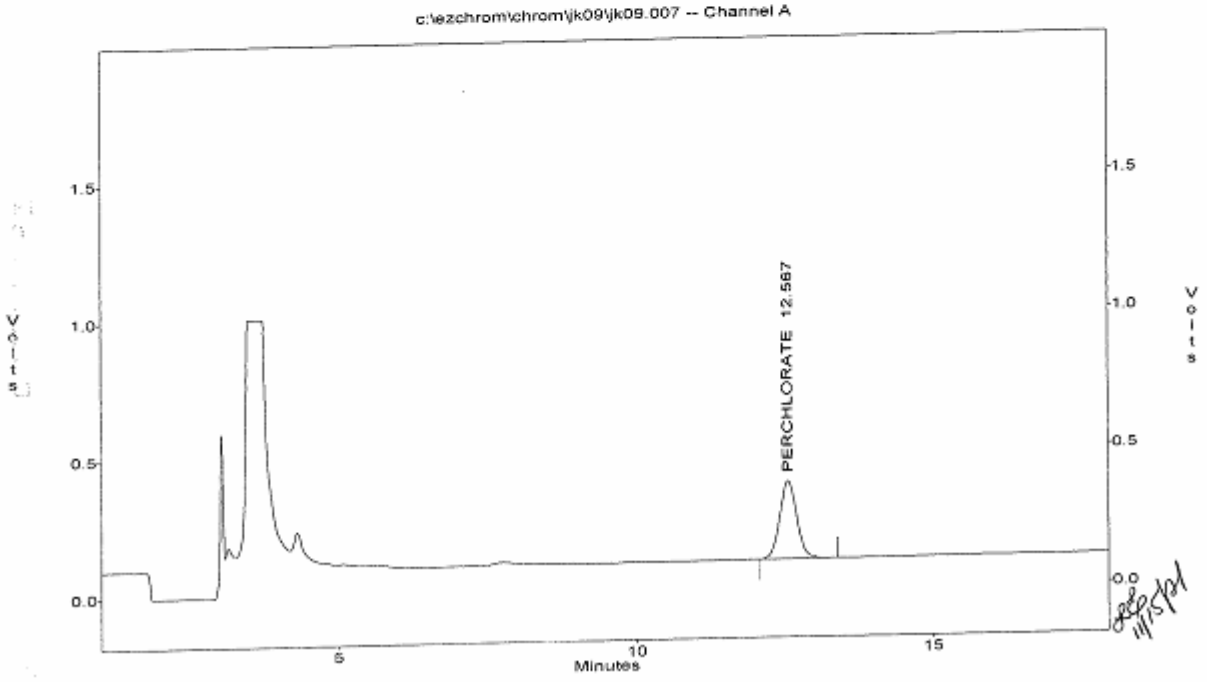
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



REPORT ID: 21K169

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* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

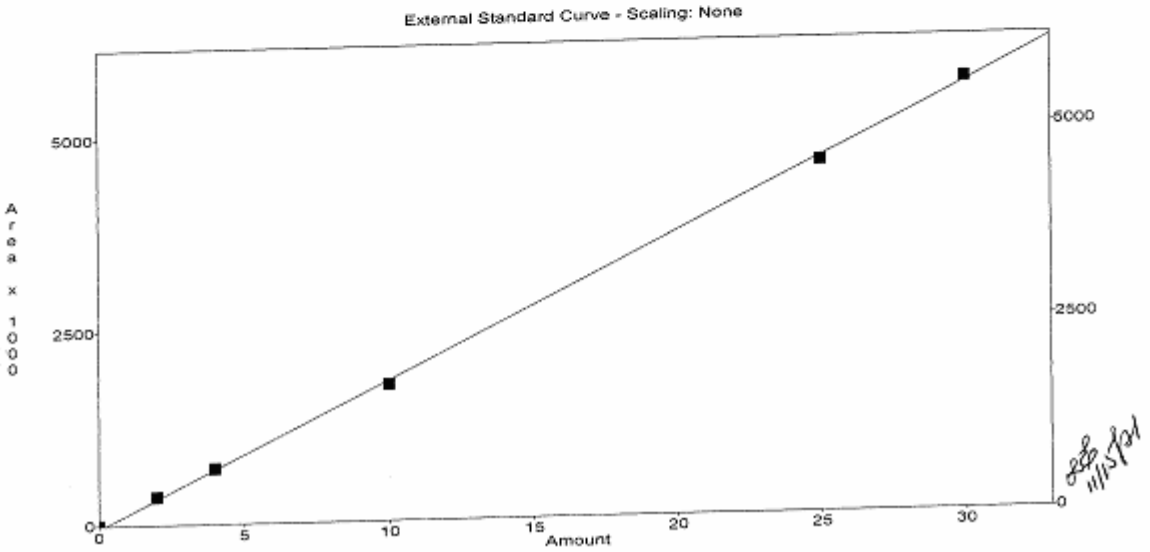
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36295e-006 x Area + 0.255269
r^2 = 0.999512



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SECOND SOURCE VERIFICATION

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IC RESULT FORM CalVersion: PCHLO314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.NET

11/15/21

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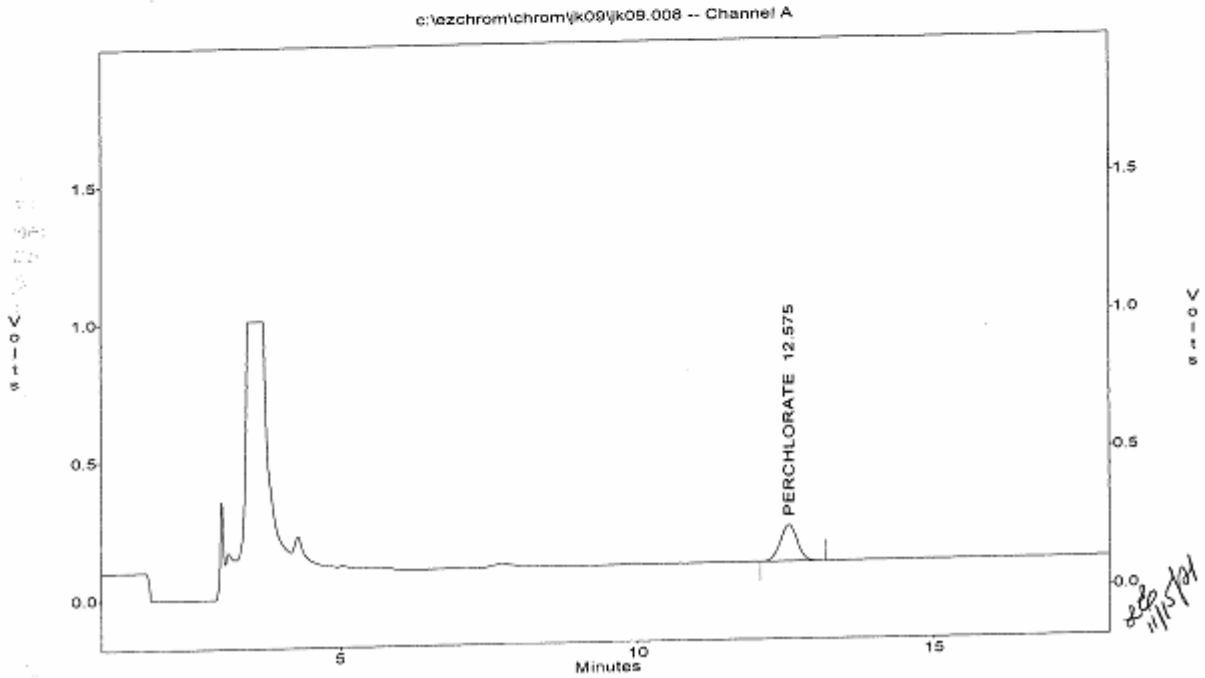
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



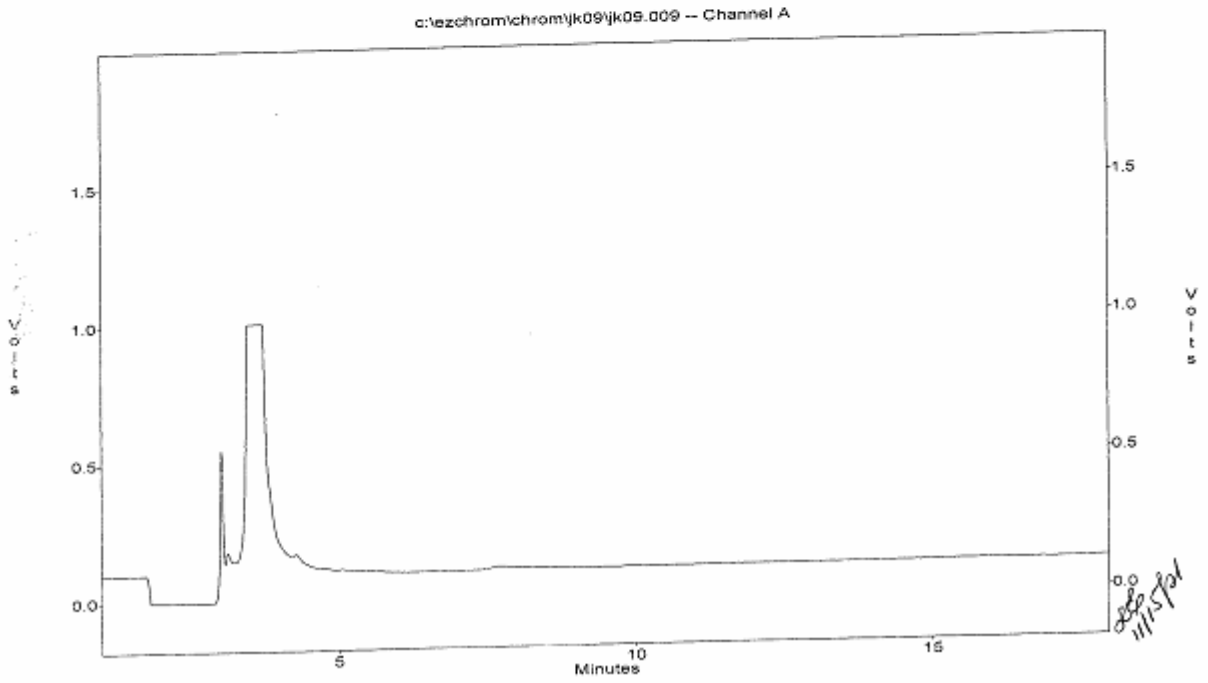
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K169

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2134185
SDG : 21K169
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK19042	CCV56-15	102	11/20/2100:25
21JK19064	CCV58-15	104	11/20/2108:08
21JK19069	CCV59-30	102	11/20/2109:53
21JK21009	CCV60-15	98.6	11/21/2120:56
21JK21020	CCV61-30	99.7	11/22/2100:47

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK19001	RINSE	P	IC57K08	11/19/2108:27	1
JK19002	RINSE	P	IC57K08	11/19/2108:49	1
JK19003	RINSE	P	IC57K08	11/19/2109:10	1
JK19004	IPCS	P	IC57K08	11/19/2109:33	1
JK19005	PCK002WB	P	IC57K08	11/19/2109:54	1
JK19006	MRLK1901	P	IC57K08	11/19/2110:17	1
JK19007	PCK002WL	P	IC57K08	11/19/2110:38	1
JK19008	PCK002WC	P	IC57K08	11/19/2111:00	1
JK19009	CCV52-15	P	IC57K08	11/19/2111:21	1
JK19010	QC	P	IC57K08	11/19/2111:42	1
JK19011	QC	P	IC57K08	11/19/2112:18	1
JK19012	QC	P	IC57K08	11/19/2112:39	1
JK19013	K139-01	P	IC57K08	11/19/2113:01	1
JK19014	K140-01	P	IC57K08	11/19/2113:23	1
JK19015	K141-01	P	IC57K08	11/19/2113:44	1
JK19016	K141-01M	P	IC57K08	11/19/2114:07	1
JK19017	K141-01D	P	IC57K08	11/19/2114:28	1
JK19018	K168-01	P	IC57K08	11/19/2114:49	1
JK19019	K166-01	P	IC57K08	11/19/2115:17	1
JK19020	CCV53-30	P	IC57K08	11/19/2115:38	1
JK19021	K166-02	P	IC57K08	11/19/2116:14	1
JK19022	K166-03	P	IC57K08	11/19/2116:38	1
JK19023	K166-04	P	IC57K08	11/19/2116:59	1
JK19024	K166-05	P	IC57K08	11/19/2117:21	1
JK19025	K166-06	P	IC57K08	11/19/2117:44	1
JK19026	K166-06M	P	IC57K08	11/19/2118:49	1
JK19027	K166-06D	P	IC57K08	11/19/2119:10	1
JK19028	K166-07	P	IC57K08	11/19/2119:31	1
JK19029	TEST	P	IC57K08	11/19/2119:52	1
JK19030	K166-09	P	IC57K08	11/19/2120:13	1
JK19031	CCV54-15	P	IC57K08	11/19/2120:34	1
JK19032	K166-10	P	IC57K08	11/19/2120:55	1
JK19033	K190-01	P	IC57K08	11/19/2121:16	1
JK19034	K190-02	P	IC57K08	11/19/2121:37	1
JK19035	K191-01	P	IC57K08	11/19/2121:58	1
JK19036	CCV55-30	P	IC57K08	11/19/2122:19	1
JK19037	IPCS	P	IC57K08	11/19/2122:40	1
JK19038	PCK003WB	P	IC57K08	11/19/2123:01	1
JK19039	MRLK1902	P	IC57K08	11/19/2123:22	1
JK19040	PCK003WL	P	IC57K08	11/19/2123:43	1
JK19041	PCK003WC	P	IC57K08	11/20/2100:04	1
JK19042	CCV56-15	P	IC57K08	11/20/2100:25	1
JK19043	K167-01	P	IC57K08	11/20/2100:46	1
JK19044	K167-02	P	IC57K08	11/20/2101:07	1
JK19045	K167-03	P	IC57K08	11/20/2101:28	1
JK19046	TEST	P	IC57K08	11/20/2101:49	1
JK19047	K167-05	P	IC57K08	11/20/2102:10	1
JK19048	K167-06	P	IC57K08	11/20/2102:31	1
JK19049	K167-06M	P	IC57K08	11/20/2102:52	1
JK19050	K167-06D	P	IC57K08	11/20/2103:13	1
JK19051	K167-07	P	IC57K08	11/20/2103:34	1
JK19052	TEST	P	IC57K08	11/20/2103:55	1
JK19053	CCV57-30	P	IC57K08	11/20/2104:16	1
JK19054	K167-09	P	IC57K08	11/20/2104:37	1
JK19055	K167-10	P	IC57K08	11/20/2104:59	1
JK19056	K174-01	P	IC57K08	11/20/2105:20	1
JK19057	K174-01M	P	IC57K08	11/20/2105:41	1
JK19058	K174-01D	P	IC57K08	11/20/2106:02	1
JK19059	K174-02	P	IC57K08	11/20/2106:23	1
JK19060	K174-03	P	IC57K08	11/20/2106:44	1
JK19061	K174-04	P	IC57K08	11/20/2107:05	1
JK19062	K174-05	P	IC57K08	11/20/2107:26	1
JK19063	K174-06	P	IC57K08	11/20/2107:47	1
JK19064	CCV58-15	P	IC57K08	11/20/2108:08	1
JK19065	K169-01	P	IC57K08	11/20/2108:29	1
JK19066	K169-02	P	IC57K08	11/20/2108:50	1
JK19067	K169-03	P	IC57K08	11/20/2109:11	1
JK19068	K169-04	P	IC57K08	11/20/2109:32	1
JK19069	CCV59-30	P	IC57K08	11/20/2109:53	1

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK21001	RINSE	P	IC57K08	11/21/2118:07	1
JK21002	RINSE	P	IC57K08	11/21/2118:28	1
JK21003	RINSE	P	IC57K08	11/21/2118:49	1
JK21004	IPCS	P	IC57K08	11/21/2119:10	1
JK21005	PCK004WB	P	IC57K08	11/21/2119:31	1
JK21006	MRLK2101	P	IC57K08	11/21/2119:53	1
JK21007	PCK004WL	P	IC57K08	11/21/2120:14	1
JK21008	PCK004WC	P	IC57K08	11/21/2120:35	1
JK21009	CCV60-15	P	IC57K08	11/21/2120:56	1
JK21010	K193-01	P	IC57K08	11/21/2121:17	1
JK21011	K169-05	P	IC57K08	11/21/2121:38	1
JK21012	K169-05M	P	IC57K08	11/21/2121:59	1
JK21013	K169-05D	P	IC57K08	11/21/2122:20	1
JK21014	K169-06	P	IC57K08	11/21/2122:41	1
JK21015	K169-07	P	IC57K08	11/21/2123:02	1
JK21016	K169-08	P	IC57K08	11/21/2123:23	1
JK21017	K169-09	P	IC57K08	11/21/2123:44	1
JK21018	K169-10	P	IC57K08	11/22/2100:05	1
JK21019	K169-11	P	IC57K08	11/22/2100:26	1
JK21020	CCV61-30	P	IC57K08	11/22/2100:47	1
JK21021	K173-01	P	IC57K08	11/22/2101:08	1
JK21022	K173-02	P	IC57K08	11/22/2101:29	1
JK21023	K173-03	P	IC57K08	11/22/2101:50	1
JK21024	K173-04	*	IC57K08	11/22/2102:11	1
JK21025	K173-05	*	IC57K08	11/22/2102:32	1
JK21026	K173-06	P	IC57K08	11/22/2102:53	1
JK21027	K173-06M	P	IC57K08	11/22/2103:14	1
JK21028	K173-06D	P	IC57K08	11/22/2103:35	1
JK21029	K173-07	P	IC57K08	11/22/2103:56	1
JK21030	TEST	P	IC57K08	11/22/2104:17	1
JK21031	CCV62-15	P	IC57K08	11/22/2104:38	1
JK21032	K173-09	P	IC57K08	11/22/2104:59	1
JK21033	K173-10	P	IC57K08	11/22/2105:20	1
JK21034	K173-11	P	IC57K08	11/22/2105:41	1
JK21035	TEST	P	IC57K08	11/22/2106:02	1
JK21036	CCV63-30	P	IC57K08	11/22/2106:23	1
JK21037	K193-01I	P	IC57K08	11/22/2109:20	10
JK21038	K173-04I	P	IC57K08	11/22/2109:43	5
JK21039	K173-05I	P	IC57K08	11/22/2110:06	5
JK21040	CCV64-15	P	IC57K08	11/22/2110:28	1

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IC RESULT FORM CalVersion: PCHLO314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK19001	RINSE	P	.000	11/19/2108:27	1
JK19002	RINSE	P	.000	11/19/2108:49	1
JK19003	RINSE	P	.000	11/19/2109:10	1
JK19004	IPCS	P	94.8%	11/19/2109:33	1
JK19005	PCK002WB	P	.000	11/19/2109:54	1
JK19006	MRLK1901	P	99.2%	11/19/2110:17	1
JK19007	PCK002WL	P	24.5	11/19/2110:38	1
JK19008	PCK002WC	P	24	11/19/2111:00	1
JK19009	CCV52-15	P	101%	11/19/2111:21	1
JK19010	QC	P	.000	11/19/2111:42	1
JK19011	QC	P	.000	11/19/2112:18	1
JK19012	QC	P	.000	11/19/2112:39	1
JK19013	K139-01	P	29.6	11/19/2113:01	1
JK19014	K140-01	P	2.92	11/19/2113:23	1
JK19015	K141-01	P	1.34	11/19/2113:44	1
JK19016	K141-01M	P	15.7	11/19/2114:07	1
JK19017	K141-01D	P	1.2	11/19/2114:28	1
JK19018	K168-01	P	.000	11/19/2114:49	1
JK19019	K166-01	P	.000	11/19/2115:17	1
JK19020	CCV53-30	P	102%	11/19/2115:38	1
JK19021	K166-02	P	8.99	11/19/2116:14	1
JK19022	K166-03	P	10.2	11/19/2116:38	1
JK19023	K166-04	P	12	11/19/2116:59	1
JK19024	K166-05	P	7.62	11/19/2117:21	1
JK19025	K166-06	P	.000	11/19/2117:44	1
JK19026	K166-06M	P	14.6	11/19/2118:49	1
JK19027	K166-06D	P	.000	11/19/2119:10	1
JK19028	K166-07	P	4.56	11/19/2119:31	1
JK19029	TEST	P	5.29	11/19/2119:52	1
JK19030	K166-09	P	4.26	11/19/2120:13	1
JK19031	CCV54-15	P	104%	11/19/2120:34	1
JK19032	K166-10	P	.000	11/19/2120:55	1
JK19033	K190-01	P	.000	11/19/2121:16	1
JK19034	K190-02	P	.000	11/19/2121:37	1
JK19035	K191-01	P	.000	11/19/2121:58	1
JK19036	CCV55-30	P	102%	11/19/2122:19	1
JK19037	IPCS	P	99.5%	11/19/2122:40	1
JK19038	PCK003WB	P	.000	11/19/2123:01	1
JK19039	MRLK1902	P	100%	11/19/2123:22	1
JK19040	PCK003WL	P	24.9	11/19/2123:43	1
JK19041	PCK003WC	P	24.8	11/20/2100:04	1
JK19042	CCV56-15	P	102%	11/20/2100:25	1
JK19043	K167-01	P	.000	11/20/2100:46	1
JK19044	K167-02	P	1.39	11/20/2101:07	1
JK19045	K167-03	P	3.61	11/20/2101:28	1
JK19046	TEST	P	2.98	11/20/2101:49	1
JK19047	K167-05	P	1.48	11/20/2102:10	1
JK19048	K167-06	P	.000	11/20/2102:31	1
JK19049	K167-06M	P	14.9	11/20/2102:52	1
JK19050	K167-06D	P	.000	11/20/2103:13	1
JK19051	K167-07	P	.000	11/20/2103:34	1
JK19052	TEST	P	12.3	11/20/2103:55	1
JK19053	CCV57-30	P	105%	11/20/2104:16	1
JK19054	K167-09	P	.000	11/20/2104:37	1
JK19055	K167-10	P	21.2	11/20/2104:59	1
JK19056	K174-01	P	.000	11/20/2105:20	1
JK19057	K174-01M	P	15	11/20/2105:41	1
JK19058	K174-01D	P	.000	11/20/2106:02	1
JK19059	K174-02	P	3.17	11/20/2106:23	1
JK19060	K174-03	P	4.84	11/20/2106:44	1
JK19061	K174-04	P	6.14	11/20/2107:05	1
JK19062	K174-05	P	3.99	11/20/2107:26	1
JK19063	K174-06	P	.000	11/20/2107:47	1
JK19064	CCV58-15	P	104%	11/20/2108:08	1
JK19065	K169-01	P	3.1	11/20/2108:29	1
JK19066	K169-02	P	3.73	11/20/2108:50	1
JK19067	K169-03	P	3.65	11/20/2109:11	1
JK19068	K169-04	P	1.42	11/20/2109:32	1
JK19069	CCV59-30	P	102%	11/20/2109:53	1

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK21001	RINSE	P	.000	11/21/2118:07	1
JK21002	RINSE	P	.000	11/21/2118:28	1
JK21003	RINSE	P	.000	11/21/2118:49	1
JK21004	IPCS	P	96.3%	11/21/2119:10	1
JK21005	PCKD04WB	P	.000	11/21/2119:31	1
JK21006	MRLK2101	P	97.2%	11/21/2119:53	1
JK21007	PCKD04WL	P	24.3	11/21/2120:14	1
JK21008	PCKD04WC	P	24.5	11/21/2120:35	1
JK21009	CCV60-15	P	98.6%	11/21/2120:56	1
JK21010	K193-01	P	.000	11/21/2121:17	1
JK21011	K169-05	P	.000	11/21/2121:38	1
JK21012	K169-05M	P	14.8	11/21/2121:59	1
JK21013	K169-05D	P	.000	11/21/2122:20	1
JK21014	K169-06	P	4.71	11/21/2122:41	1
JK21015	K169-07	P	4.26	11/21/2123:02	1
JK21016	K169-08	P	1.49	11/21/2123:23	1
JK21017	K169-09	P	1.23	11/21/2123:44	1
JK21018	K169-10	P	2.05	11/22/2100:05	1
JK21019	K169-11	P	.000	11/22/2100:26	1
JK21020	CCV61-30	P	99.7%	11/22/2100:47	1
JK21021	K173-01	P	.000	11/22/2101:08	1
JK21022	K173-02	P	.000	11/22/2101:29	1
JK21023	K173-03	P	2.98	11/22/2101:50	1
JK21024	K173-04	*	60E	11/22/2102:11	1
JK21025	K173-05	*	59.4E	11/22/2102:32	1
JK21026	K173-06	P	2.01	11/22/2102:53	1
JK21027	K173-06M	P	16.2	11/22/2103:14	1
JK21028	K173-06D	P	2.01	11/22/2103:35	1
JK21029	K173-07	P	2.26	11/22/2103:56	1
JK21030	TEST	P	1.79	11/22/2104:17	1
JK21031	CCV62-15	P	101%	11/22/2104:38	1
JK21032	K173-09	P	1.76	11/22/2104:59	1
JK21033	K173-10	P	1.76	11/22/2105:20	1
JK21034	K173-11	P	.000	11/22/2105:41	1
JK21035	TEST	P	14.7	11/22/2106:02	1
JK21036	CCV63-30	P	103%	11/22/2106:23	1
JK21037	K193-01I	P	.000	11/22/2109:20	10
JK21038	K173-04I	P	59.1	11/22/2109:43	5
JK21039	K173-05I	P	57.2	11/22/2110:06	5
JK21040	CCV64-15	P	102%	11/22/2110:28	1

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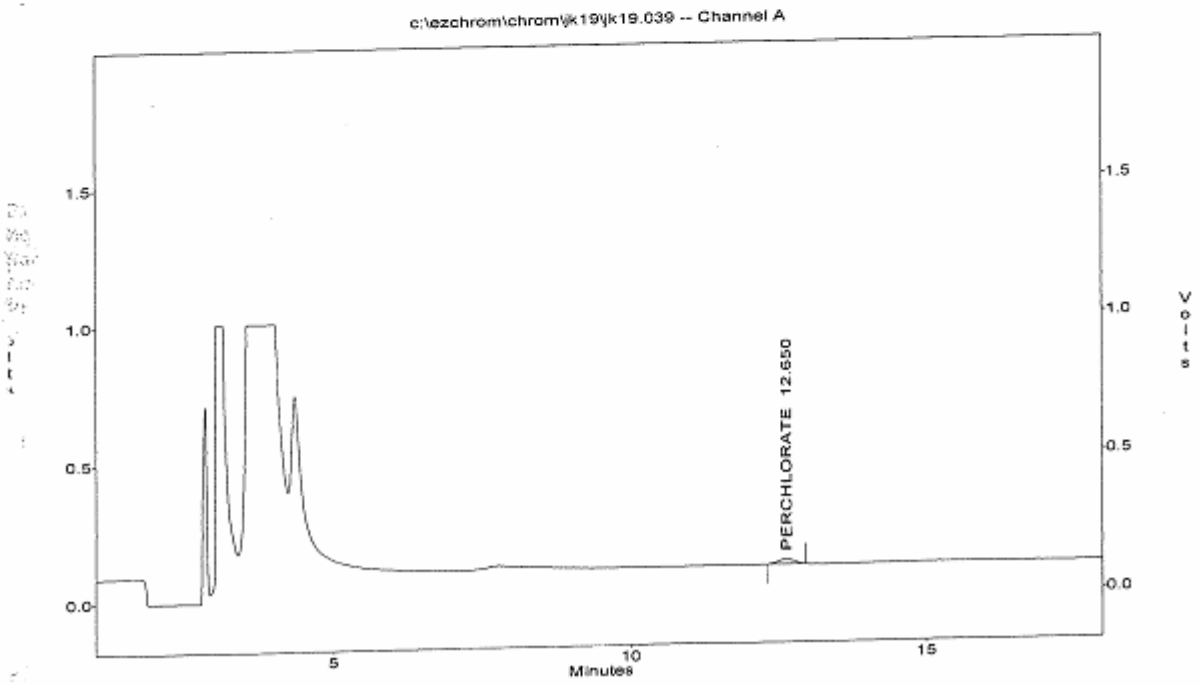
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.039
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK1902
Acquired : Nov 19, 2021 23:22:42
Printed : Nov 22, 2021 11:51:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	326685	18033	180791.531	2.007



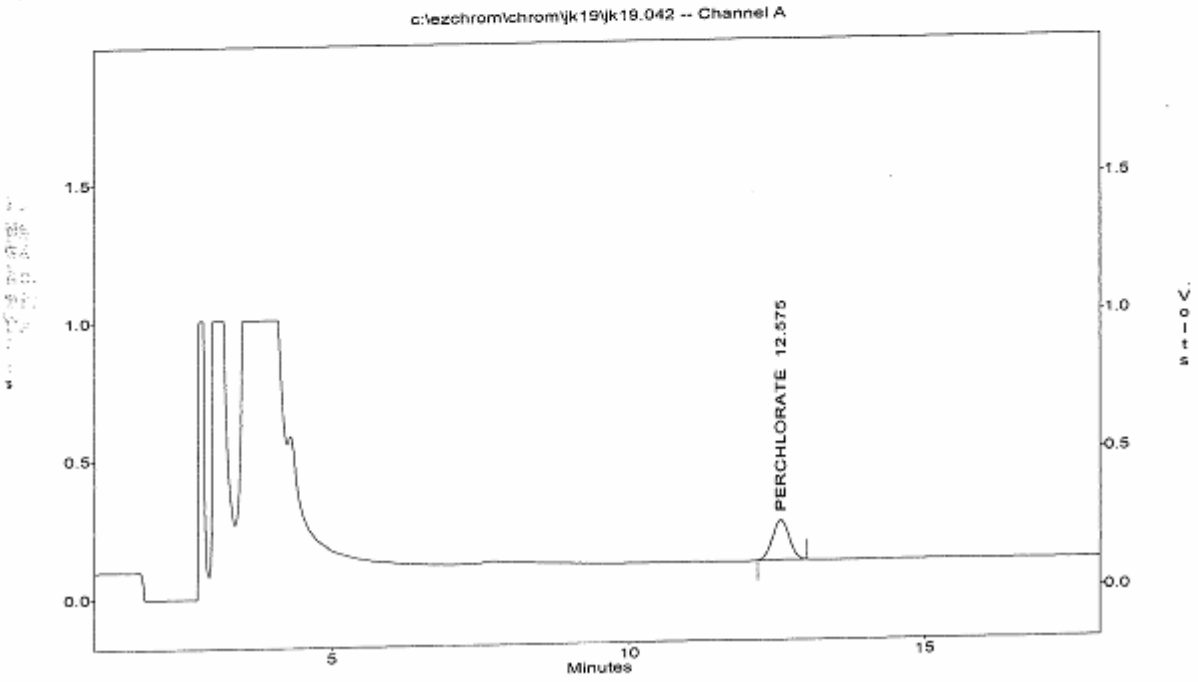
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.042
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV56-15
Acquired : Nov 20, 2021 00:25:45
Printed : Nov 22, 2021 11:52:38
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2799015	142998	180791.531	15.266



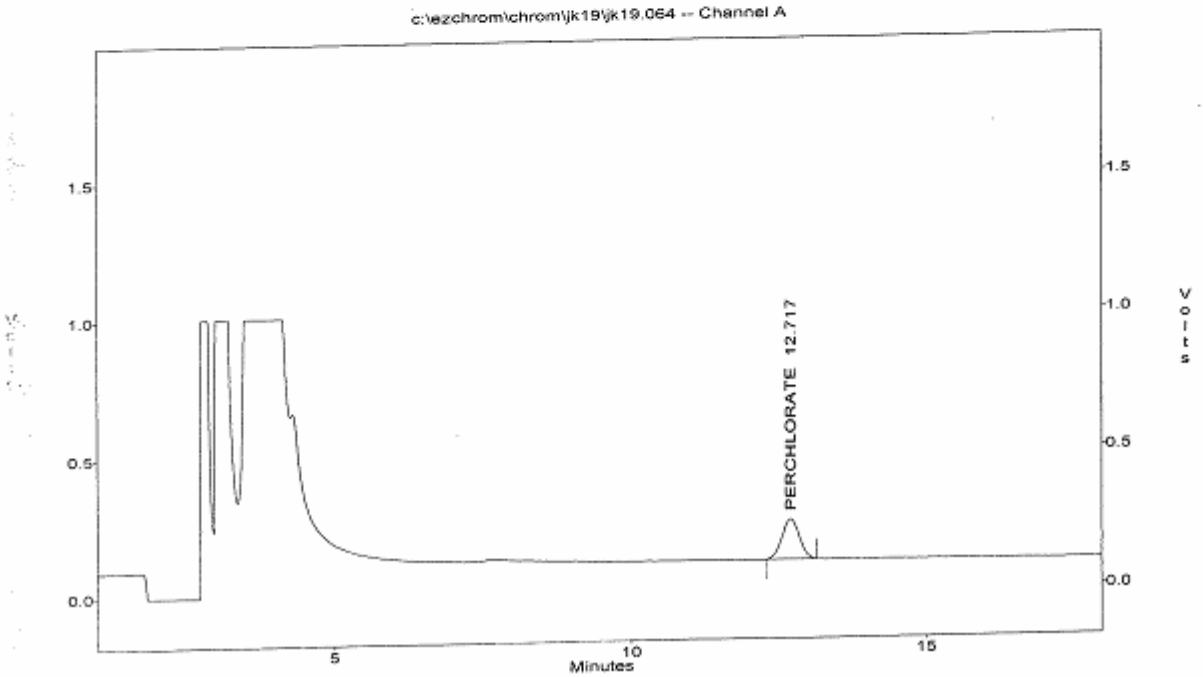
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.064
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV58-15
Acquired : Nov 20, 2021 08:08:10
Printed : Nov 22, 2021 12:06:42
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.72	2875023	144518	180791.531	15.674



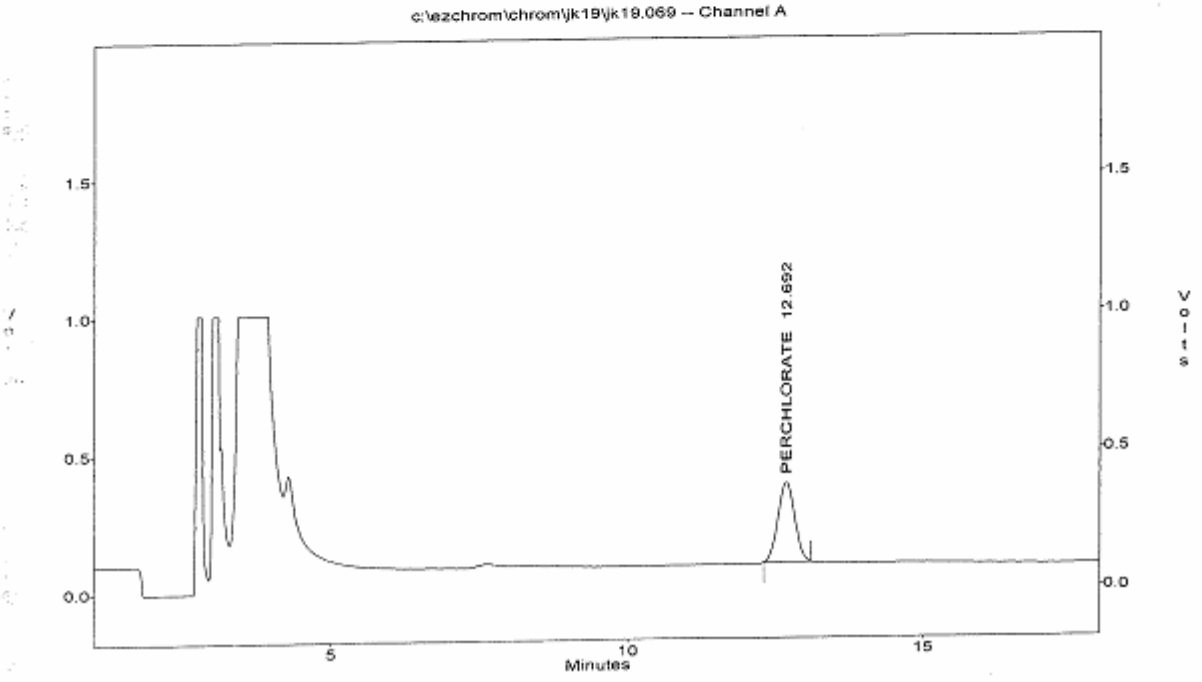
REPORT ID: 21K169

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.069
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV59-30
Acquired : Nov 20, 2021 09:53:17
Printed : Nov 22, 2021 12:08:36
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.69	5666816	287365	180791.531	30.646



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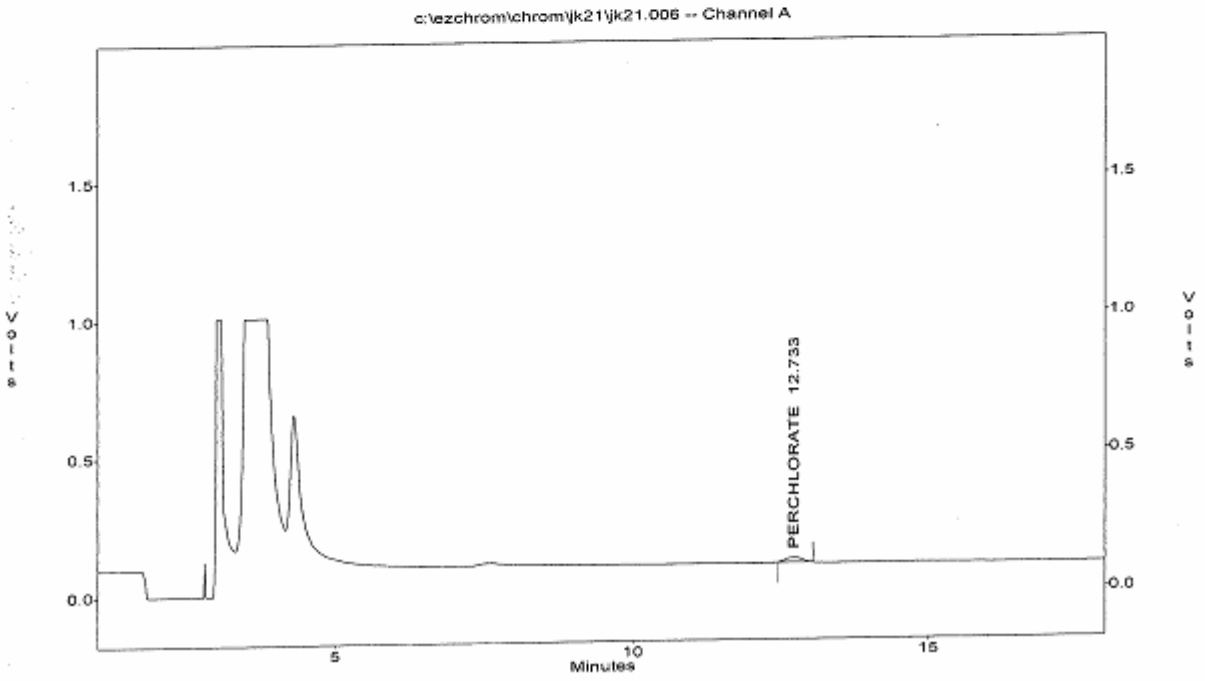
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2101
Acquired : Nov 21, 2021 19:53:00
Printed : Nov 23, 2021 08:15:54
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.73	315046	17655	180791.531	1.945



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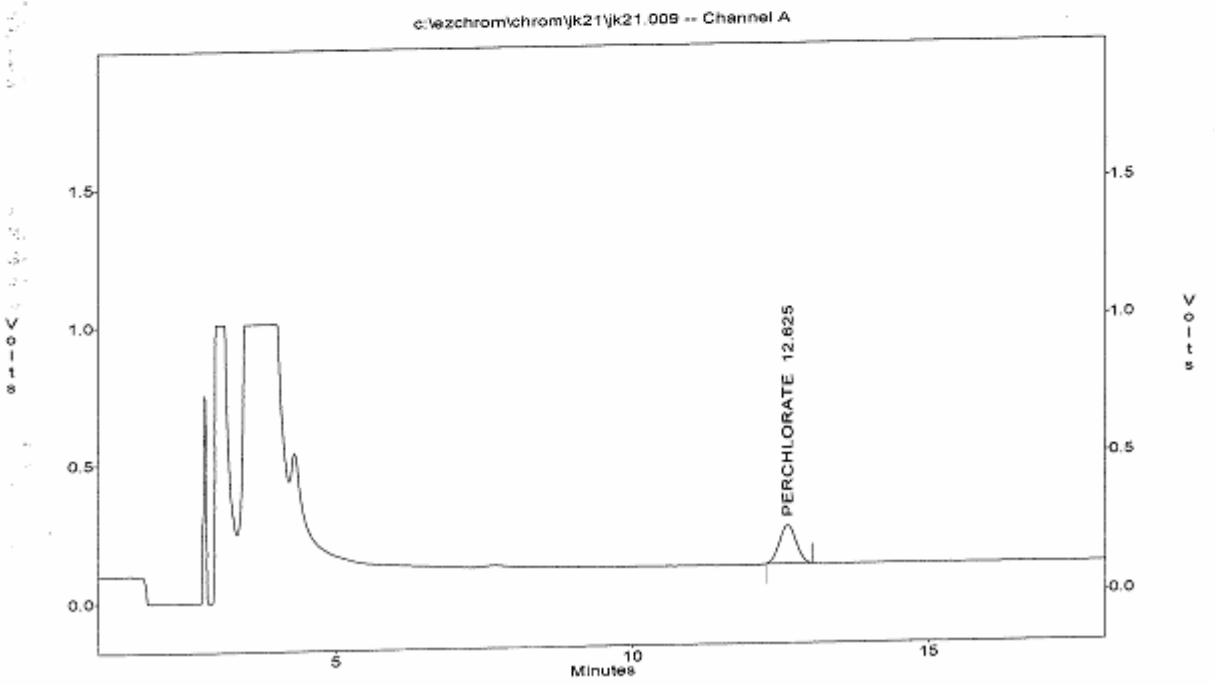
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV60-15
Acquired : Nov 21, 2021 20:56:03
Printed : Nov 23, 2021 08:18:10
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	2711046	138469	180791.531	14.794



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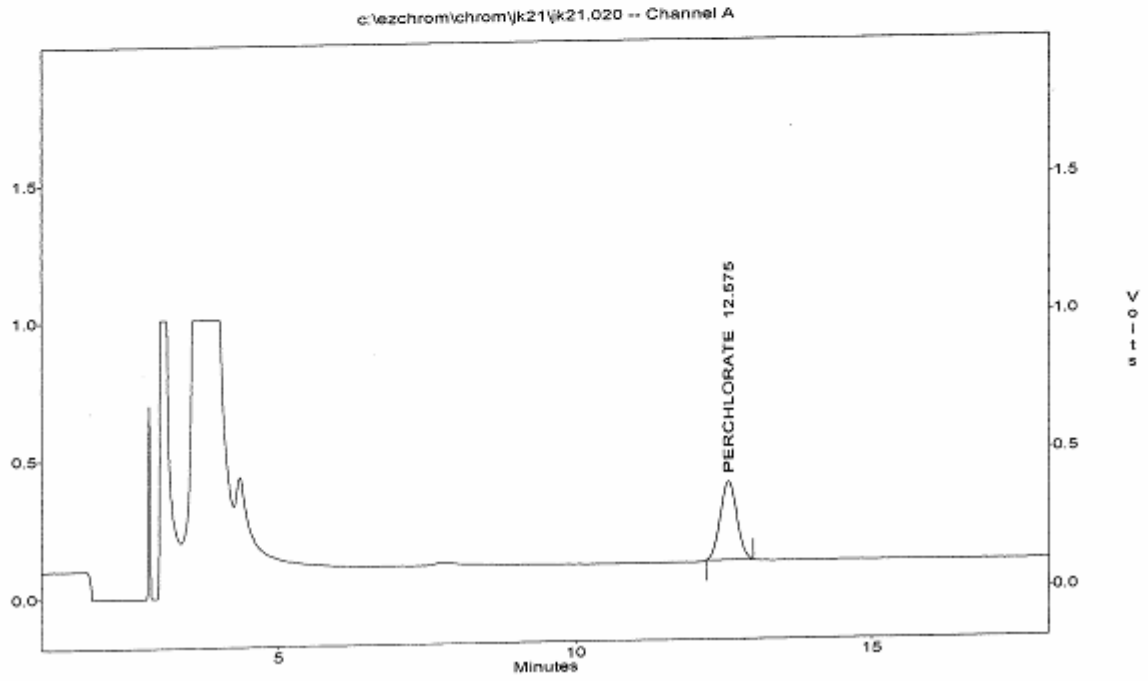
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.020
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV61-30
Acquired : Nov 22, 2021 00:47:18
Printed : Nov 23, 2021 08:25:40
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5530446	283538	180791.531	29.915



ANALYTICAL LOG(S)

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

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Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwRi-02-18-04

Reagent Water ID #: SwIA-611-03-01

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
Swi-02-09-17	999	999
Swi-02-09-19	99,927	100,800
CMC Reading (Acceptance criteria: ± 30)		
Swi-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181794499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 170110144
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 181011214
Flow: 1.50mL/min Sample loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 170111085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #; 3552001Q
0.2 µm filter lot #:	1.5 oz; lot #;

Book #: A57-038
Instrument No.: 57
CMC Instrument No.: 29
Pipette ID: SW9A-04-17
A42762405
SW9A-04-052
Balance ID: 10601202
Analytical Sequence: JK09
Method File: IC57K08
Analytical Batch: -

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	SW48-008-04-01
ICV	SW48-008-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC
Date: 11/8/21

REPORT ID: 21K169

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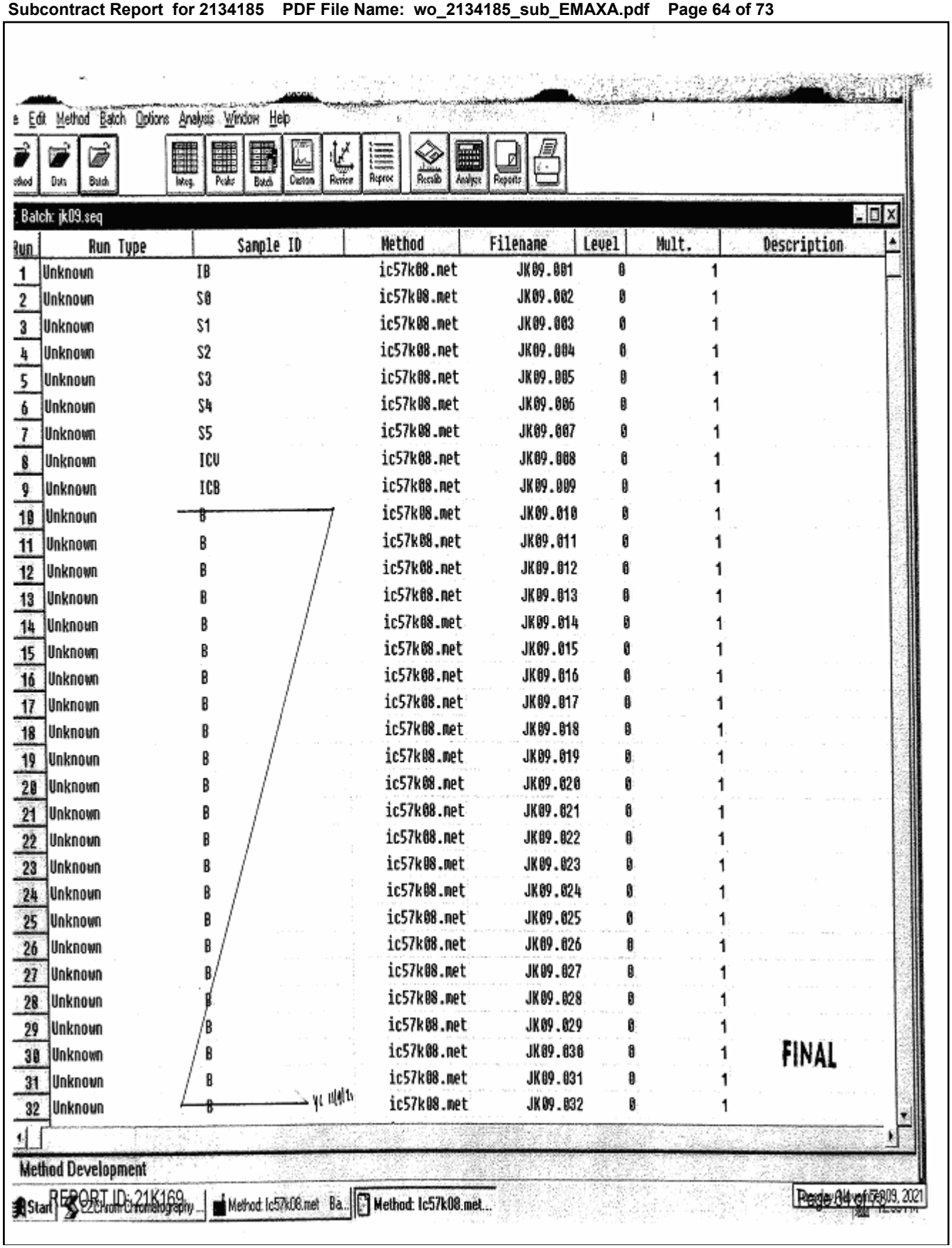

e Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

REPORT ID: 21K169

Start | Method: ic57k08.met Ba... | Method: ic57k08.met...

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 21

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-22-18-04

Reagent Water ID #: SW1A-011-03-08

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-18	99.927	100.000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

PCK002W: K139; K140; K141; K168; K166; K190; K191
- QC Water: SW1A-011-03-09
- QC Water: RWI-21-004
- QC Filter: Lot #210690103
- * MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

PCK003W: K167; K174; K169
- * MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

	Snapseal container
0.45 µm filter lot #: 210081103	4 oz; lot #: 35520012
0.2 µm filter lot #: -	1.5 oz; lot #: 25020009

Book #: A57-038
Instrument No.: 57
CMC Instrument No.: 29
Pipette ID: SW9A-04-17
A42762405
SW9A-04-052
Balance ID: 10601202
Analytical Sequence: JK19
Method File: IC57K08
Analytical Batch: PCK002W | PCK003W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID		
ICAL	-	
ICV	-	
CCV-15	SW4B-003-04-09	
CCV-30		-08
LCS		-07
IPC		-06
MRL		-03
MS	SW4B-003-03-27	

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC
Date: 11/19/21

REPORT ID: 21K169

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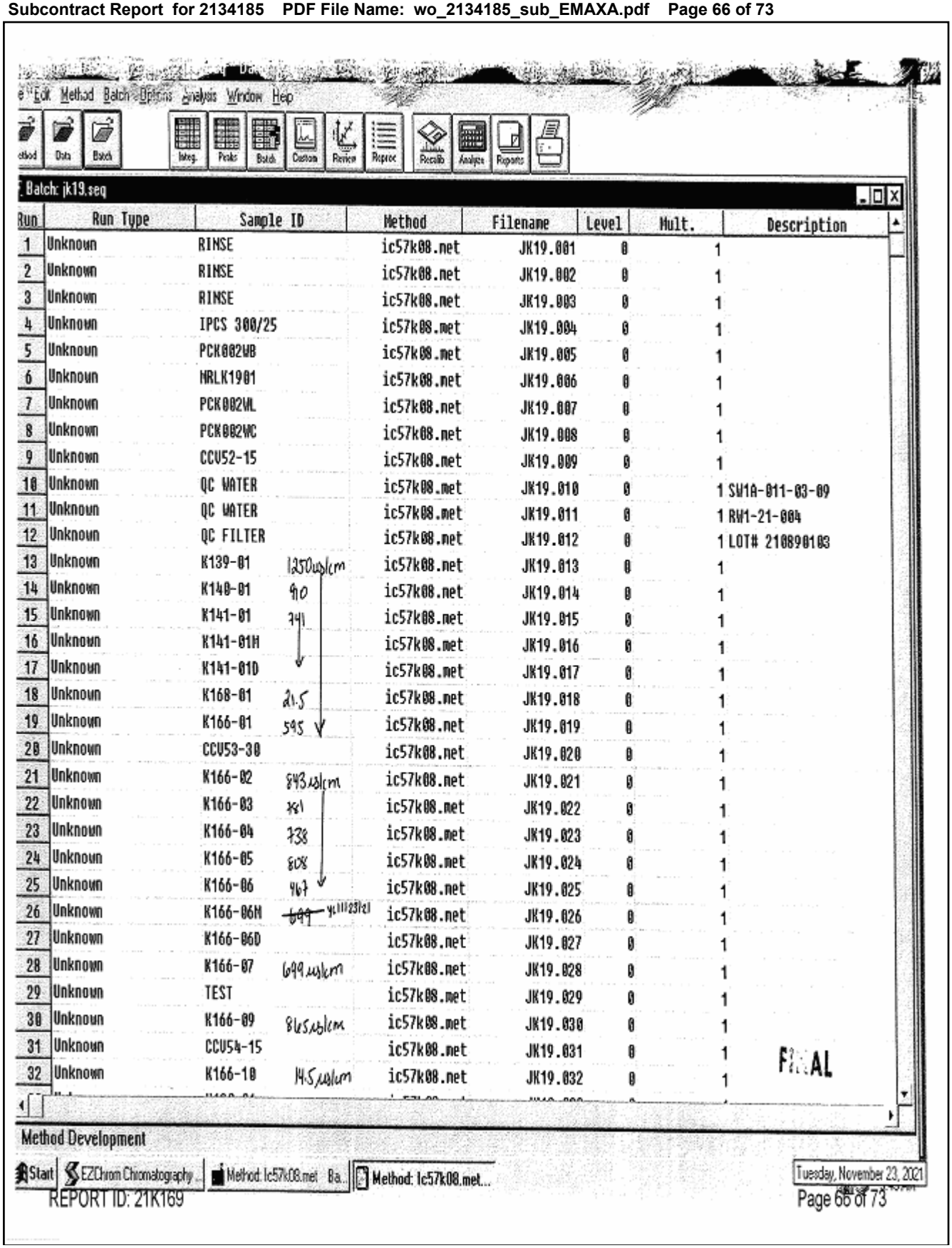

Edit Method Batch Options Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
1	Unknown	RINSE		ic57k08.net	JK19.001	0	1	
2	Unknown	RINSE		ic57k08.net	JK19.002	0	1	
3	Unknown	RINSE		ic57k08.net	JK19.003	0	1	
4	Unknown	IPCS 300/25		ic57k08.net	JK19.004	0	1	
5	Unknown	PCK002WB		ic57k08.net	JK19.005	0	1	
6	Unknown	MRLK1901		ic57k08.net	JK19.006	0	1	
7	Unknown	PCK002WL		ic57k08.net	JK19.007	0	1	
8	Unknown	PCK002WC		ic57k08.net	JK19.008	0	1	
9	Unknown	CCV52-15		ic57k08.net	JK19.009	0	1	
10	Unknown	QC WATER		ic57k08.net	JK19.010	0	1	SW1A-011-03-09
11	Unknown	QC WATER		ic57k08.net	JK19.011	0	1	RW1-21-004
12	Unknown	QC FILTER		ic57k08.net	JK19.012	0	1	LOT# 210890103
13	Unknown	K139-01	1250us/cm	ic57k08.net	JK19.013	0	1	
14	Unknown	K140-01	910	ic57k08.net	JK19.014	0	1	
15	Unknown	K141-01	741	ic57k08.net	JK19.015	0	1	
16	Unknown	K141-01H		ic57k08.net	JK19.016	0	1	
17	Unknown	K141-01D		ic57k08.net	JK19.017	0	1	
18	Unknown	K168-01	21.5	ic57k08.net	JK19.018	0	1	
19	Unknown	K166-01	595	ic57k08.net	JK19.019	0	1	
20	Unknown	CCV53-30		ic57k08.net	JK19.020	0	1	
21	Unknown	K166-02	843us/cm	ic57k08.net	JK19.021	0	1	
22	Unknown	K166-03	781	ic57k08.net	JK19.022	0	1	
23	Unknown	K166-04	738	ic57k08.net	JK19.023	0	1	
24	Unknown	K166-05	808	ic57k08.net	JK19.024	0	1	
25	Unknown	K166-06	967	ic57k08.net	JK19.025	0	1	
26	Unknown	K166-06H	~~699~~ 4.111231121	ic57k08.net	JK19.026	0	1	
27	Unknown	K166-06D		ic57k08.net	JK19.027	0	1	
28	Unknown	K166-07	699 us/cm	ic57k08.net	JK19.028	0	1	
29	Unknown	TEST		ic57k08.net	JK19.029	0	1	
30	Unknown	K166-09	865us/cm	ic57k08.net	JK19.030	0	1	
31	Unknown	CCV54-15		ic57k08.net	JK19.031	0	1	
32	Unknown	K166-10	14.5 us/cm	ic57k08.net	JK19.032	0	1	

FINAL

Method Development

Start | EZChrom Chromatography ... | Method: ic57k08.met Ba... | Method: ic57k08.met...

Tuesday, November 23, 2021

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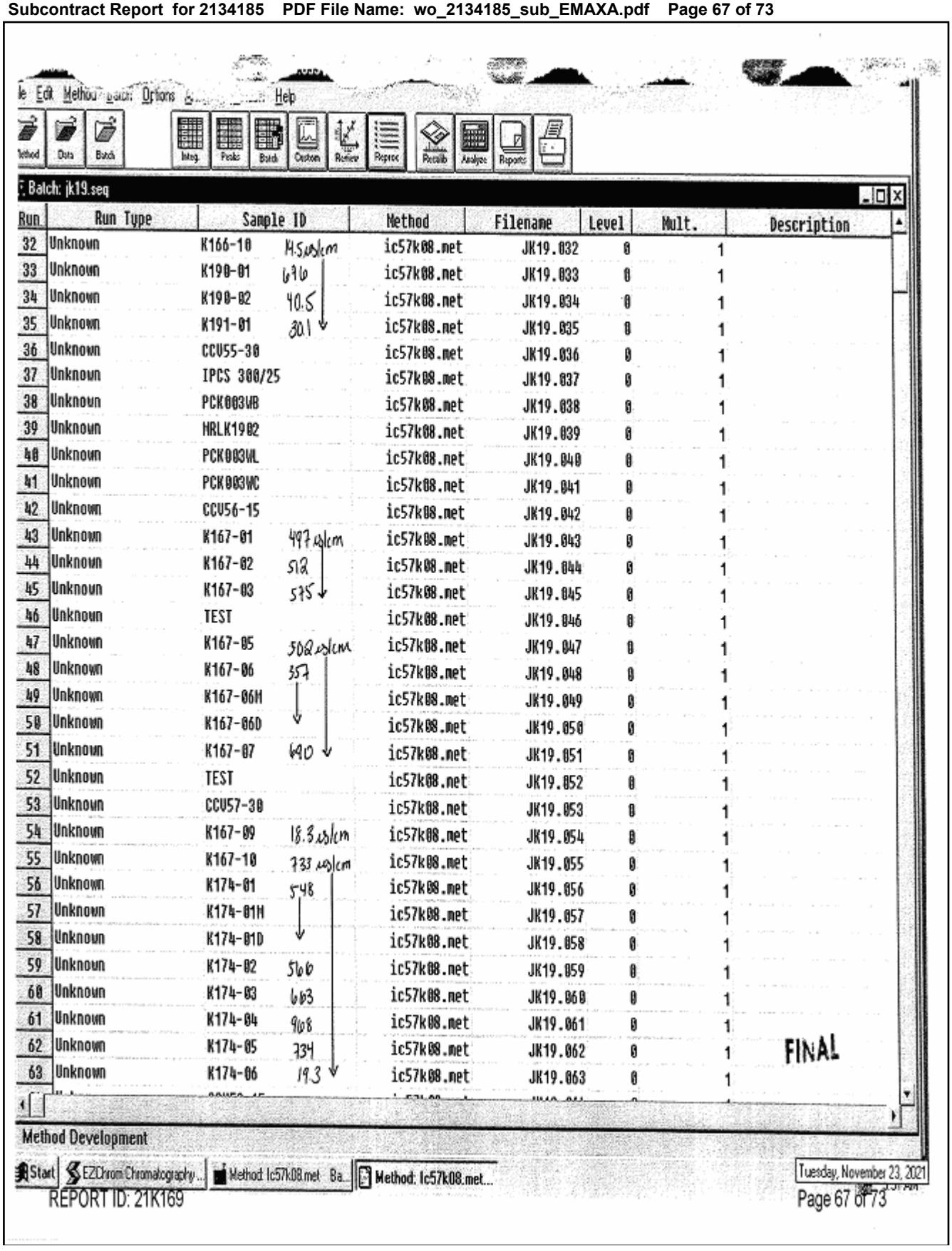

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
32	Unknown	K166-10	14.5 us/cm	ic57k08.met	JK19.032	0	1	
33	Unknown	K190-01	6.96	ic57k08.met	JK19.033	0	1	
34	Unknown	K190-02	40.5	ic57k08.met	JK19.034	0	1	
35	Unknown	K191-01	30.1	ic57k08.met	JK19.035	0	1	
36	Unknown	CCV55-30		ic57k08.met	JK19.036	0	1	
37	Unknown	IPCS 300/25		ic57k08.met	JK19.037	0	1	
38	Unknown	PCK003WB		ic57k08.met	JK19.038	0	1	
39	Unknown	HRLK1902		ic57k08.met	JK19.039	0	1	
40	Unknown	PCK003WL		ic57k08.met	JK19.040	0	1	
41	Unknown	PCK003WC		ic57k08.met	JK19.041	0	1	
42	Unknown	CCV56-15		ic57k08.met	JK19.042	0	1	
43	Unknown	K167-01	497 us/cm	ic57k08.met	JK19.043	0	1	
44	Unknown	K167-02	512	ic57k08.met	JK19.044	0	1	
45	Unknown	K167-03	575	ic57k08.met	JK19.045	0	1	
46	Unknown	TEST		ic57k08.met	JK19.046	0	1	
47	Unknown	K167-05	502 us/cm	ic57k08.met	JK19.047	0	1	
48	Unknown	K167-06	357	ic57k08.met	JK19.048	0	1	
49	Unknown	K167-06M		ic57k08.met	JK19.049	0	1	
50	Unknown	K167-06D		ic57k08.met	JK19.050	0	1	
51	Unknown	K167-07	690	ic57k08.met	JK19.051	0	1	
52	Unknown	TEST		ic57k08.met	JK19.052	0	1	
53	Unknown	CCV57-30		ic57k08.met	JK19.053	0	1	
54	Unknown	K167-09	18.3 us/cm	ic57k08.met	JK19.054	0	1	
55	Unknown	K167-10	733 us/cm	ic57k08.met	JK19.055	0	1	
56	Unknown	K174-01	548	ic57k08.met	JK19.056	0	1	
57	Unknown	K174-01M		ic57k08.met	JK19.057	0	1	
58	Unknown	K174-01D		ic57k08.met	JK19.058	0	1	
59	Unknown	K174-02	566	ic57k08.met	JK19.059	0	1	
60	Unknown	K174-03	603	ic57k08.met	JK19.060	0	1	
61	Unknown	K174-04	968	ic57k08.met	JK19.061	0	1	
62	Unknown	K174-05	734	ic57k08.met	JK19.062	0	1	FINAL
63	Unknown	K174-06	19.3	ic57k08.met	JK19.063	0	1	

Method Development

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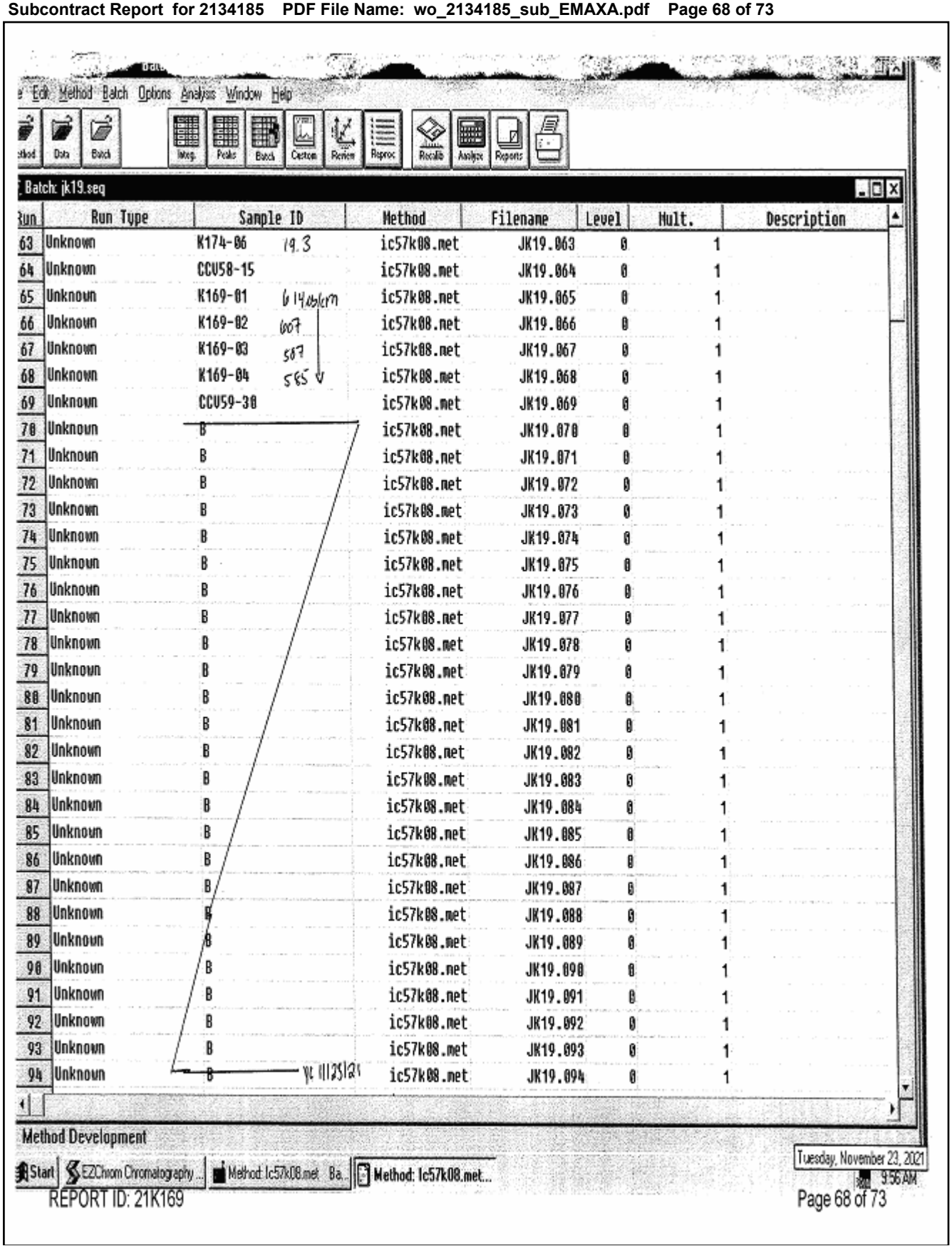

Edit Method Batch Options Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
63	Unknown	K174-06 19.3	ic57k08.met	JK19.063	0	1	
64	Unknown	CCV58-15	ic57k08.met	JK19.064	0	1	
65	Unknown	K169-01 614 ablern	ic57k08.met	JK19.065	0	1	
66	Unknown	K169-02 607	ic57k08.met	JK19.066	0	1	
67	Unknown	K169-03 587	ic57k08.met	JK19.067	0	1	
68	Unknown	K169-04 565	ic57k08.met	JK19.068	0	1	
69	Unknown	CCV59-30	ic57k08.met	JK19.069	0	1	
70	Unknown	B	ic57k08.met	JK19.070	0	1	
71	Unknown	B	ic57k08.met	JK19.071	0	1	
72	Unknown	B	ic57k08.met	JK19.072	0	1	
73	Unknown	B	ic57k08.met	JK19.073	0	1	
74	Unknown	B	ic57k08.met	JK19.074	0	1	
75	Unknown	B	ic57k08.met	JK19.075	0	1	
76	Unknown	B	ic57k08.met	JK19.076	0	1	
77	Unknown	B	ic57k08.met	JK19.077	0	1	
78	Unknown	B	ic57k08.met	JK19.078	0	1	
79	Unknown	B	ic57k08.met	JK19.079	0	1	
80	Unknown	B	ic57k08.met	JK19.080	0	1	
81	Unknown	B	ic57k08.met	JK19.081	0	1	
82	Unknown	B	ic57k08.met	JK19.082	0	1	
83	Unknown	B	ic57k08.met	JK19.083	0	1	
84	Unknown	B	ic57k08.met	JK19.084	0	1	
85	Unknown	B	ic57k08.met	JK19.085	0	1	
86	Unknown	B	ic57k08.met	JK19.086	0	1	
87	Unknown	B	ic57k08.met	JK19.087	0	1	
88	Unknown	B	ic57k08.met	JK19.088	0	1	
89	Unknown	B	ic57k08.met	JK19.089	0	1	
90	Unknown	B	ic57k08.met	JK19.090	0	1	
91	Unknown	B	ic57k08.met	JK19.091	0	1	
92	Unknown	B	ic57k08.met	JK19.092	0	1	
93	Unknown	B	ic57k08.met	JK19.093	0	1	
94	Unknown	B YL 11/25/21	ic57k08.met	JK19.094	0	1	

Method Development

Start | EZChrom Chromatography ... | Method: Ic57k08.met Ba... | Method: Ic57k08.met...

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-02-18-04

Reagent Water ID #: SWIA-011-03-02

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: DH

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181799499

Comments:

PCK004W: K193; K169; K173
+ MS: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

Snapseal container

0.45 µm filter lot #: 210890103 4 oz; lot #: 33520012

0.2 µm filter lot #: - 1.5 oz; lot #: 250 20009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK21
Method File:	IC57K08
Analytical Batch:	PCK004W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SW4B-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	SW4B-003-03-27

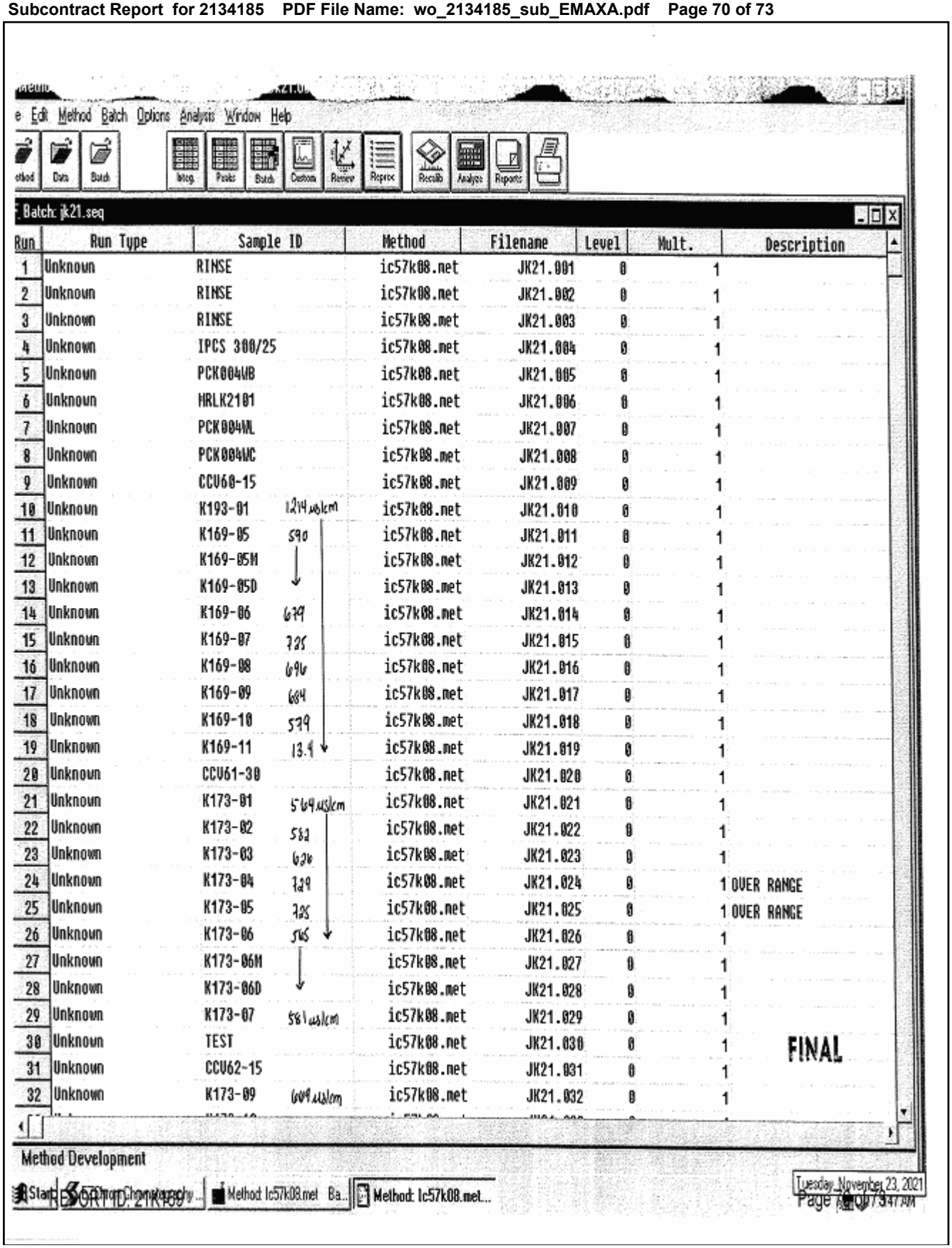
MCT Ref. MCT # 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/21/21

REPORT ID: 21K169



e Edit Method Batch Options Analysis Window Help

Batch: jk21.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
1	Unknown	RINSE		ic57k08.met	JK21.001	0	1	
2	Unknown	RINSE		ic57k08.met	JK21.002	0	1	
3	Unknown	RINSE		ic57k08.met	JK21.003	0	1	
4	Unknown	IPCS 300/25		ic57k08.met	JK21.004	0	1	
5	Unknown	PCK004WB		ic57k08.met	JK21.005	0	1	
6	Unknown	HRLK2101		ic57k08.met	JK21.006	0	1	
7	Unknown	PCK004WL		ic57k08.met	JK21.007	0	1	
8	Unknown	PCK004WC		ic57k08.met	JK21.008	0	1	
9	Unknown	CCV60-15		ic57k08.met	JK21.009	0	1	
10	Unknown	K193-01	1214 µs/cm	ic57k08.met	JK21.010	0	1	
11	Unknown	K169-05	590	ic57k08.met	JK21.011	0	1	
12	Unknown	K169-05M	↓	ic57k08.met	JK21.012	0	1	
13	Unknown	K169-05D		ic57k08.met	JK21.013	0	1	
14	Unknown	K169-06	679	ic57k08.met	JK21.014	0	1	
15	Unknown	K169-07	725	ic57k08.met	JK21.015	0	1	
16	Unknown	K169-08	696	ic57k08.met	JK21.016	0	1	
17	Unknown	K169-09	684	ic57k08.met	JK21.017	0	1	
18	Unknown	K169-10	539	ic57k08.met	JK21.018	0	1	
19	Unknown	K169-11	13.9 ↓	ic57k08.met	JK21.019	0	1	
20	Unknown	CCV61-30		ic57k08.met	JK21.020	0	1	
21	Unknown	K173-01	569 µs/cm	ic57k08.met	JK21.021	0	1	
22	Unknown	K173-02	582	ic57k08.met	JK21.022	0	1	
23	Unknown	K173-03	630	ic57k08.met	JK21.023	0	1	
24	Unknown	K173-04	729	ic57k08.met	JK21.024	0	1	OVER RANGE
25	Unknown	K173-05	735	ic57k08.met	JK21.025	0	1	OVER RANGE
26	Unknown	K173-06	565 ↓	ic57k08.met	JK21.026	0	1	
27	Unknown	K173-06M	↓	ic57k08.met	JK21.027	0	1	
28	Unknown	K173-06D	↓	ic57k08.met	JK21.028	0	1	
29	Unknown	K173-07	581 µs/cm	ic57k08.met	JK21.029	0	1	
30	Unknown	TEST		ic57k08.met	JK21.030	0	1	FINAL
31	Unknown	CCV62-15		ic57k08.met	JK21.031	0	1	
32	Unknown	K173-09	609 µs/cm	ic57k08.met	JK21.032	0	1	

Method Development

Start Method: Ic57k08.met Ba... Method: Ic57k08.met...

Tuesday, November 23, 2021

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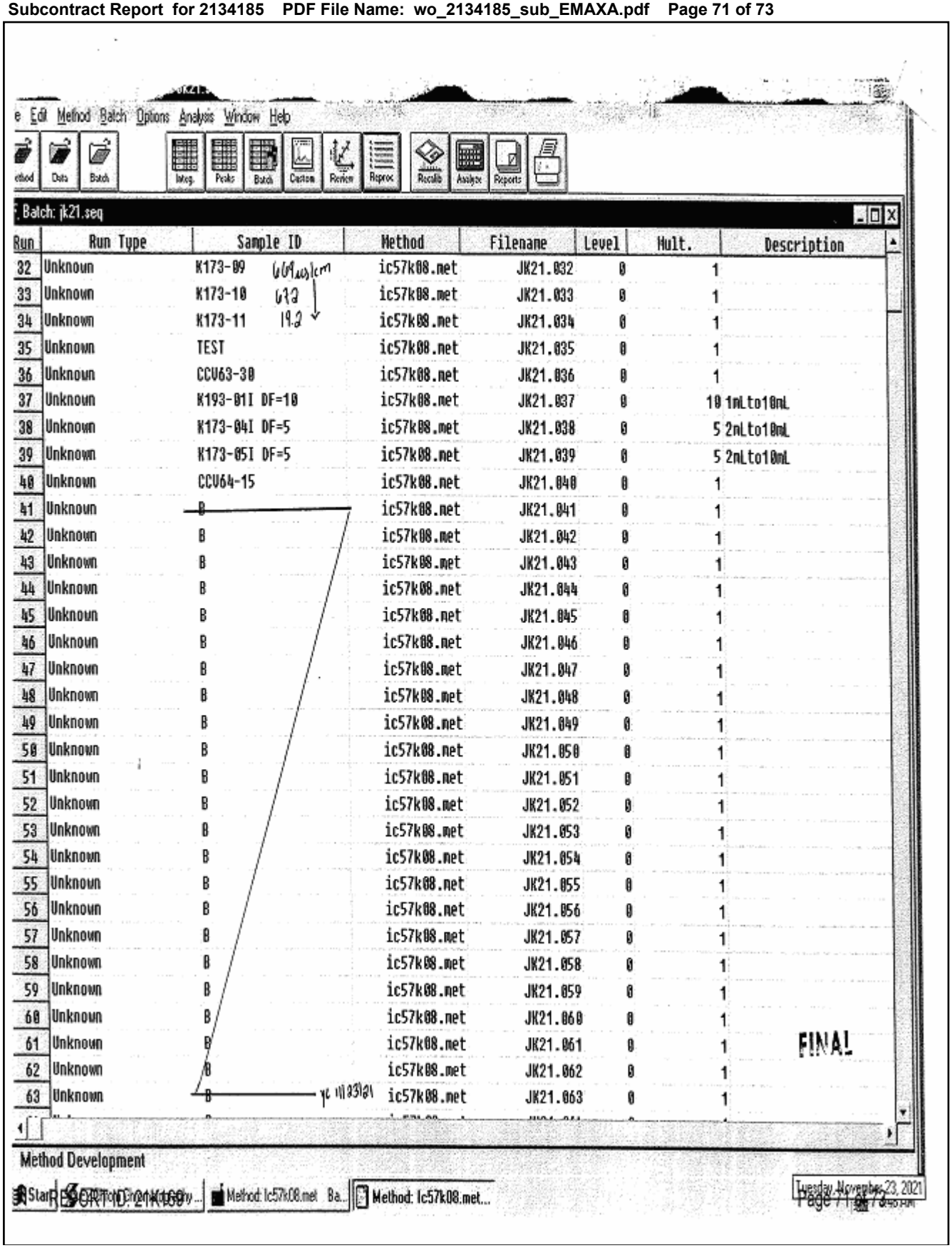

e Edit Method Batch Options Analysis Window Help

Batch: jk21.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
32	Unknown	K173-09	ic57k08.met	JK21.032	0	1	
33	Unknown	K173-10	ic57k08.met	JK21.033	0	1	
34	Unknown	K173-11	ic57k08.met	JK21.034	0	1	
35	Unknown	TEST	ic57k08.met	JK21.035	0	1	
36	Unknown	CCV63-30	ic57k08.met	JK21.036	0	1	
37	Unknown	K193-01I DF=10	ic57k08.met	JK21.037	0	10	1mLto10mL
38	Unknown	K173-04I DF=5	ic57k08.met	JK21.038	0	5	2mLto10mL
39	Unknown	K173-05I DF=5	ic57k08.met	JK21.039	0	5	2mLto10mL
40	Unknown	CCV64-15	ic57k08.met	JK21.040	0	1	
41	Unknown	B	ic57k08.met	JK21.041	0	1	
42	Unknown	B	ic57k08.met	JK21.042	0	1	
43	Unknown	B	ic57k08.met	JK21.043	0	1	
44	Unknown	B	ic57k08.met	JK21.044	0	1	
45	Unknown	B	ic57k08.met	JK21.045	0	1	
46	Unknown	B	ic57k08.met	JK21.046	0	1	
47	Unknown	B	ic57k08.met	JK21.047	0	1	
48	Unknown	B	ic57k08.met	JK21.048	0	1	
49	Unknown	B	ic57k08.met	JK21.049	0	1	
50	Unknown	B	ic57k08.met	JK21.050	0	1	
51	Unknown	B	ic57k08.met	JK21.051	0	1	
52	Unknown	B	ic57k08.met	JK21.052	0	1	
53	Unknown	B	ic57k08.met	JK21.053	0	1	
54	Unknown	B	ic57k08.met	JK21.054	0	1	
55	Unknown	B	ic57k08.met	JK21.055	0	1	
56	Unknown	B	ic57k08.met	JK21.056	0	1	
57	Unknown	B	ic57k08.met	JK21.057	0	1	
58	Unknown	B	ic57k08.met	JK21.058	0	1	
59	Unknown	B	ic57k08.met	JK21.059	0	1	
60	Unknown	B	ic57k08.met	JK21.060	0	1	
61	Unknown	B	ic57k08.met	JK21.061	0	1	
62	Unknown	B	ic57k08.met	JK21.062	0	1	
63	Unknown	B	ic57k08.met	JK21.063	0	1	

FINAL

Method Development

Method: ic57k08.met Ba...

Method: ic57k08.met...

Tuesday, November 23, 2021

RETENTION TIME WINDOW

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RETENTION TIME WINDOW
METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 15:02
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	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.
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project: 4Q21
BCL Project: JPL- GW Monitoring Wells-CLP
BCL Work Order: 2134284
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 10/29/2021. 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

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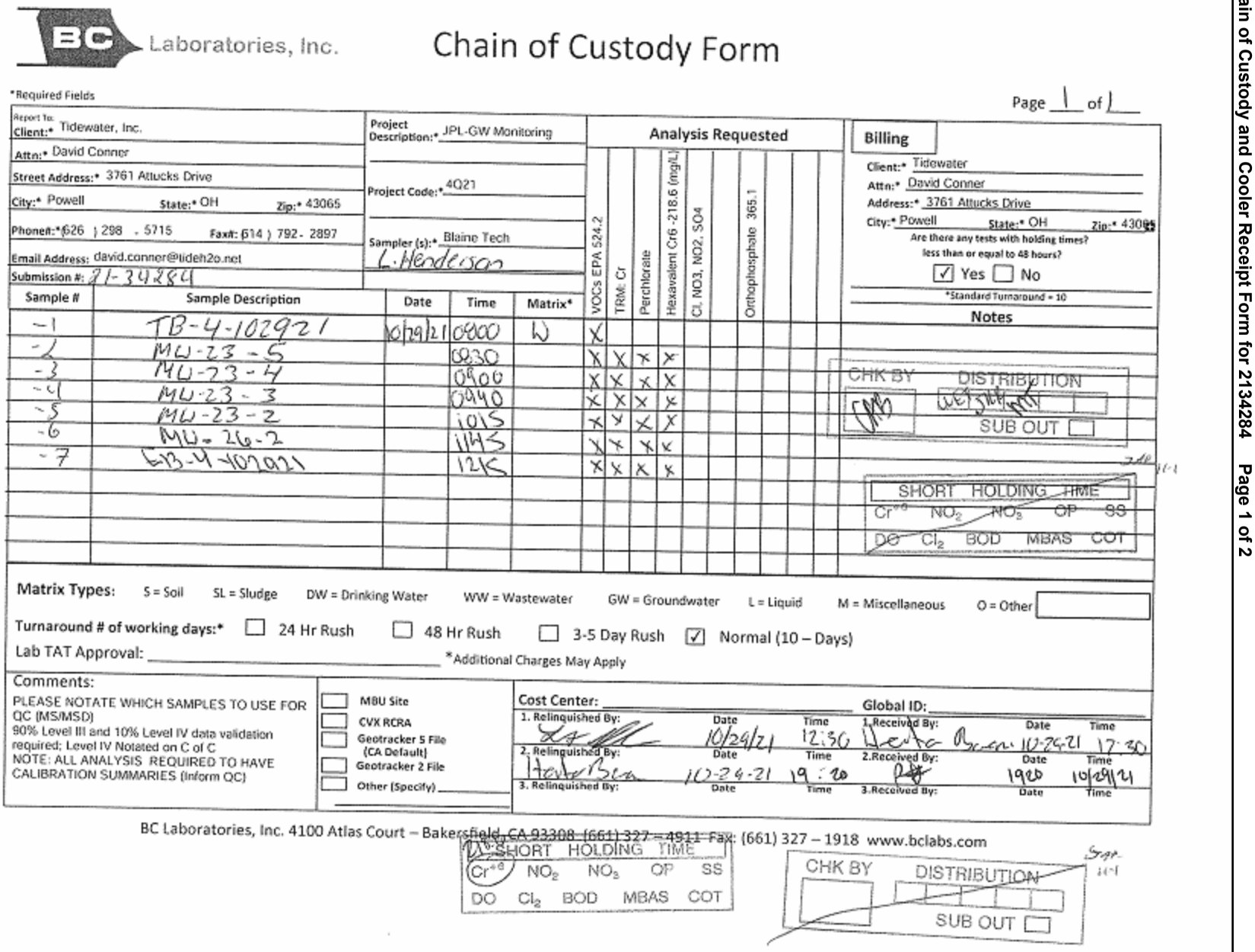

BC Laboratories, Inc.

Chain of Custody Form

*Required Fields

Page 1 of 1

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 #: 21-34284

Project Description:* JPL-GW Monitoring
Project Code:* 4Q21
Sampler (s):* Blaine Tech
L. Henderson

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4			Orthophosphate 365.1			
-1	TB-4-102921	10/29/21	0900	W	X										
-2	MW-23-5		0830		X	X	X	X							
-3	MW-23-4		0900		X	X	X	X							
-4	MW-23-3		0940		X	X	X	X							
-5	MW-23-2		1015		X	X	X	X							
-6	MW-26-2		1145		X	X	X	X							
-7	EB-4-102921		1215		X	X	X	X							

Analysis Requested

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

Notes

CHK BY DISTRIBUTION
SUB OUT ☐

SHORT HOLDING TIME
Cr^{+6} NO_2 NO_3 OP SS
DO Cl_2 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)

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

Cost Center: _____ Global ID: _____

	Relinquished By:	Date	Time	Received By:	Date	Time
1.		10/29/21	12:30		10-29-21	17:30
2.		10-29-21	19:20		1920	10/29/21
3.		Date	Time		Date	Time

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

SHORT HOLDING TIME
Cr^{+6} NO_2 NO_3 OP SS
DO Cl_2 BOD MBAS COT

CHK BY DISTRIBUTION
SUB OUT ☐

Chain of Custody and Cooler Receipt Form for 2134284 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 21-34284

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	Ⓦ / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 1.0 °C / (C) 1.0 °C

Date/Time 10/29/21 1920

Analyst Init PRE

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D	D	D	D	D	D			
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6		E	E	E	E	E	E			
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)		F	F	F	F	F	F			
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		A-C	A-C	A-C	A-C	A-C	A-C			
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: JAP Date/Time: 11-1-21 1600

A = Actual / C = Corrected

Rev 22 04/13/21

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134284-01	**COC Number:**	---	**Receive Date:**	10/29/2021 19:20
	Project Number:	NASA/JPL	**Sampling Date:**	10/29/2021 08:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-4-102921	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-4-102921	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134284-02	**COC Number:**	---	**Receive Date:**	10/29/2021 19:20
	Project Number:	NASA/JPL	**Sampling Date:**	10/29/2021 08:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-23-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-23-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134284-03	**COC Number:**	---	**Receive Date:**	10/29/2021 19:20
	Project Number:	NASA/JPL	**Sampling Date:**	10/29/2021 09:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-23-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134284-04	**COC Number:**	---	**Receive Date:**	10/29/2021 19:20
	Project Number:	NASA/JPL	**Sampling Date:**	10/29/2021 09:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-23-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-23-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134284-05	**COC Number:**	---	**Receive Date:**	10/29/2021 19:20
	Project Number:	NASA/JPL	**Sampling Date:**	10/29/2021 10:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-23-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-23-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134284-06	**COC Number:**	---	**Receive Date:**	10/29/2021 19:20
	Project Number:	NASA/JPL	**Sampling Date:**	10/29/2021 11:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-26-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-26-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information

2134284-07

COC Number: ---
Project Number: NASA/JPL
Sampling Location: ---
Sampling Point: EB-4-102921
Sampled By: BTST

Receive Date: 10/29/2021 19:20
Sampling Date: 10/29/2021 12:15
Sample Depth: ---
Lab Matrix: Water
Sample Type: Water
Delivery Work Order:
Global ID: 0000000000
Location ID (FieldPoint): EB-4-102921
Matrix: W
Sample QC Type (SACode): CS
Cooler ID:

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-01 | **Client Sample Name:** NASA/JPL, TB-4-102921, 10/29/2021 8:00:00AM

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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ENVIRONMENTAL SCIENCES

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-01 | **Client Sample Name:** NASA/JPL, TB-4-102921, 10/29/2021 8:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

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Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-01 | **Client Sample Name:** NASA/JPL, TB-4-102921, 10/29/2021 8:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 14:13	MGC	MS-V5	1	B124106	EPA 524.2

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ENVIRONMENTAL SCIENCES

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Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-01 | **Client Sample Name:** NASA/JPL, TB-4-102921, 10/29/2021 8:00:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 14:13	MGC	MS-V5	1	B124106	EPA 524.2

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ENVIRONMENTAL SCIENCES

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Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-02 | **Client Sample Name:** NASA/JPL, MW-23-5, 10/29/2021 8:30:00AM

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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-02 | **Client Sample Name:** NASA/JPL, MW-23-5, 10/29/2021 8:30:00AM

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	**0.18**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-02 | **Client Sample Name:** NASA/JPL, MW-23-5, 10/29/2021 8:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	98.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	87.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 14:38	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-02 | **Client Sample Name:** NASA/JPL, MW-23-5, 10/29/2021 8:30:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 14:38	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134284-02 | **Client Sample Name:** NASA/JPL, MW-23-5, 10/29/2021 8:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00013**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/09/21 07:00	11/09/21 12:41	SAV	IC-4	1	B124660	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 01:29	KHS	PE-EL4	1	B124606	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-03 | **Client Sample Name:** NASA/JPL, MW-23-4, 10/29/2021 9:00:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-03 | **Client Sample Name:** NASA/JPL, MW-23-4, 10/29/2021 9:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-03 | **Client Sample Name:** NASA/JPL, MW-23-4, 10/29/2021 9:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 15:02	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-03 | **Client Sample Name:** NASA/JPL, MW-23-4, 10/29/2021 9:00:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 15:02	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134284-03 | **Client Sample Name:** NASA/JPL, MW-23-4, 10/29/2021 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0040**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**3.8**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/09/21 07:00	11/09/21 13:58	SAV	IC-4	1	B124660	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 12:46	KHS	PE-EL4	1	B124606	EPA 200.2

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-04 | **Client Sample Name:** NASA/JPL, MW-23-3, 10/29/2021 9:40:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-04 | **Client Sample Name:** NASA/JPL, MW-23-3, 10/29/2021 9:40:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-04 | **Client Sample Name:** NASA/JPL, MW-23-3, 10/29/2021 9:40:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 15:26	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-04 | **Client Sample Name:** NASA/JPL, MW-23-3, 10/29/2021 9:40:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 15:26	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134284-04 | **Client Sample Name:** NASA/JPL, MW-23-3, 10/29/2021 9:40:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0033**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**2.9**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/09/21 07:00	11/09/21 14:07	SAV	IC-4	1	B124660	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 12:48	KHS	PE-EL4	1	B124606	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-05 | **Client Sample Name:** NASA/JPL, MW-23-2, 10/29/2021 10:15:00AM

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	**0.15**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-05 | **Client Sample Name:** NASA/JPL, MW-23-2, 10/29/2021 10:15:00AM

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	**0.71**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-05 | **Client Sample Name:** NASA/JPL, MW-23-2, 10/29/2021 10:15:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	87.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 15:50	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-05 | **Client Sample Name:** NASA/JPL, MW-23-2, 10/29/2021 10:15:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 15:50	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134284-05 | **Client Sample Name:** NASA/JPL, MW-23-2, 10/29/2021 10:15:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0019**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**1.7**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/09/21 07:00	11/09/21 14:17	KB1	IC-4	1	B124660	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 12:50	KHS	PE-EL4	1	B124606	EPA 200.2

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Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-06 | **Client Sample Name:** NASA/JPL, MW-26-2, 10/29/2021 11:45:00AM

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	**1.8**	**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: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-06 | **Client Sample Name:** NASA/JPL, MW-26-2, 10/29/2021 11:45:00AM

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	**1.8**	**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	**0.25**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-06 | **Client Sample Name:** NASA/JPL, MW-26-2, 10/29/2021 11:45:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 16:15	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-06 | **Client Sample Name:** NASA/JPL, MW-26-2, 10/29/2021 11:45:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 16:15	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134284-06 | **Client Sample Name:** NASA/JPL, MW-26-2, 10/29/2021 11:45:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00084**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**0.99**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/09/21 07:00	11/09/21 14:26	KB1	IC-4	1	B124660	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 12:52	KHS	PE-EL4	1	B124606	EPA 200.2

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-07 | **Client Sample Name:** NASA/JPL, EB-4-102921, 10/29/2021 12:15:00PM

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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-07 | **Client Sample Name:** NASA/JPL, EB-4-102921, 10/29/2021 12:15:00PM

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	**0.62**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134284-07 | **Client Sample Name:** NASA/JPL, EB-4-102921, 10/29/2021 12:15:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	87.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 16:39	MGC	MS-V5	1	B124106	EPA 524.2

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134284-07 | **Client Sample Name:** NASA/JPL, EB-4-102921, 10/29/2021 12:15:00PM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 16:39	MGC	MS-V5	1	B124106	EPA 524.2

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134284-07 | **Client Sample Name:** NASA/JPL, EB-4-102921, 10/29/2021 12:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00011**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/09/21 07:00	11/09/21 14:55	KB1	IC-4	1	B124660	No Prep
2	EPA-200.8	11/08/21 18:10	11/09/21 12:54	KHS	PE-EL4	1	B124606	EPA 200.2

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
Benzene	B124106-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124106-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124106-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124106-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124106-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124106-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124106-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124106-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124106-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124106-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124106-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124106-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124106-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B124106-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124106-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124106-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124106-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124106-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124106-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124106-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124106-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124106-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124106-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124106-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124106-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124106-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124106-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124106-BLK1	ND	ug/L	0.50	0.14	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
trans-1,3-Dichloropropene	B124106-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124106-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124106-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124106-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124106-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124106-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124106-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124106-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124106-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124106-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124106-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124106-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124106-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B124106-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124106-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124106-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124106-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124106-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124106-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124106-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124106-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124106-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124106-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124106-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124106-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124106-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124106-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124106-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124106-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124106-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124106-BLK1	ND	ug/L	4.0	1.3	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
Ethyl t-butyl ether	B124106-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124106-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124106-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124106-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124106-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124106-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124106-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124106-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124106-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124106-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124106-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124106-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124106-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124106-BLK1**	**107**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124106-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124106-BLK1**	**93.5**	%	**80 - 120 (LCL - UCL)**		

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124106										
Benzene	B124106-BS1	LCS	24.880	25.000	ug/L	99.5		70 - 130		
Bromodichloromethane	B124106-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
Chlorobenzene	B124106-BS1	LCS	25.190	25.000	ug/L	101		70 - 130		
Chloroethane	B124106-BS1	LCS	26.230	25.000	ug/L	105		70 - 130		
1,4-Dichlorobenzene	B124106-BS1	LCS	25.510	25.000	ug/L	102		70 - 130		
1,1-Dichloroethane	B124106-BS1	LCS	25.840	25.000	ug/L	103		70 - 130		
1,1-Dichloroethene	B124106-BS1	LCS	26.240	25.000	ug/L	105		70 - 130		
Toluene	B124106-BS1	LCS	25.460	25.000	ug/L	102		70 - 130		
Trichloroethene	B124106-BS1	LCS	25.470	25.000	ug/L	102		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124106-BS1	LCS	10.380	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	B124106-BS1	LCS	10.630	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124106-BS1	LCS	9.6700	10.000	ug/L	96.7		80 - 120		

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ENVIRONMENTAL SCIENCES

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124106	Used client sample: N										
Benzene	MS	2134388-09	ND	25.640	25.000	ug/L		103		70 - 130	
	MSD	2134388-09	ND	24.810	25.000	ug/L	3.3	99.2	20	70 - 130	
Bromodichloromethane	MS	2134388-09	ND	28.640	25.000	ug/L		115		70 - 130	
	MSD	2134388-09	ND	27.300	25.000	ug/L	4.8	109	20	70 - 130	
Chlorobenzene	MS	2134388-09	ND	26.080	25.000	ug/L		104		70 - 130	
	MSD	2134388-09	ND	25.830	25.000	ug/L	1.0	103	20	70 - 130	
Chloroethane	MS	2134388-09	ND	26.970	25.000	ug/L		108		70 - 130	
	MSD	2134388-09	ND	26.020	25.000	ug/L	3.6	104	20	70 - 130	
1,4-Dichlorobenzene	MS	2134388-09	ND	26.120	25.000	ug/L		104		70 - 130	
	MSD	2134388-09	ND	26.100	25.000	ug/L	0.1	104	20	70 - 130	
1,1-Dichloroethane	MS	2134388-09	ND	26.880	25.000	ug/L		108		70 - 130	
	MSD	2134388-09	ND	26.260	25.000	ug/L	2.3	105	20	70 - 130	
1,1-Dichloroethene	MS	2134388-09	ND	27.740	25.000	ug/L		111		70 - 130	
	MSD	2134388-09	ND	26.520	25.000	ug/L	4.5	106	20	70 - 130	
Toluene	MS	2134388-09	ND	26.190	25.000	ug/L		105		70 - 130	
	MSD	2134388-09	ND	25.480	25.000	ug/L	2.7	102	20	70 - 130	
Trichloroethene	MS	2134388-09	ND	27.150	25.000	ug/L		109		70 - 130	
	MSD	2134388-09	ND	25.710	25.000	ug/L	5.4	103	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134388-09	ND	10.220	10.000	ug/L		102		75 - 125	
	MSD	2134388-09	ND	9.8700	10.000	ug/L	3.5	98.7		75 - 125	
Toluene-d8 (Surrogate)	MS	2134388-09	ND	10.380	10.000	ug/L		104		80 - 120	
	MSD	2134388-09	ND	10.230	10.000	ug/L	1.5	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134388-09	ND	9.8700	10.000	ug/L		98.7		80 - 120	
	MSD	2134388-09	ND	9.8600	10.000	ug/L	0.1	98.6		80 - 120	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
Chloroacetonitrile	B124106-BLK1	0	ug/L			
1-Chlorobutane	B124106-BLK1	0	ug/L			
1,1-Dichloropropanone	B124106-BLK1	0	ug/L			
Methyl acrylate	B124106-BLK1	0	ug/L			
Nitrobenzene	B124106-BLK1	0	ug/L			
2-Nitropropane	B124106-BLK1	0	ug/L			

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124606						
Total Recoverable Chromium	B124606-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124660						
Hexavalent Chromium	B124660-BLK1	ND	mg/L	0.00020	0.000020	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124606										
Total Recoverable Chromium	B124606-BS1	LCS	45.608	40.000	ug/L	114		85 - 115		
QC Batch ID: B124660										
Hexavalent Chromium	B124660-BS1	LCS	0.020575	0.020000	mg/L	103		90 - 110		

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124606	Used client sample: Y - Description: MW-23-5, 10/29/2021 08:30										
Total Recoverable Chromium	DUP	2134284-02	ND	ND		ug/L			20		
	MS	2134284-02	ND	37.857	40.000	ug/L		94.6		70 - 130	
	MSD	2134284-02	ND	38.978	40.000	ug/L	2.9	97.4	20	70 - 130	
QC Batch ID: B124660	Used client sample: Y - Description: MW-23-5, 10/29/2021 08:30										
Hexavalent Chromium	DUP	**2134284-02**	**0.00013300**	**0.00011400**		**mg/L**	**15.4**		**10**		**J,A02**
	MS	**2134284-02**	**0.00013300**	**0.020443**	**0.020202**	**mg/L**		**101**		**90 - 110**	
	MSD	**2134284-02**	**0.00013300**	**0.021246**	**0.020202**	**mg/L**	**3.9**	**105**	**10**	**90 - 110**	

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-09-2021
EMAX Batch No.: 21K174

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2134284

Enclosed is the Laboratory report for samples received on 11/19/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2134284-02	K174-01	10/29/21	WATER	PERCHLORATE BY IC
2134284-03	K174-02	10/29/21	WATER	PERCHLORATE BY IC
2134284-04	K174-03	10/29/21	WATER	PERCHLORATE BY IC
2134284-05	K174-04	10/29/21	WATER	PERCHLORATE BY IC
2134284-06	K174-05	10/29/21	WATER	PERCHLORATE BY IC
2134284-07	K174-06	10/29/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

REPORT ID: 21K174 Page 1 of 54

SUBCONTRACT ORDER

Coder 1,

BC Laboratories

2134284

21K174

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory SEMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

P 11/18/21 9:20

Need EDF

	Analysis	Due	Expires	Laboratory ID	Comments
1	**Sample ID: 2134284-02**	**Water**	**Sampled: 10/29/21 08:30**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/12/21 17:00	11/26/21 08:30		
	Containers Supplied:				
2	**Sample ID: 2134284-03**	**Water**	**Sampled: 10/29/21 09:00**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/12/21 17:00	11/26/21 09:00		
	Containers Supplied:				
3	**Sample ID: 2134284-04**	**Water**	**Sampled: 10/29/21 09:40**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/12/21 17:00	11/26/21 09:40		
	Containers Supplied:				
4	**Sample ID: 2134284-05**	**Water**	**Sampled: 10/29/21 10:15**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/12/21 17:00	11/26/21 10:15		
	Containers Supplied:				
5	**Sample ID: 2134284-06**	**Water**	**Sampled: 10/29/21 11:45**		**CLP LEVEL III**
	i314.0w Perchlorate (ug/L)	11/12/21 17:00	11/26/21 11:45		
	Containers Supplied:				

Released By	11-18-21 Date	Received By	Date
Released By	Date	Received By	11/19/21 10:00 Date

Temp: 2.1° Page 1 of 2

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SUBCONTRACT ORDER

BC Laboratories

2134284 21K174

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: 2134284-07	**Water**	**Sampled:10/29/21 12:15**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/12/21 17:00	11/26/21 12:15		
Containers Supplied:				

Released By 11-18-21 Date Received By Date

Released By Date Received By 11/19/21 Date 10:00

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SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K174
☐ Fedex ☐ UPS ☐ GSO ☑ Others GLS	470574102137183760	Recipient JOCELYNE Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 11/19/21 Time 10:00

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.1 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 210191066	*B - S/N* 210271396	*C - S/N* _____	*D - S/N* _____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-6	1-6	01		R1

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
(D1)	Analysis is not indicated in label	D13	Out of Holding Time	(R1)	Proceed as indicated in ☒ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in _____	D16	Preservation not indicated in _____	R4	Use vial with smallest bubble first
D5	Container -(improper) (leaking) (broken)	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in _____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	_____
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	_____
D10	No initial/date on corrections in COC/label	D22	_____	R10	_____
D11	Container count mismatch COC vs received	D23	_____	R11	_____
D12	Container size mismatch COC vs received	D24	_____	R12	_____

REVIEWS:
Sample Labeling JOCELYNE Solis-Ramos Date 11/19/21 11/19/21
SRF Date 11/19/21
PM Date 11/22/21

REPORT ID: 21K174 *EMAX* Laboratories, Inc. 3051 Fujita St., Torrance, CA 90505 Page 4 of 54

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

PACE ANALYTICAL

2134284

METHOD E314.0
PERCHLORATE

SDG#: 21K174

REPORT ID: 21K174 Page 6 of 54

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2134284

SDG : 21K174

METHOD E314.0
PERCHLORATE

A total of six(6) water samples were received on 11/19/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Perchlorate was not detected in PCK003WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. PCK003WL/PCK003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) MS was analyzed. Percent recovery for Perchlorate was within MS QC limits in K174-01M. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

REPORT ID: 21K174

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METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2134284
Batch No. : 21K174

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	PCK003WB	ND	1	NA	2.00	0.500	1.00	11/19/2123:01	NA	21JK19038	21JK19037	PCK003W	NA	NA
LCS1W	PCK003WL	24.9	1	NA	2.00	0.500	1.00	11/19/2123:43	NA	21JK19040	21JK19037	PCK003W	NA	NA
LCD1W	PCK003WC	24.8	1	NA	2.00	0.500	1.00	11/20/2100:04	NA	21JK19041	21JK19037	PCK003W	NA	NA
2134284-02	K174-01	ND	1	NA	2.00	0.500	1.00	11/20/2105:20	NA	21JK19056	21JK19053	PCK003W	10/29/2108:30	11/19/21
2134284-02MS	K174-01M	15.0	1	NA	2.00	0.500	1.00	11/20/2105:41	NA	21JK19057	21JK19053	PCK003W	10/29/2108:30	11/19/21
2134284-02DUP	K174-01D	ND	1	NA	2.00	0.500	1.00	11/20/2106:02	NA	21JK19058	21JK19053	PCK003W	10/29/2108:30	11/19/21
2134284-03	K174-02	3.17	1	NA	2.00	0.500	1.00	11/20/2106:23	NA	21JK19059	21JK19053	PCK003W	10/29/2109:00	11/19/21
2134284-04	K174-03	4.84	1	NA	2.00	0.500	1.00	11/20/2106:44	NA	21JK19060	21JK19053	PCK003W	10/29/2109:40	11/19/21
2134284-05	K174-04	6.14	1	NA	2.00	0.500	1.00	11/20/2107:05	NA	21JK19061	21JK19053	PCK003W	10/29/2110:15	11/19/21
2134284-06	K174-05	3.99	1	NA	2.00	0.500	1.00	11/20/2107:26	NA	21JK19062	21JK19053	PCK003W	10/29/2111:45	11/19/21
2134284-07	K174-06	ND	1	NA	2.00	0.500	1.00	11/20/2107:47	NA	21JK19063	21JK19053	PCK003W	10/29/2112:15	11/19/21

Note: Detection limits are reported relative to sample result significant figures.

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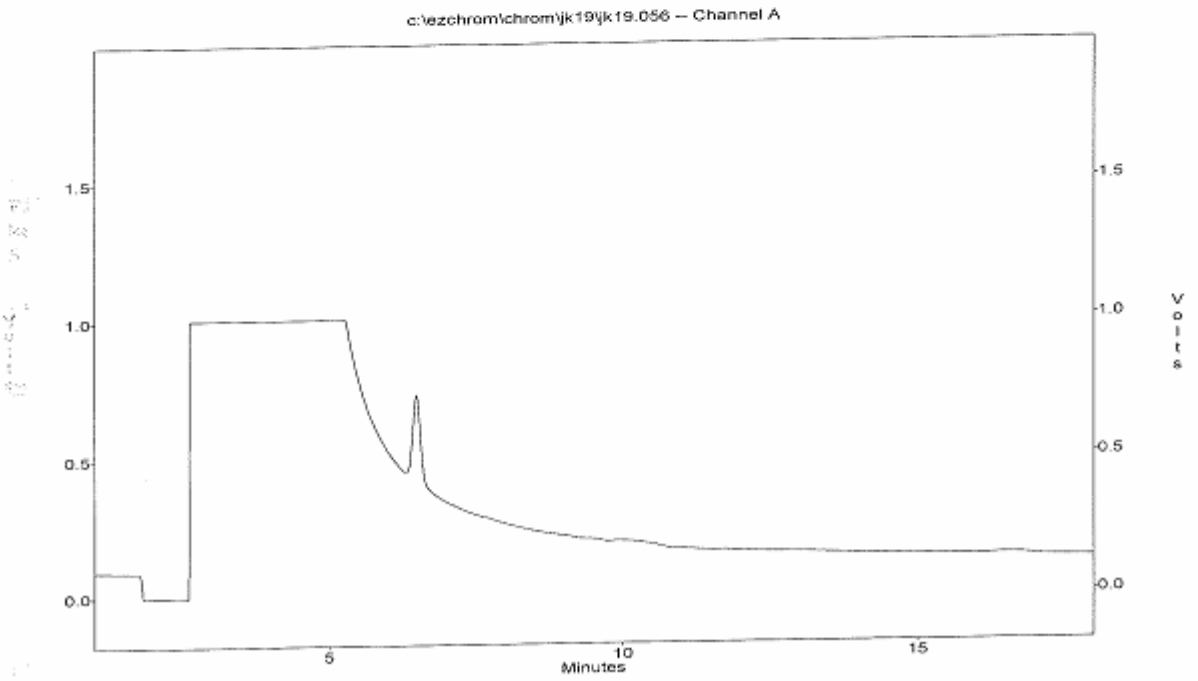
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.056
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-01
Acquired : Nov 20, 2021 05:20:01
Printed : Nov 22, 2021 12:03:54
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K174

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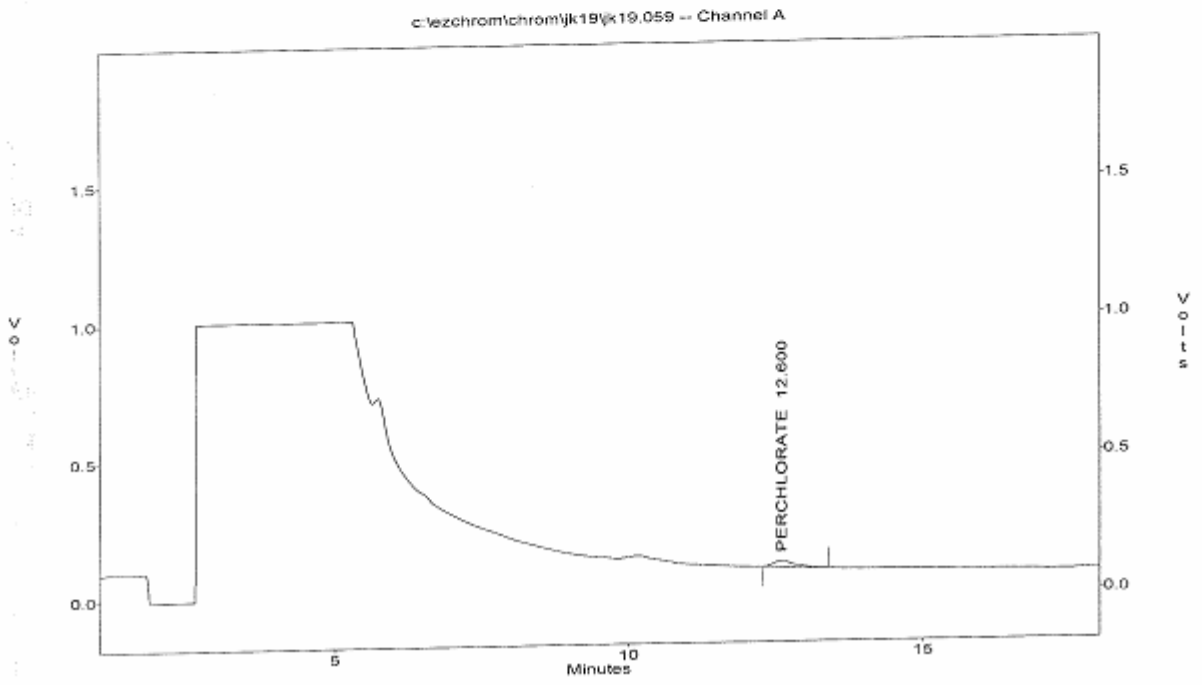
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.059
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-02
Acquired : Nov 20, 2021 06:23:04
Printed : Nov 22, 2021 12:04:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	542602	22411	180791.531	3.165



REPORT ID: 21K174

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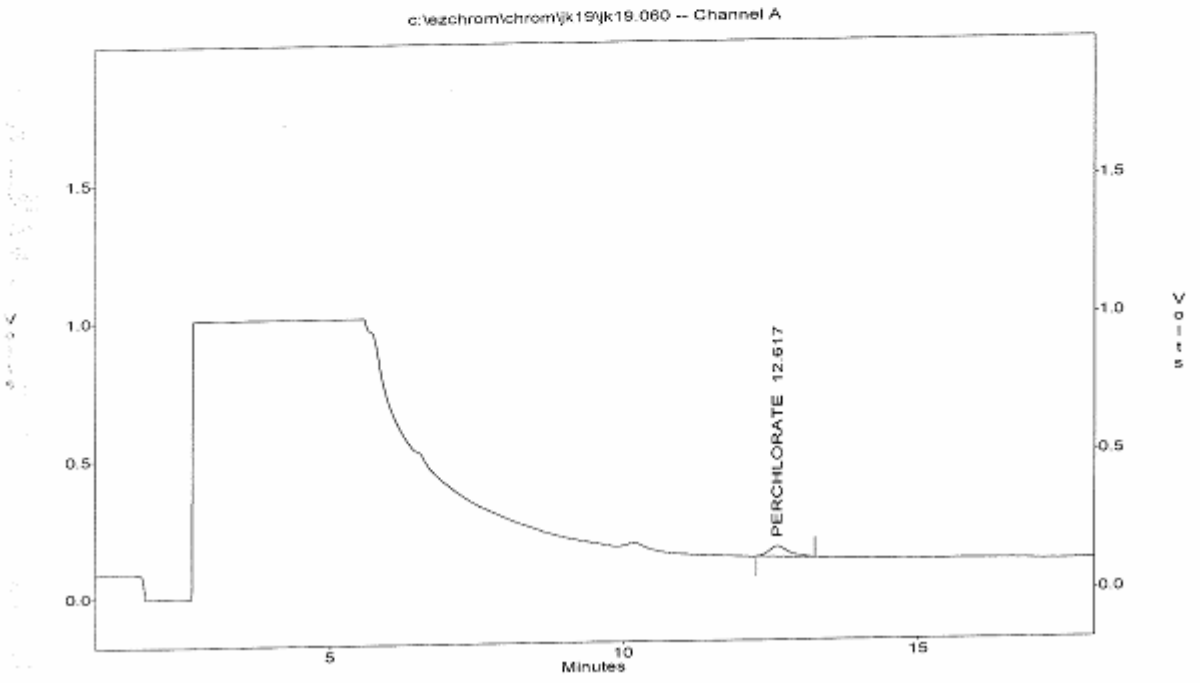
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.060
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-03
Acquired : Nov 20, 2021 06:44:05
Printed : Nov 22, 2021 12:05:49
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.62	854666	37312	180791.531	4.839



REPORT ID: 21K174

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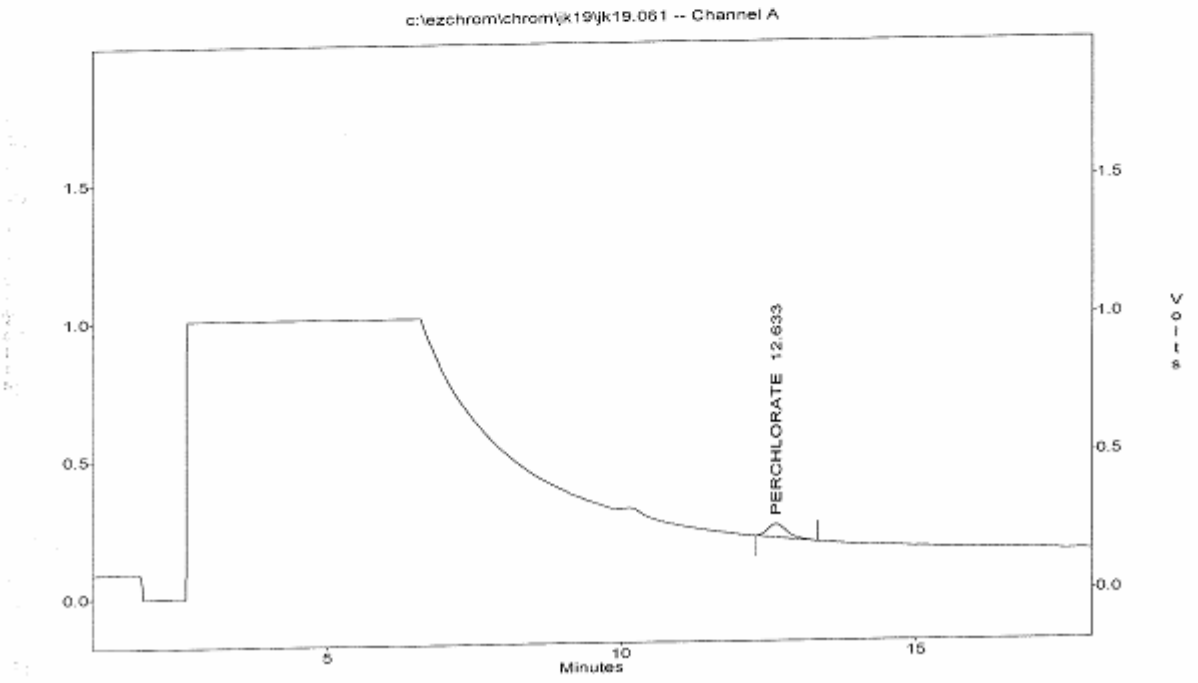
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.061
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-04
Acquired : Nov 20, 2021 07:05:07
Printed : Nov 22, 2021 12:06:08
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	1096917	48454	180791.531	6.138



REPORT ID: 21K174

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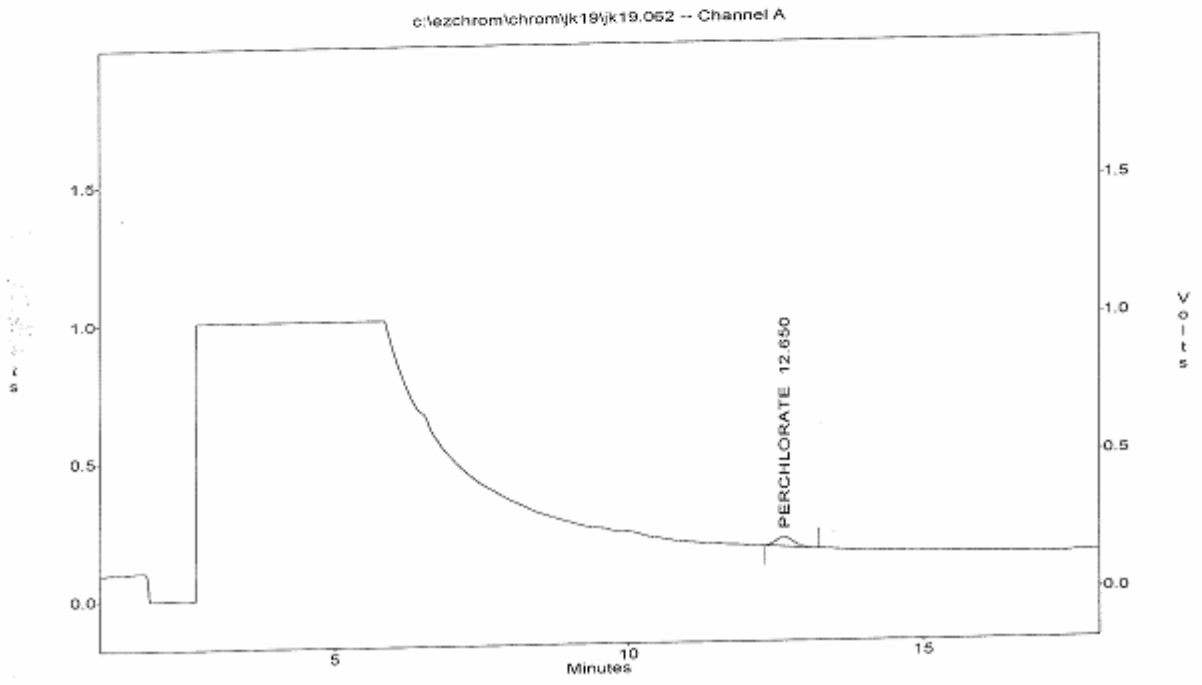
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.062
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-05
Acquired : Nov 20, 2021 07:26:08
Printed : Nov 22, 2021 12:06:16
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	696133	33497	180791.531	3.989



REPORT ID: 21K174

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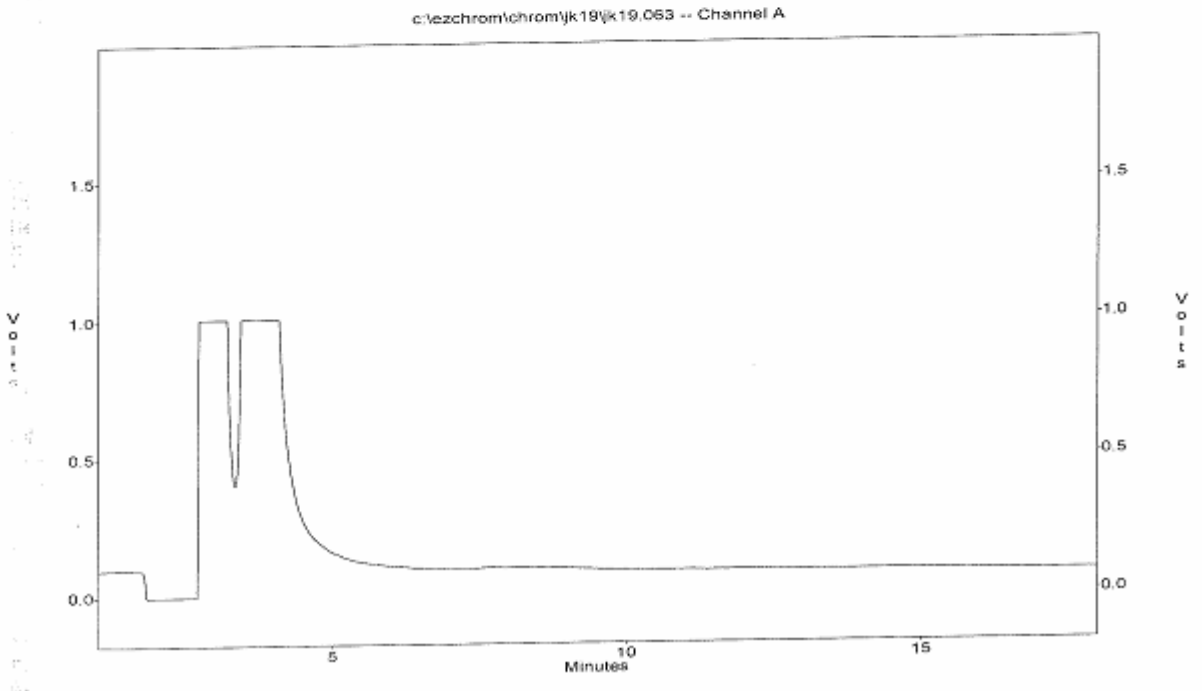
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.063
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-06
Acquired : Nov 20, 2021 07:47:10
Printed : Nov 22, 2021 12:06:25
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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QC SUMMARIES

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134284
BATCH NO. : 21K174
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK003WB	PCK003WL	PCK003WC
LAB FILE ID :	21JK19038	21JK19040	21JK19041
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/19/2123:01	11/19/2123:43	11/20/2100:04
PREP BATCH :	PCK003W	PCK003W	PCK003W
CALIBRATION REF:	21JK19037	21JK19037	21JK19037

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.9	100	25	24.8	99	0	85-115	15

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EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134284
BATCH NO. : 21K174
METHOD : E314.0

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2134284-02	2134284-02MS
LAB SAMPLE ID	: K174-01	K174-01M
LAB FILE ID	: 21JK19056	21JK19057
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/20/2105:20	11/20/2105:41
PREP BATCH	: PCK003W	PCK003W
CALIBRATION REF	: 21JK19053	21JK19053

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Perchlorate	ND	15.00	15.0	100	80-120

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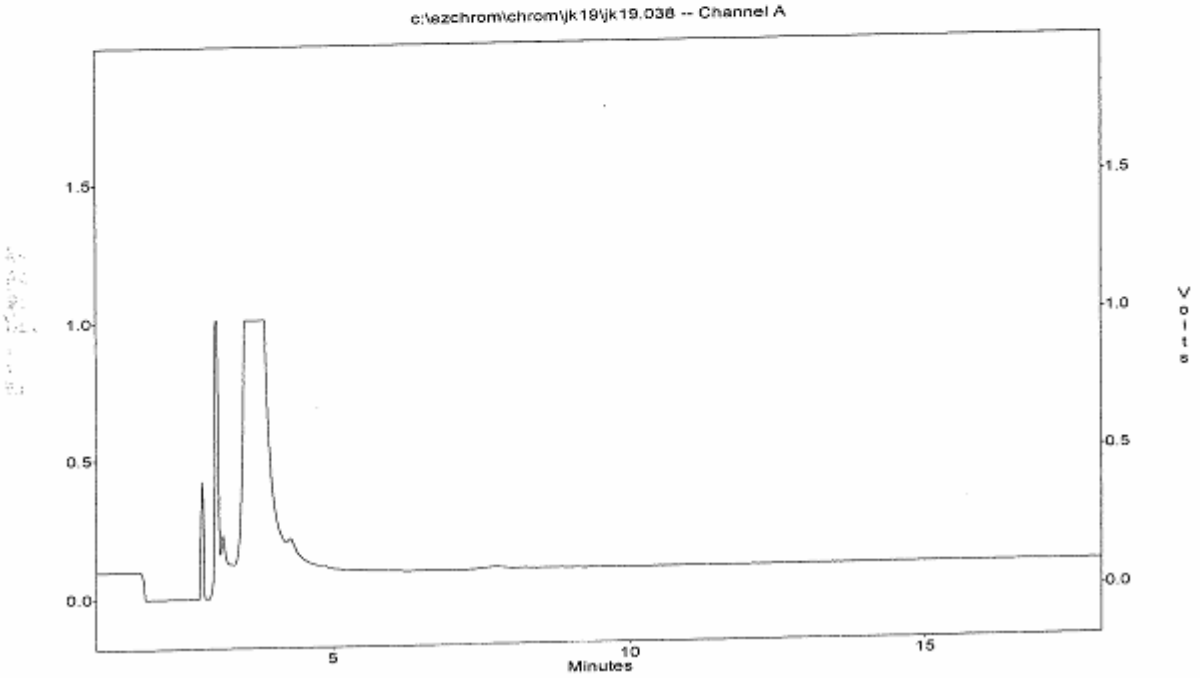
QC DATA

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.038
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WB
Acquired : Nov 19, 2021 23:01:40
Printed : Nov 22, 2021 11:51:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



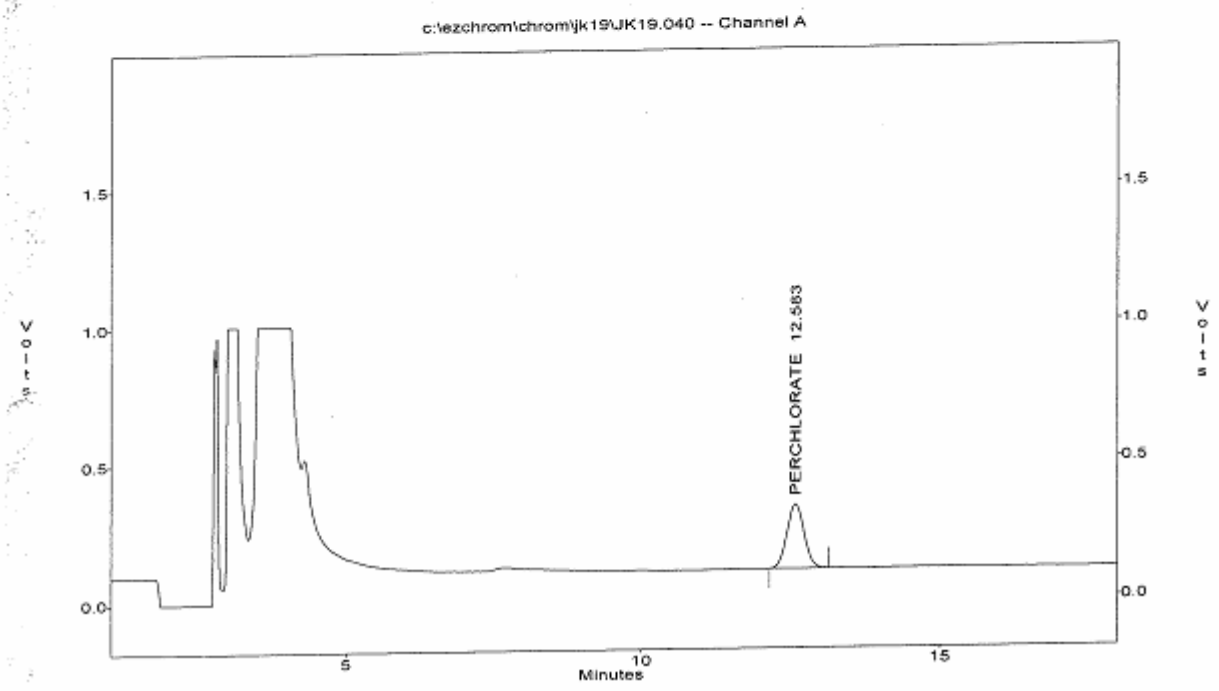
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\JK19.040
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WL
Acquired : Nov 19, 2021 23:43:43
Printed : Dec 02, 2021 11:48:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)	A|H
1	PERCHLORATE	12.58	4588679	231103	180791.531	24.864	19.856 ✓

$PD_{A|H} = \frac{|22.097 - 19.856|}{19.856} \times 100 = 11.7\%$ ✓



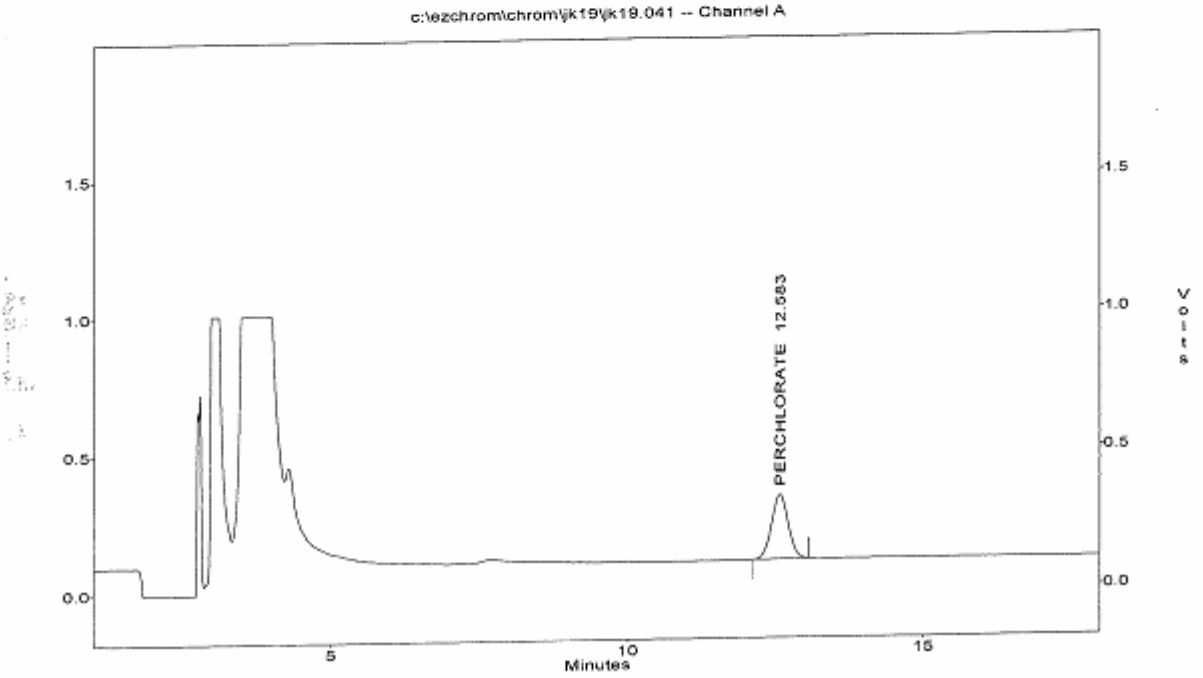
REPORT ID: 21K174

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.041
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK003WC
Acquired : Nov 20, 2021 00:04:44
Printed : Nov 22, 2021 11:52:11
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	4584780	231454	180791.531	24.843



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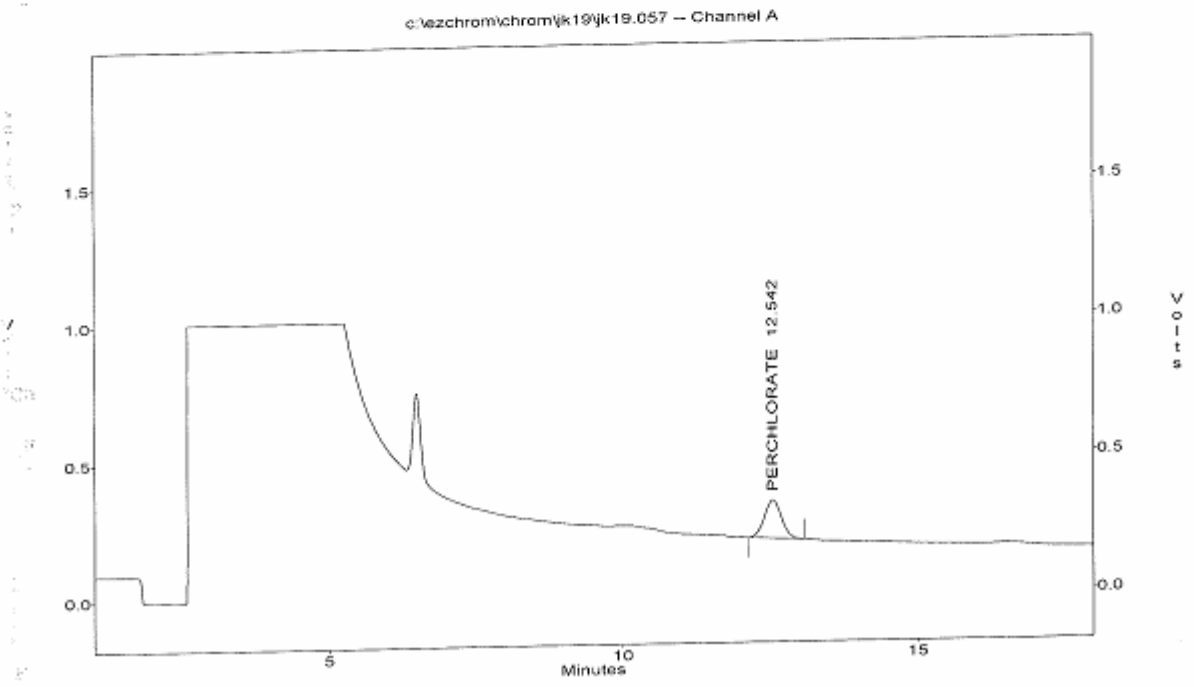
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.057
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-01M
Acquired : Nov 20, 2021 05:41:02
Printed : Nov 22, 2021 12:04:27
User : YCabal

Channel A Results

	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	2757620	137774	180791.531	15.044



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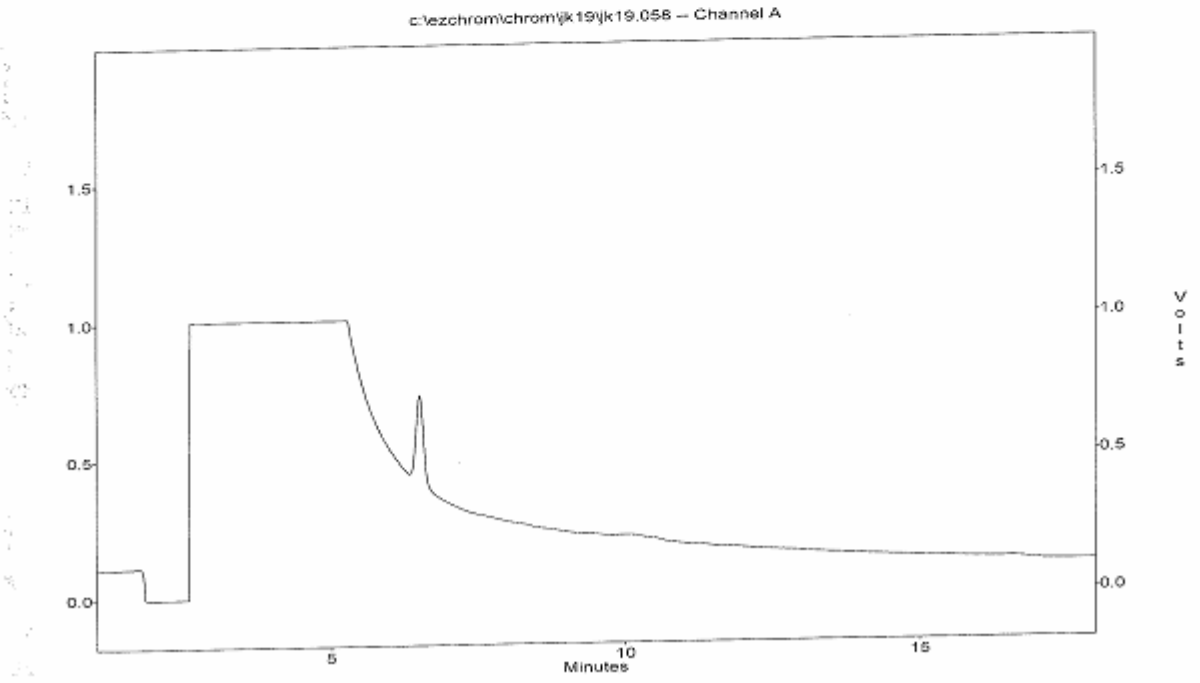
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.058
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K174-01D
Acquired : Nov 20, 2021 06:02:03
Printed : Nov 22, 2021 12:04:37
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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INITIAL CALIBRATION

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

11/15/21

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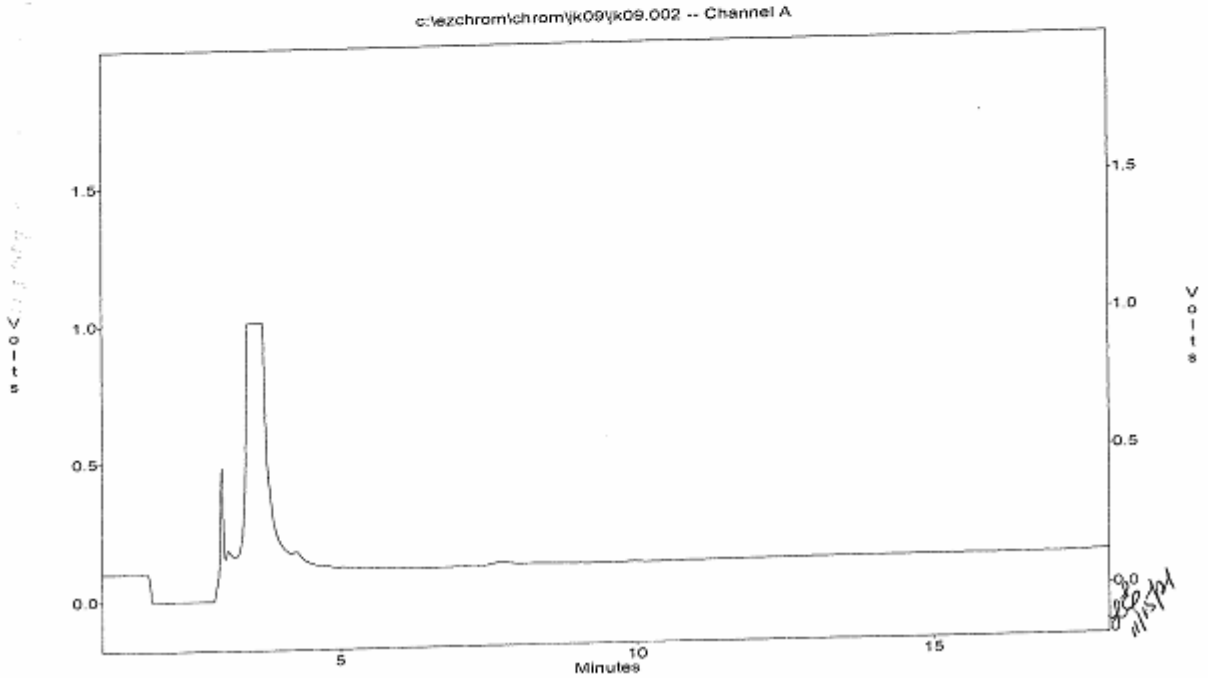
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



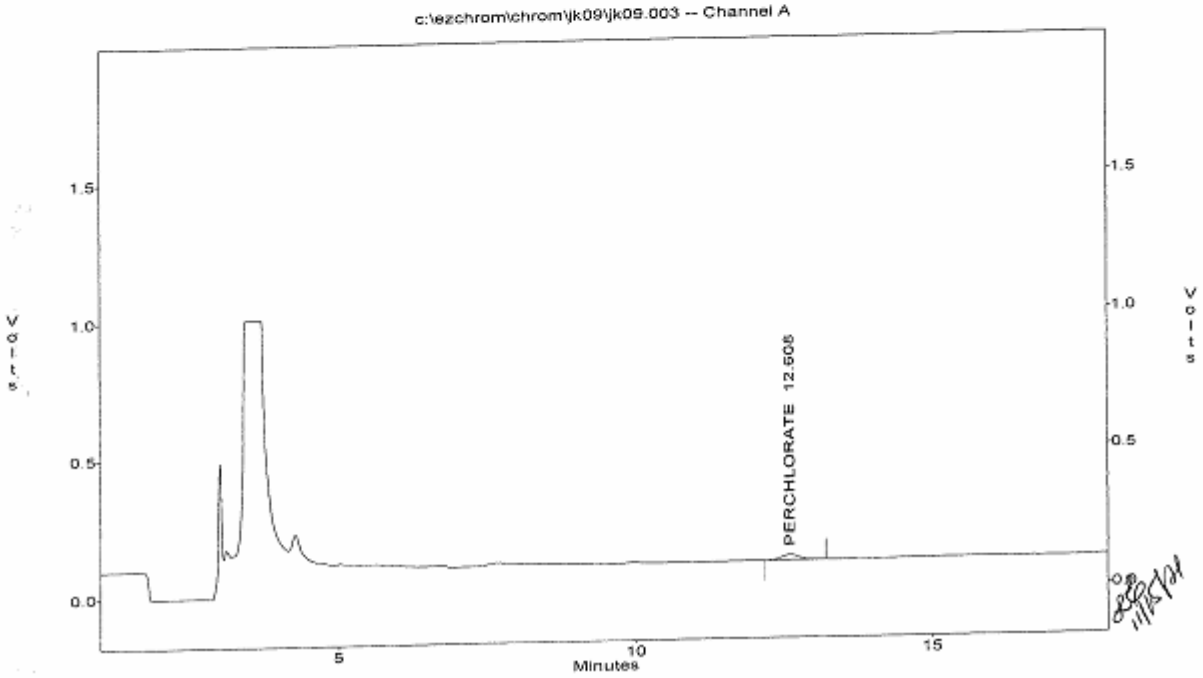
REPORT ID: 21K174

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



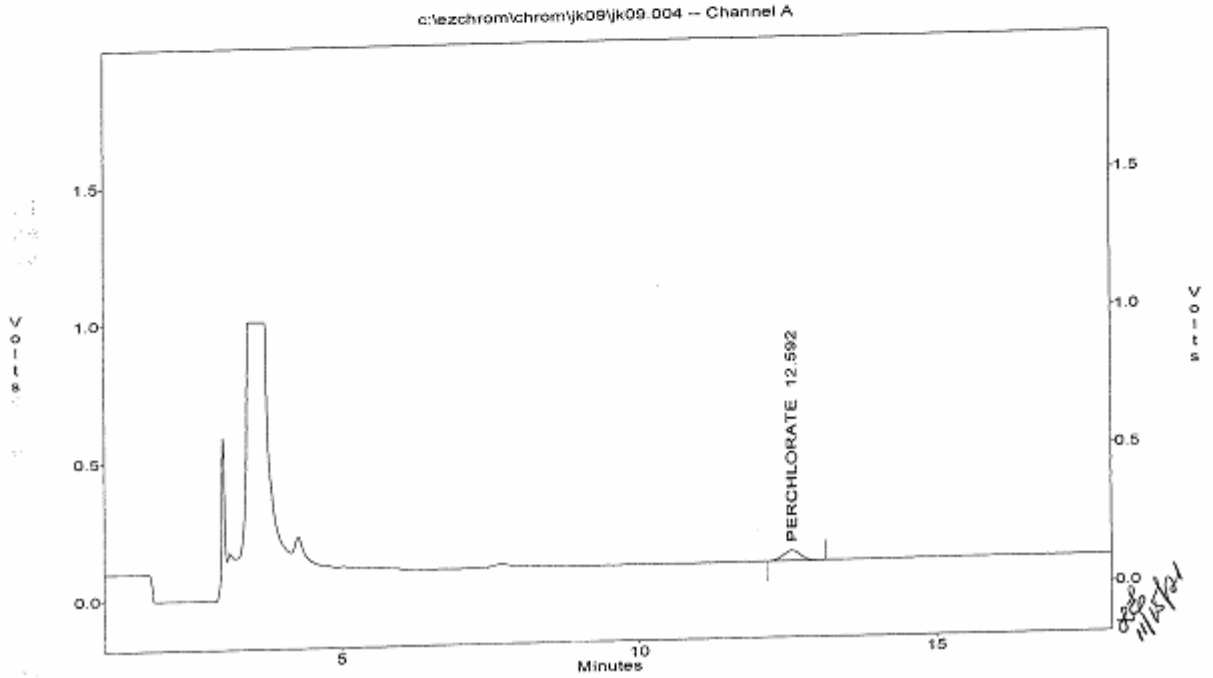
REPORT ID: 21K174

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



REPORT ID: 21K174

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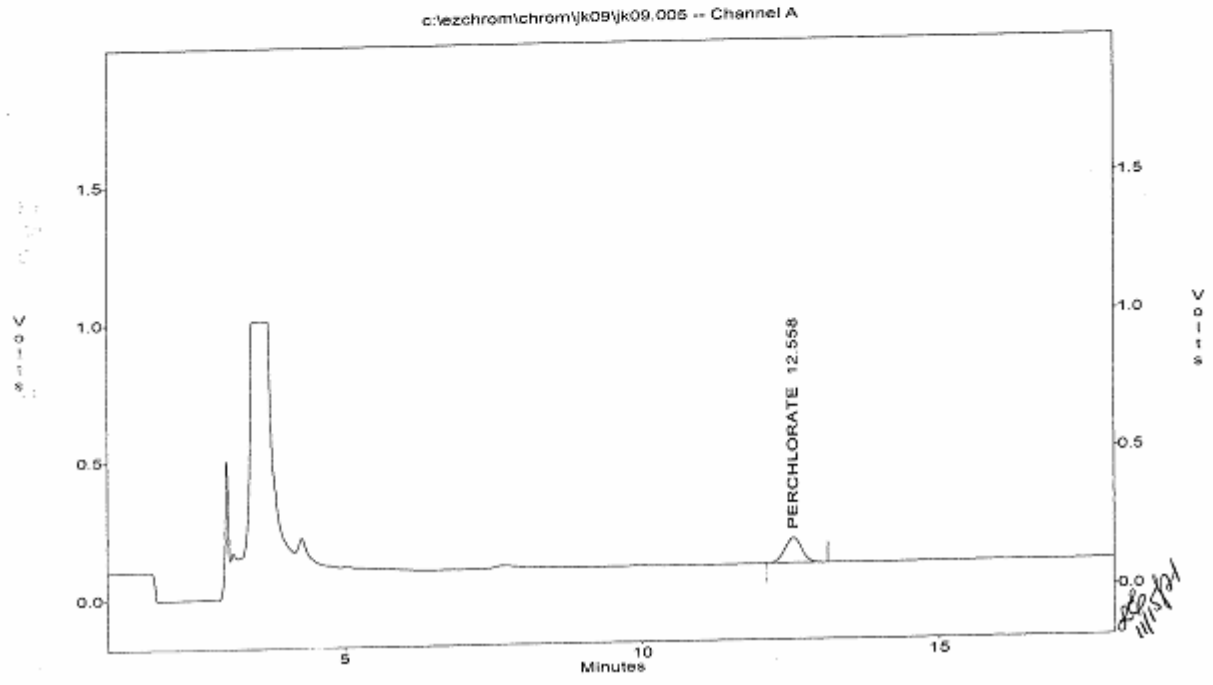
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



REPORT ID: 21K174

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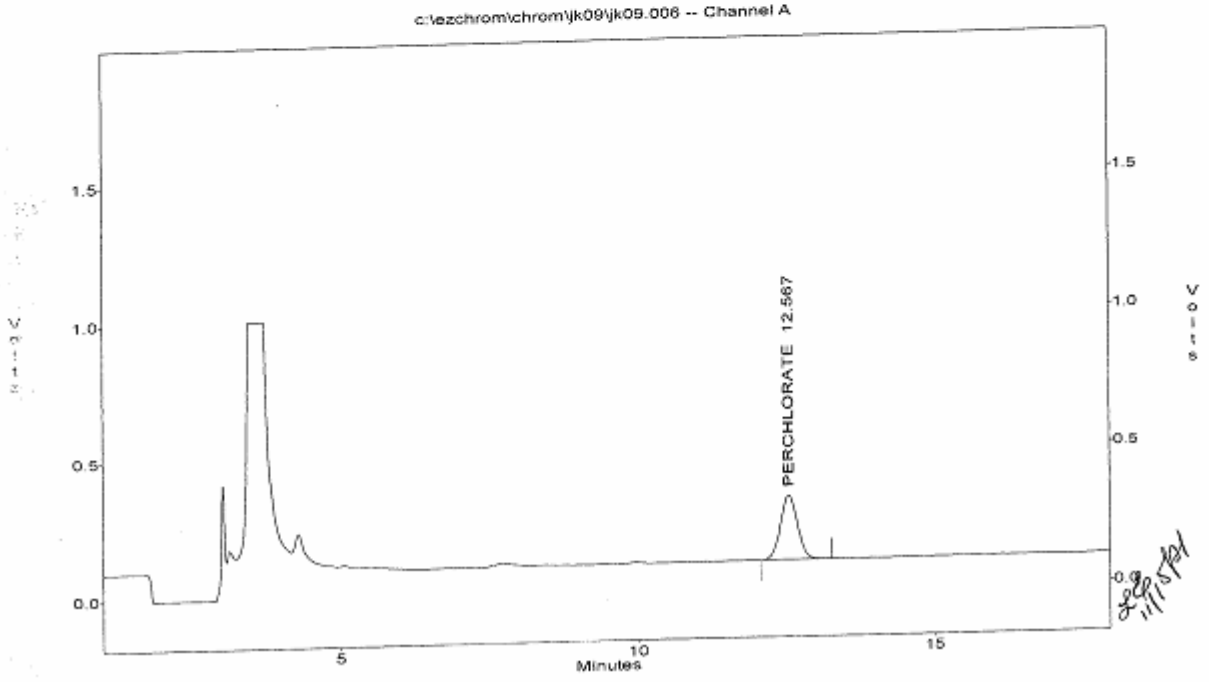
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



REPORT ID: 21K174

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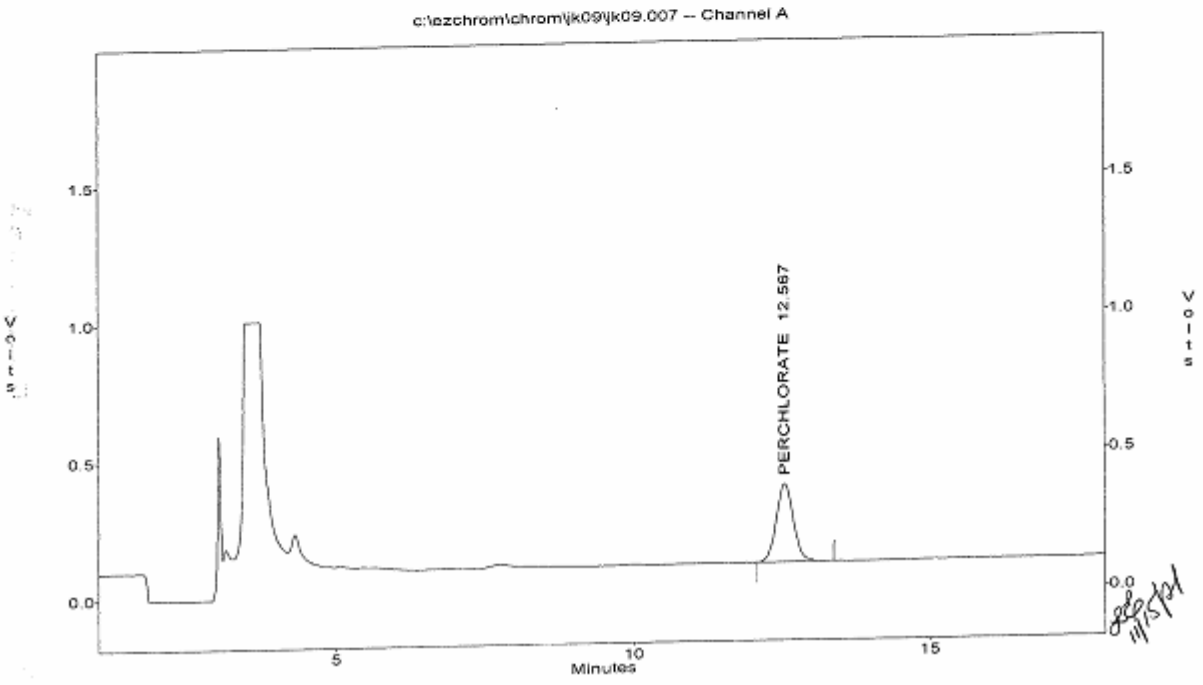
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



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* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

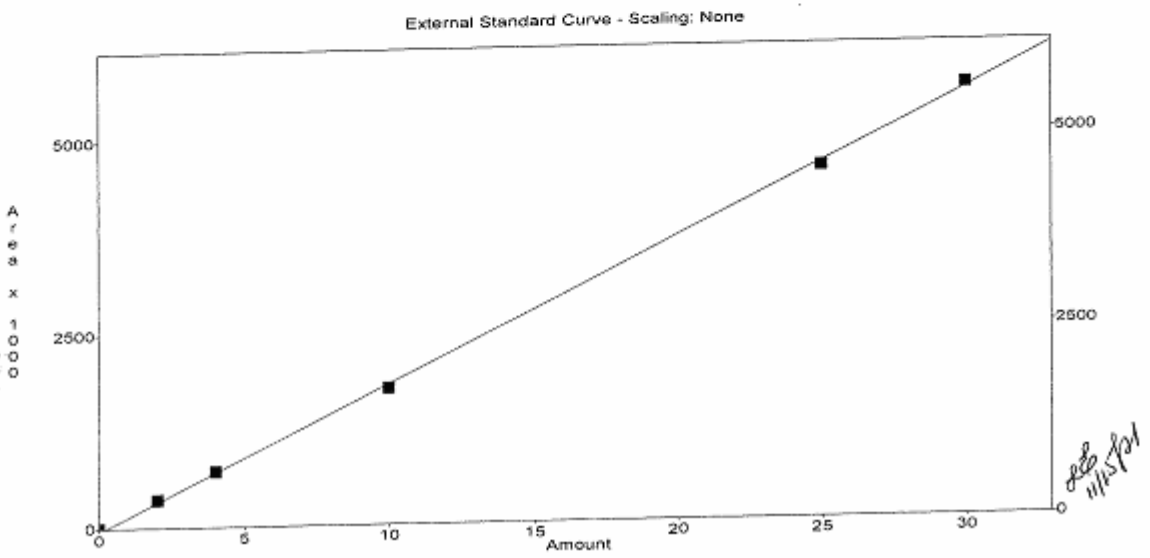
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit through Zero: No

Linear Fit: Amount = 5.36235e-006 * Area + 0.255269
R^2 = 0.999512



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SECOND SOURCE VERIFICATION

REPORT ID: 21K174

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K174

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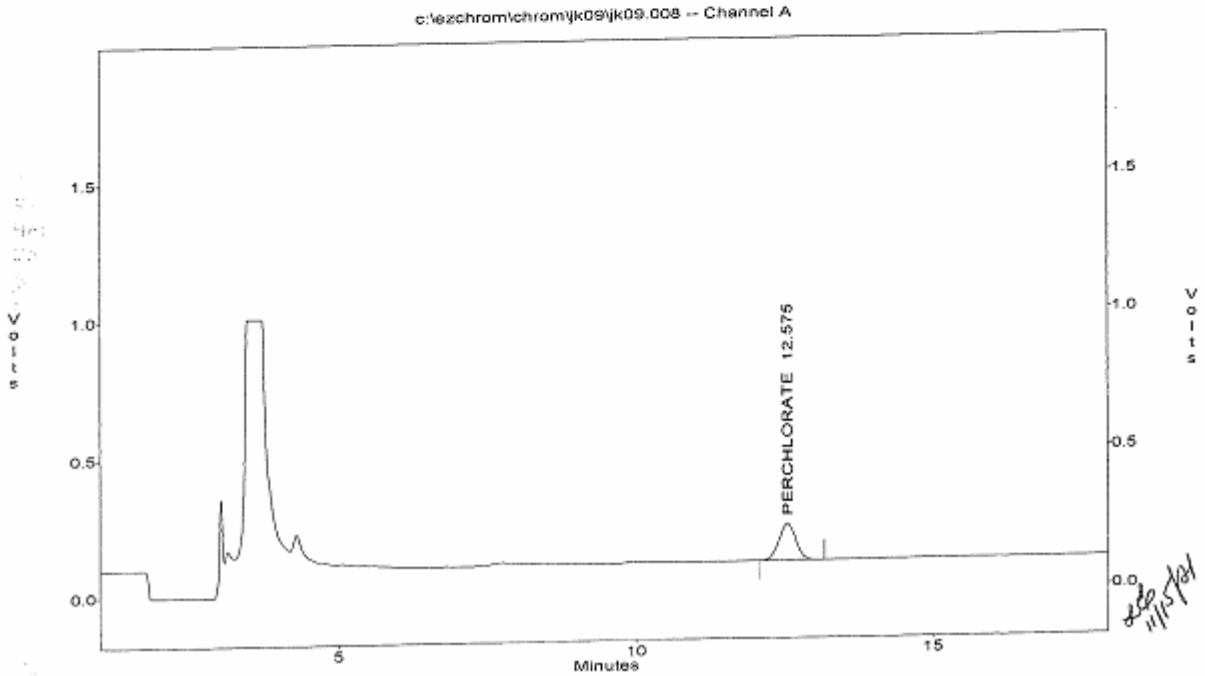
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



REPORT ID: 21K174

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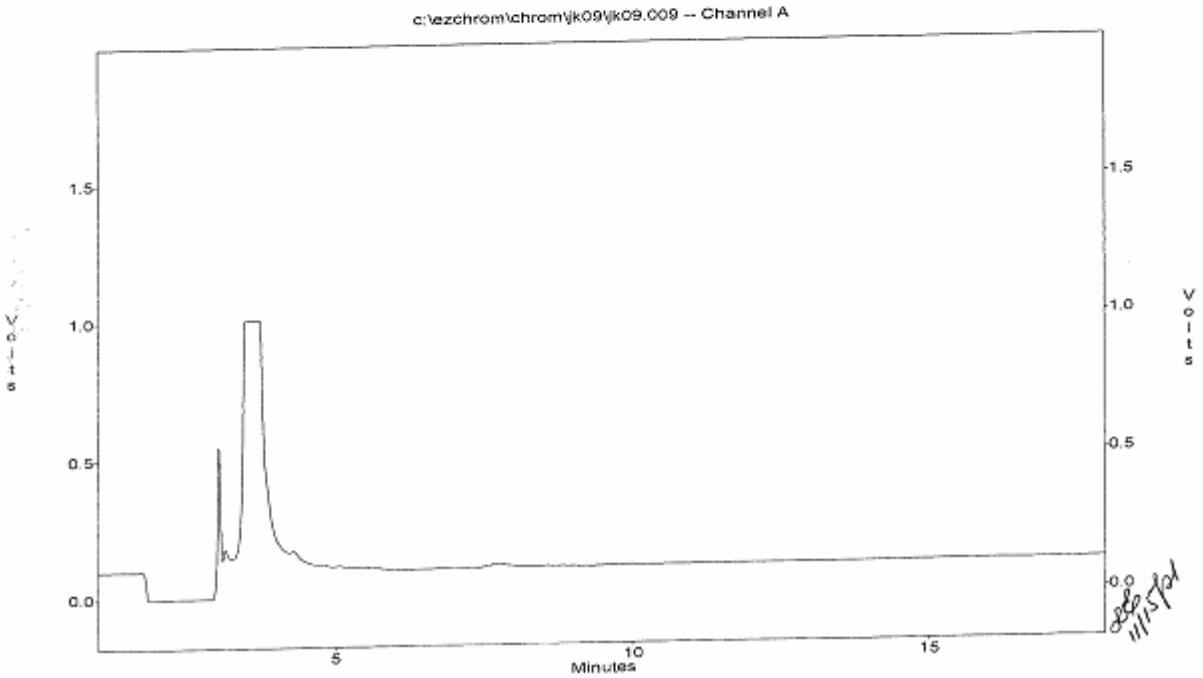
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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DAILY CALIBRATIONS

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Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2134284
SDG : 21K174
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK19042	CCV56-15	102	11/20/2100:25
21JK19053	CCV57-30	105	11/20/2104:16
21JK19064	CCV58-15	104	11/20/2108:08

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK19001	RINSE	P	IC57K08	11/19/2108:27	1
JK19002	RINSE	P	IC57K08	11/19/2108:49	1
JK19003	RINSE	P	IC57K08	11/19/2109:10	1
JK19004	IPCS	P	IC57K08	11/19/2109:33	1
JK19005	PCK002WB	P	IC57K08	11/19/2109:54	1
JK19006	MRLK1901	P	IC57K08	11/19/2110:17	1
JK19007	PCK002WL	P	IC57K08	11/19/2110:38	1
JK19008	PCK002WC	P	IC57K08	11/19/2111:00	1
JK19009	CCV52-15	P	IC57K08	11/19/2111:21	1
JK19010	QC	P	IC57K08	11/19/2111:42	1
JK19011	QC	P	IC57K08	11/19/2112:18	1
JK19012	QC	P	IC57K08	11/19/2112:39	1
JK19013	K139-01	P	IC57K08	11/19/2113:01	1
JK19014	K140-01	P	IC57K08	11/19/2113:23	1
JK19015	K141-01	P	IC57K08	11/19/2113:44	1
JK19016	K141-01M	P	IC57K08	11/19/2114:07	1
JK19017	K141-01D	P	IC57K08	11/19/2114:28	1
JK19018	K168-01	P	IC57K08	11/19/2114:49	1
JK19019	K166-01	P	IC57K08	11/19/2115:17	1
JK19020	CCV53-30	P	IC57K08	11/19/2115:38	1
JK19021	K166-02	P	IC57K08	11/19/2116:14	1
JK19022	K166-03	P	IC57K08	11/19/2116:38	1
JK19023	K166-04	P	IC57K08	11/19/2116:59	1
JK19024	K166-05	P	IC57K08	11/19/2117:21	1
JK19025	K166-06	P	IC57K08	11/19/2117:44	1
JK19026	K166-06M	P	IC57K08	11/19/2118:49	1
JK19027	K166-06D	P	IC57K08	11/19/2119:10	1
JK19028	K166-07	P	IC57K08	11/19/2119:31	1
JK19029	TEST	P	IC57K08	11/19/2119:52	1
JK19030	K166-09	P	IC57K08	11/19/2120:13	1
JK19031	CCV54-15	P	IC57K08	11/19/2120:34	1
JK19032	K166-10	P	IC57K08	11/19/2120:55	1
JK19033	K190-01	P	IC57K08	11/19/2121:16	1
JK19034	K190-02	P	IC57K08	11/19/2121:37	1
JK19035	K191-01	P	IC57K08	11/19/2121:58	1
JK19036	CCV55-30	P	IC57K08	11/19/2122:19	1
JK19037	IPCS	P	IC57K08	11/19/2122:40	1
JK19038	PCK003WB	P	IC57K08	11/19/2123:01	1
JK19039	MRLK1902	P	IC57K08	11/19/2123:22	1
JK19040	PCK003WL	P	IC57K08	11/19/2123:43	1
JK19041	PCK003WC	P	IC57K08	11/20/2100:04	1
JK19042	CCV56-15	P	IC57K08	11/20/2100:25	1
JK19043	K167-01	P	IC57K08	11/20/2100:46	1
JK19044	K167-02	P	IC57K08	11/20/2101:07	1
JK19045	K167-03	P	IC57K08	11/20/2101:28	1
JK19046	TEST	P	IC57K08	11/20/2101:49	1
JK19047	K167-05	P	IC57K08	11/20/2102:10	1
JK19048	K167-06	P	IC57K08	11/20/2102:31	1
JK19049	K167-06M	P	IC57K08	11/20/2102:52	1
JK19050	K167-06D	P	IC57K08	11/20/2103:13	1
JK19051	K167-07	P	IC57K08	11/20/2103:34	1
JK19052	TEST	P	IC57K08	11/20/2103:55	1
JK19053	CCV57-30	P	IC57K08	11/20/2104:16	1
JK19054	K167-09	P	IC57K08	11/20/2104:37	1
JK19055	K167-10	P	IC57K08	11/20/2104:59	1
JK19056	K174-01	P	IC57K08	11/20/2105:20	1
JK19057	K174-01M	P	IC57K08	11/20/2105:41	1
JK19058	K174-01D	P	IC57K08	11/20/2106:02	1
JK19059	K174-02	P	IC57K08	11/20/2106:23	1
JK19060	K174-03	P	IC57K08	11/20/2106:44	1
JK19061	K174-04	P	IC57K08	11/20/2107:05	1
JK19062	K174-05	P	IC57K08	11/20/2107:26	1
JK19063	K174-06	P	IC57K08	11/20/2107:47	1
JK19064	CCV58-15	P	IC57K08	11/20/2108:08	1
JK19065	K169-01	P	IC57K08	11/20/2108:29	1
JK19066	K169-02	P	IC57K08	11/20/2108:50	1
JK19067	K169-03	P	IC57K08	11/20/2109:11	1
JK19068	K169-04	P	IC57K08	11/20/2109:32	1
JK19069	CCV59-30	P	IC57K08	11/20/2109:53	1

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IC RESULT FORM CalVersion: PCHL0314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK19001	RINSE	P	.000	11/19/2108:27	1
JK19002	RINSE	P	.000	11/19/2108:49	1
JK19003	RINSE	P	.000	11/19/2109:10	1
JK19004	IPCS	P	94.8%	11/19/2109:33	1
JK19005	PCK002WB	P	.000	11/19/2109:54	1
JK19006	MRLK1901	P	99.2%	11/19/2110:17	1
JK19007	PCK002WL	P	24.5	11/19/2110:38	1
JK19008	PCK002WC	P	24	11/19/2111:00	1
JK19009	CCV52-15	P	101%	11/19/2111:21	1
JK19010	QC	P	.000	11/19/2111:42	1
JK19011	QC	P	.000	11/19/2112:18	1
JK19012	QC	P	.000	11/19/2112:39	1
JK19013	K139-01	P	29.6	11/19/2113:01	1
JK19014	K140-01	P	2.92	11/19/2113:23	1
JK19015	K141-01	P	1.34	11/19/2113:44	1
JK19016	K141-01M	P	15.7	11/19/2114:07	1
JK19017	K141-01D	P	1.2	11/19/2114:28	1
JK19018	K168-01	P	.000	11/19/2114:49	1
JK19019	K166-01	P	.000	11/19/2115:17	1
JK19020	CCV53-30	P	102%	11/19/2115:38	1
JK19021	K166-02	P	8.99	11/19/2116:14	1
JK19022	K166-03	P	10.2	11/19/2116:38	1
JK19023	K166-04	P	12	11/19/2116:59	1
JK19024	K166-05	P	7.62	11/19/2117:21	1
JK19025	K166-06	P	.000	11/19/2117:44	1
JK19026	K166-06M	P	14.6	11/19/2118:49	1
JK19027	K166-06D	P	.000	11/19/2119:10	1
JK19028	K166-07	P	4.56	11/19/2119:31	1
JK19029	TEST	P	5.29	11/19/2119:52	1
JK19030	K166-09	P	4.26	11/19/2120:13	1
JK19031	CCV54-15	P	104%	11/19/2120:34	1
JK19032	K166-10	P	.000	11/19/2120:55	1
JK19033	K190-01	P	.000	11/19/2121:16	1
JK19034	K190-02	P	.000	11/19/2121:37	1
JK19035	K191-01	P	.000	11/19/2121:58	1
JK19036	CCV55-30	P	102%	11/19/2122:19	1
JK19037	IPCS	P	99.5%	11/19/2122:40	1
JK19038	PCK003WB	P	.000	11/19/2123:01	1
JK19039	MRLK1902	P	100%	11/19/2123:22	1
JK19040	PCK003WL	P	24.9	11/19/2123:43	1
JK19041	PCK003WC	P	24.8	11/20/2100:04	1
JK19042	CCV56-15	P	102%	11/20/2100:25	1
JK19043	K167-01	P	.000	11/20/2100:46	1
JK19044	K167-02	P	1.39	11/20/2101:07	1
JK19045	K167-03	P	3.61	11/20/2101:28	1
JK19046	TEST	P	2.98	11/20/2101:49	1
JK19047	K167-05	P	1.48	11/20/2102:10	1
JK19048	K167-06	P	.000	11/20/2102:31	1
JK19049	K167-06M	P	14.9	11/20/2102:52	1
JK19050	K167-06D	P	.000	11/20/2103:13	1
JK19051	K167-07	P	.000	11/20/2103:34	1
JK19052	TEST	P	12.3	11/20/2103:55	1
JK19053	CCV57-30	P	105%	11/20/2104:16	1
JK19054	K167-09	P	.000	11/20/2104:37	1
JK19055	K167-10	P	21.2	11/20/2104:59	1
JK19056	K174-01	P	.000	11/20/2105:20	1
JK19057	K174-01M	P	15	11/20/2105:41	1
JK19058	K174-01D	P	.000	11/20/2106:02	1
JK19059	K174-02	P	3.17	11/20/2106:23	1
JK19060	K174-03	P	4.84	11/20/2106:44	1
JK19061	K174-04	P	6.14	11/20/2107:05	1
JK19062	K174-05	P	3.99	11/20/2107:26	1
JK19063	K174-06	P	.000	11/20/2107:47	1
JK19064	CCV58-15	P	104%	11/20/2108:08	1
JK19065	K169-01	P	3.1	11/20/2108:29	1
JK19066	K169-02	P	3.73	11/20/2108:50	1
JK19067	K169-03	P	3.65	11/20/2109:11	1
JK19068	K169-04	P	1.42	11/20/2109:32	1
JK19069	CCV59-30	P	102%	11/20/2109:53	1

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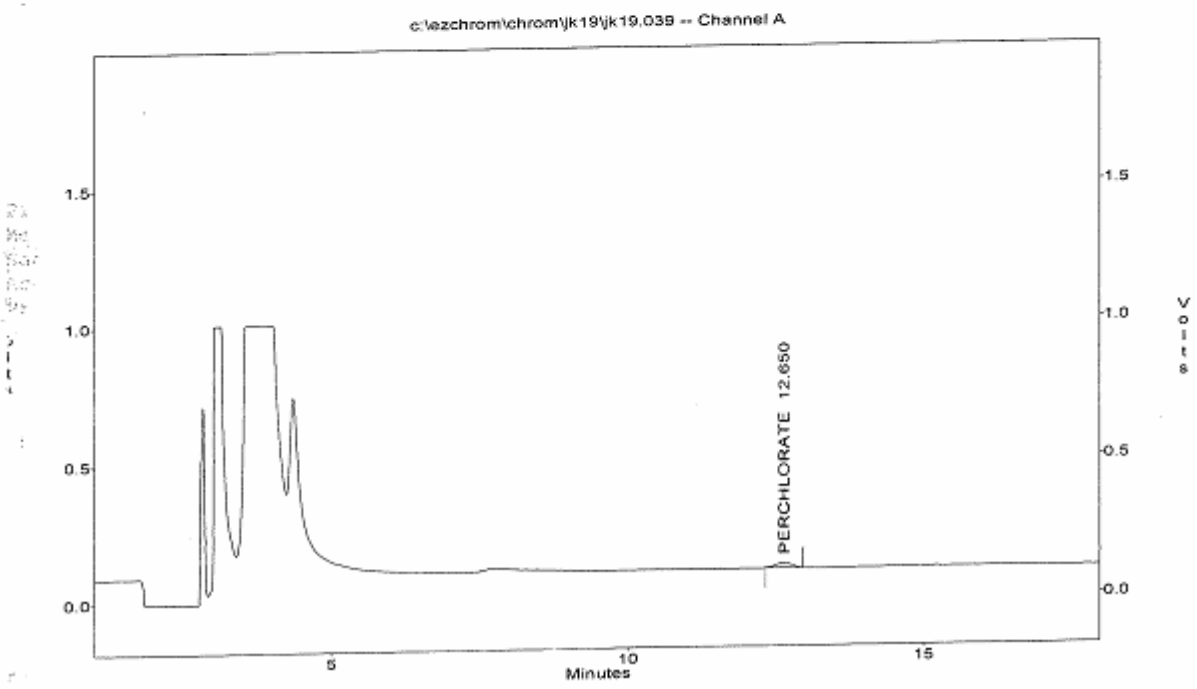
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.039
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK1902
Acquired : Nov 19, 2021 23:22:42
Printed : Nov 22, 2021 11:51:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	326685	18033	180791.531	2.007



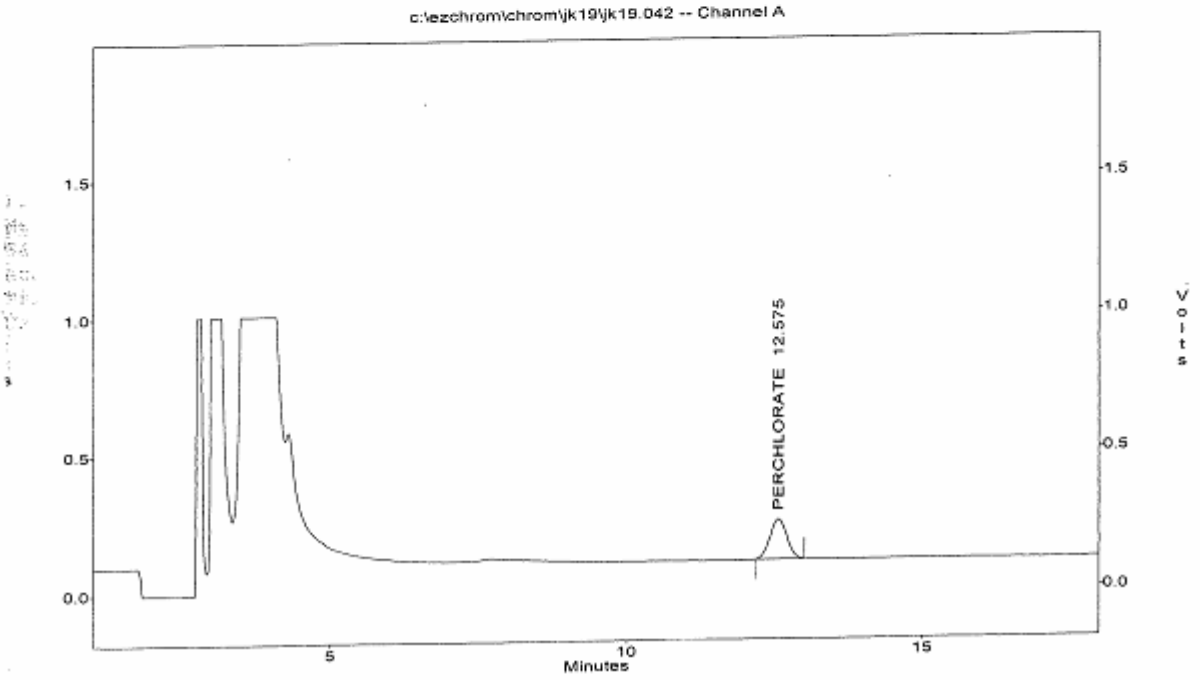
REPORT ID: 21K174

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.042
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV56-15
Acquired : Nov 20, 2021 00:25:45
Printed : Nov 22, 2021 11:52:38
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2799015	142998	180791.531	15.266



REPORT ID: 21K174

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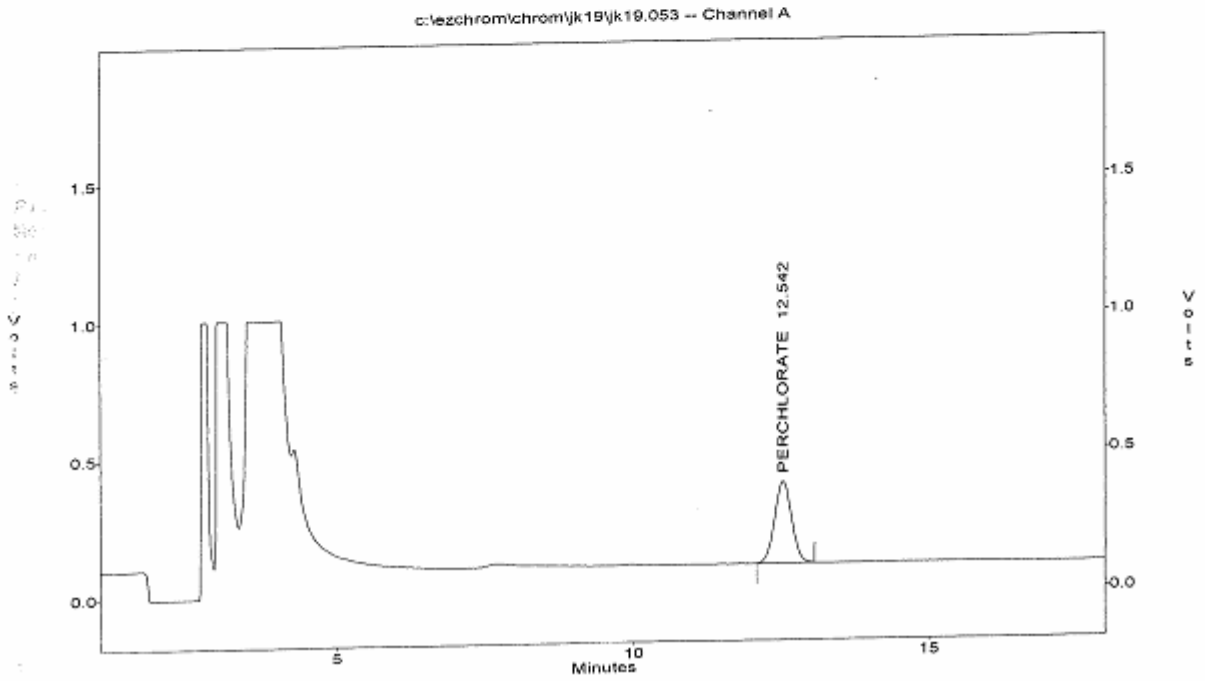
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.053
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV57-30
Acquired : Nov 20, 2021 04:16:57
Printed : Nov 22, 2021 12:02:24
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	5823075	293590	180791.531	31.484



REPORT ID: 21K174

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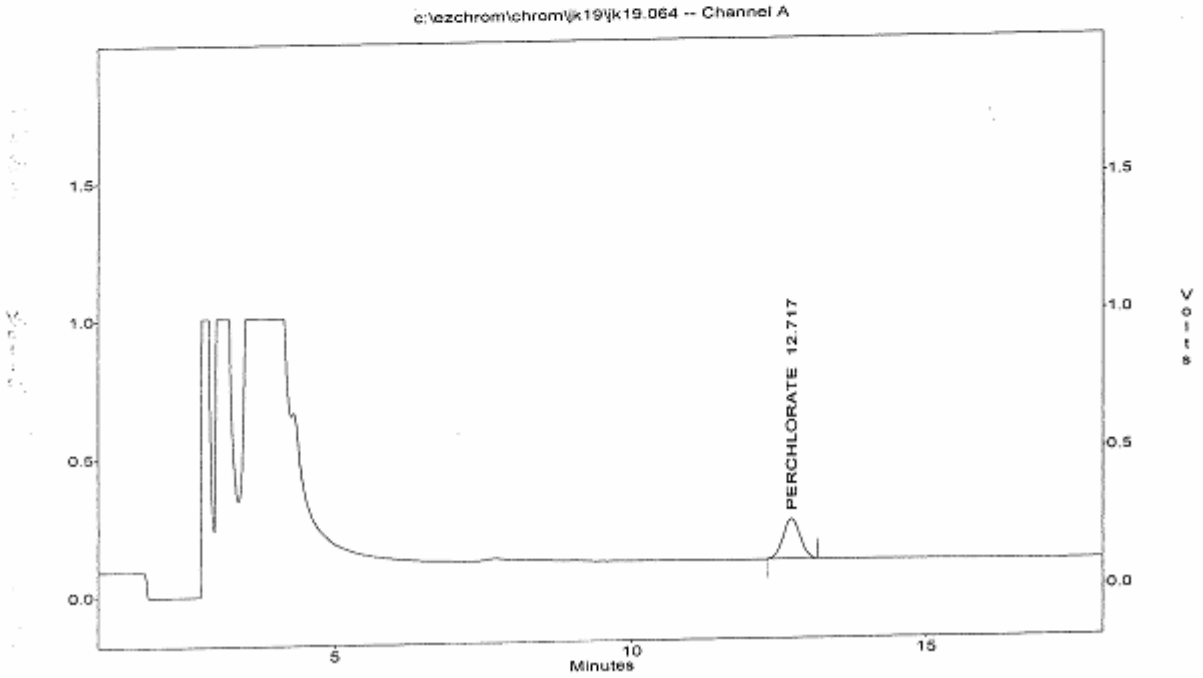
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk19\jk19.064
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV58-15
Acquired : Nov 20, 2021 08:08:10
Printed : Nov 22, 2021 12:06:42
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.72	2875023	144518	180791.531	15.674



REPORT ID: 21K174

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ANALYTICAL LOG(S)

REPORT ID: 21K174 Page 46 of 54

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWR1-02-18-01

Reagent Water ID #: SWA-611-03-01

Guard II	ID	NA
Ba		v
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 17011044
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 18101L214
Flow: 1.50mL/min Sample loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 17011085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #; 355200012
0.2 µm filter lot #:	1.5 oz; lot #;

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57 K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	SW48-008-04-01
ICV	SW48-008-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

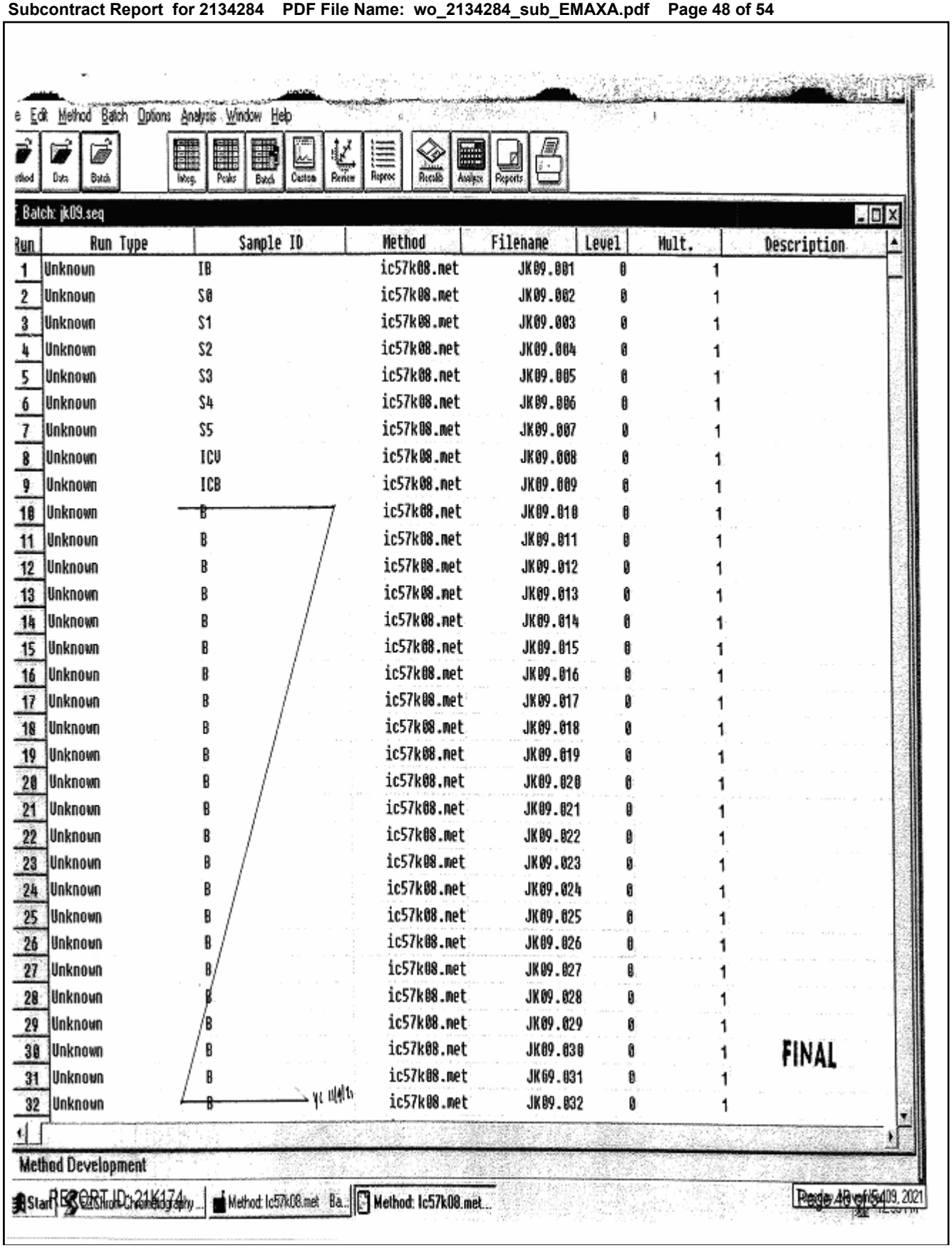
MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/8/21

REPORT ID: 21K174



e Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK69.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

REPORT ID: 21K174

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

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Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-02-18-04

Reagent Water ID #: SWIA-011-03-09

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-18	99.927	100.000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

PCK002W: K139; K140; K141; K168; K166; K190; K191
- QC water: SWIA-011-03-09
- QC Water: RWI-21-004
- QC Filter: Lot #210890103
- MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

PCK003W: K167; K174; K169
- MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

	Snapseal container
0.45 µm filter lot #: 210081103	4 oz; lot #: 35520012
0.2 µm filter lot #: -	1.5 oz; lot #: 25020009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK19
Method File:	IC57K08
Analytical Batch:	PCK008W / PCK003W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID		
ICAL	-	
ICV	-	
CCV-15	SW4B-003-04-09	
CCV-30		-08
LCS		-07
IPC		-06
MRL	↓	-03
MS	SW4B-003-03-27	

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/19/21

REPORT ID: 21K174

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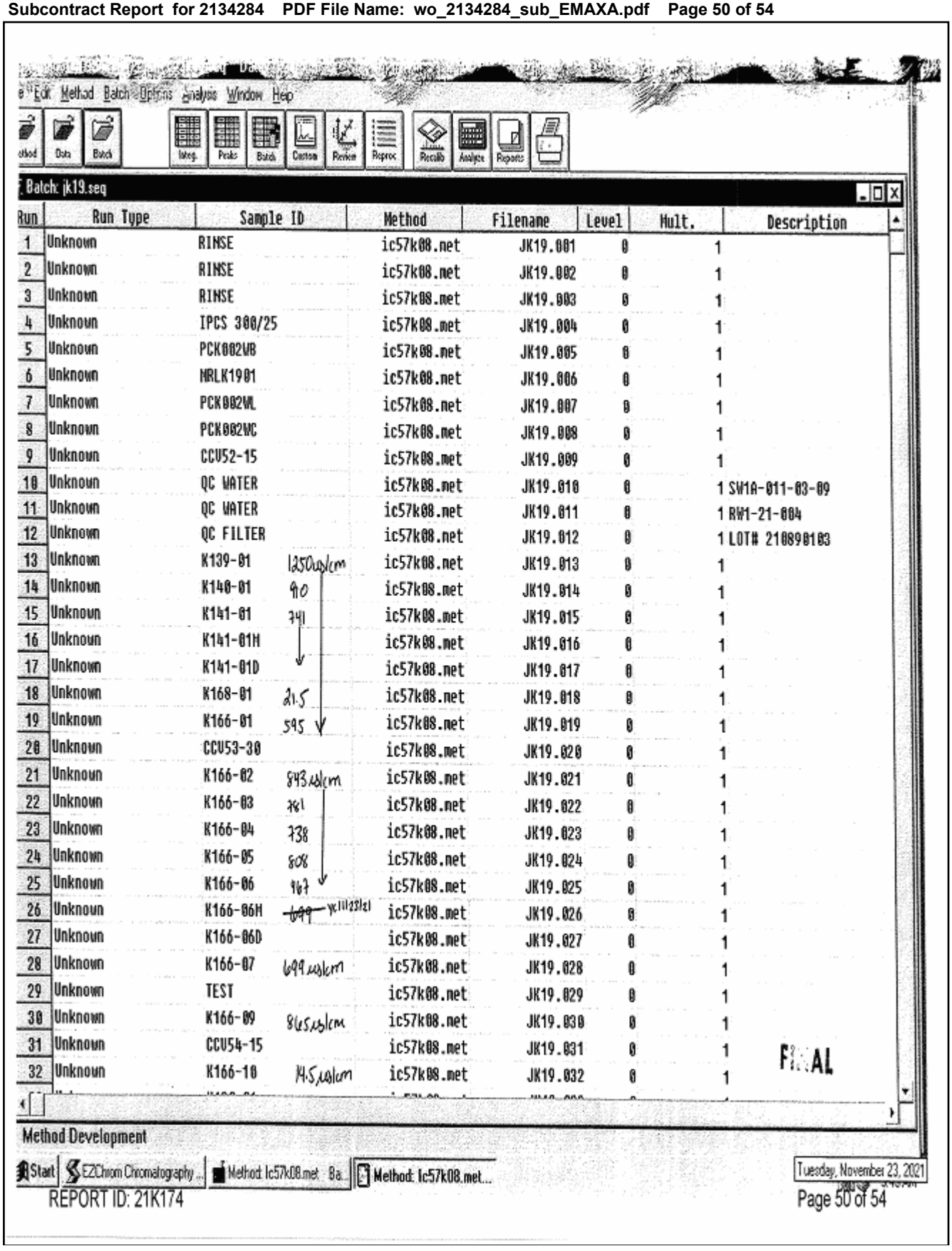

Edit Method Batch Options Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
1	Unknown	RINSE		ic57k08.met	JK19.001	0	1	
2	Unknown	RINSE		ic57k08.met	JK19.002	0	1	
3	Unknown	RINSE		ic57k08.met	JK19.003	0	1	
4	Unknown	IPCS 300/25		ic57k08.met	JK19.004	0	1	
5	Unknown	PCK002VB		ic57k08.met	JK19.005	0	1	
6	Unknown	MRLK1901		ic57k08.met	JK19.006	0	1	
7	Unknown	PCK002WL		ic57k08.met	JK19.007	0	1	
8	Unknown	PCK002WC		ic57k08.met	JK19.008	0	1	
9	Unknown	CCV52-15		ic57k08.met	JK19.009	0	1	
10	Unknown	QC WATER		ic57k08.met	JK19.010	0	1	SW1A-011-03-09
11	Unknown	QC WATER		ic57k08.met	JK19.011	0	1	RW1-21-004
12	Unknown	QC FILTER		ic57k08.met	JK19.012	0	1	LOT# 21089B103
13	Unknown	K139-01	1250 µs/cm	ic57k08.met	JK19.013	0	1	
14	Unknown	K140-01	910	ic57k08.met	JK19.014	0	1	
15	Unknown	K141-01	741	ic57k08.met	JK19.015	0	1	
16	Unknown	K141-01H		ic57k08.met	JK19.016	0	1	
17	Unknown	K141-01D		ic57k08.met	JK19.017	0	1	
18	Unknown	K168-01	21.5	ic57k08.met	JK19.018	0	1	
19	Unknown	K166-01	595	ic57k08.met	JK19.019	0	1	
20	Unknown	CCV53-30		ic57k08.met	JK19.020	0	1	
21	Unknown	K166-02	843 µs/cm	ic57k08.met	JK19.021	0	1	
22	Unknown	K166-03	781	ic57k08.met	JK19.022	0	1	
23	Unknown	K166-04	738	ic57k08.met	JK19.023	0	1	
24	Unknown	K166-05	808	ic57k08.met	JK19.024	0	1	
25	Unknown	K166-06	967	ic57k08.met	JK19.025	0	1	
26	Unknown	K166-06H	~~649~~	ic57k08.met	JK19.026	0	1	
27	Unknown	K166-06D		ic57k08.met	JK19.027	0	1	
28	Unknown	K166-07	699 µs/cm	ic57k08.met	JK19.028	0	1	
29	Unknown	TEST		ic57k08.met	JK19.029	0	1	
30	Unknown	K166-09	865 µs/cm	ic57k08.met	JK19.030	0	1	
31	Unknown	CCV54-15		ic57k08.met	JK19.031	0	1	FINAL
32	Unknown	K166-10	14.5 µs/cm	ic57k08.met	JK19.032	0	1	

Method Development

Start | EZChrom Chromatography ... | Method: Ic57k08.met Ba... | Method: Ic57k08.met...

Tuesday, November 23, 2021

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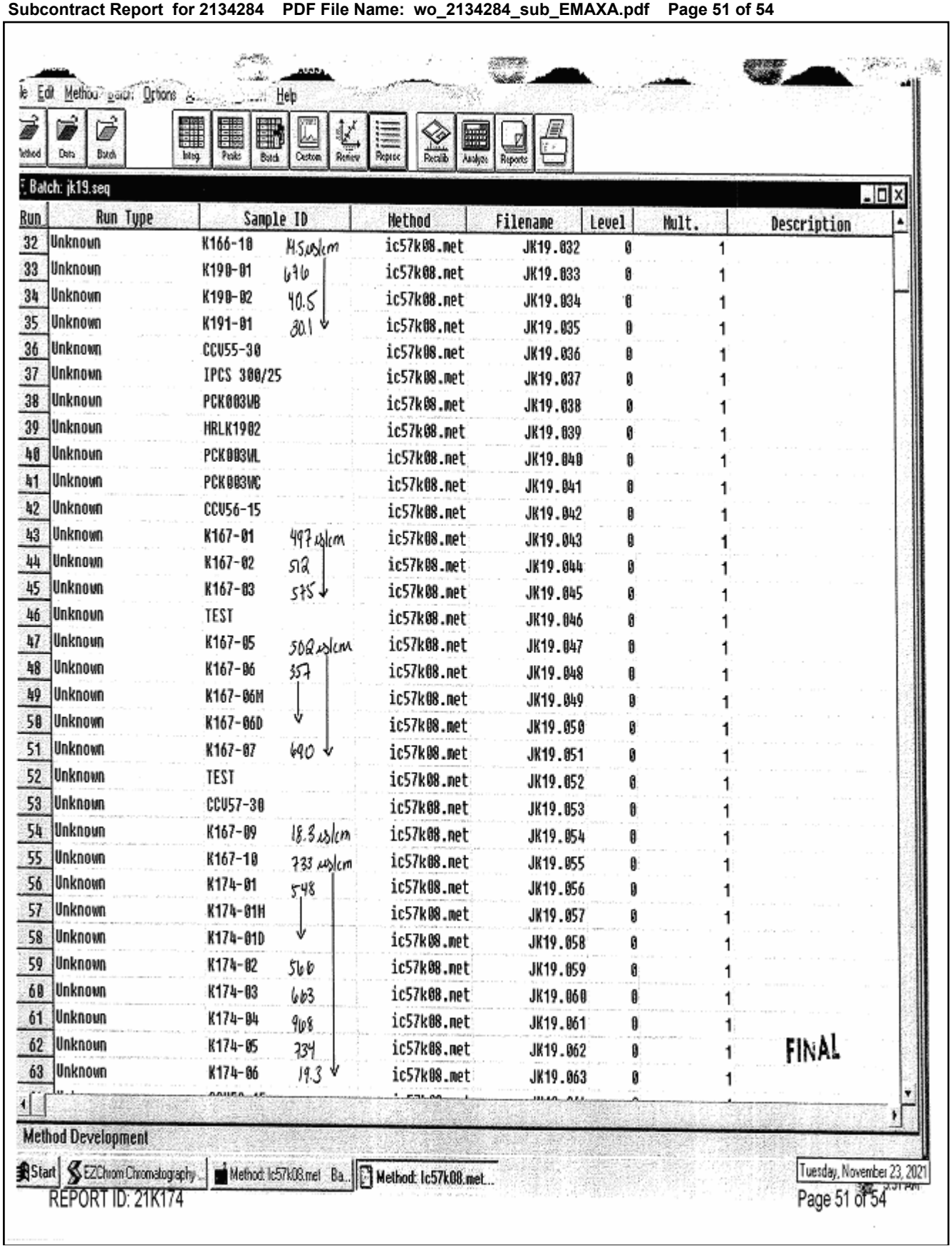

Batch: jk19.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
32	Unknown	K166-10	14.5 µs/cm	ic57k08.met	JK19.032	0	1	
33	Unknown	K190-01	636	ic57k08.met	JK19.033	0	1	
34	Unknown	K190-02	40.5	ic57k08.met	JK19.034	0	1	
35	Unknown	K191-01	30.1	ic57k08.met	JK19.035	0	1	
36	Unknown	CCV55-30		ic57k08.met	JK19.036	0	1	
37	Unknown	IPCS 300/25		ic57k08.met	JK19.037	0	1	
38	Unknown	PCK003WB		ic57k08.met	JK19.038	0	1	
39	Unknown	HRLK1902		ic57k08.met	JK19.039	0	1	
40	Unknown	PCK003WL		ic57k08.met	JK19.040	0	1	
41	Unknown	PCK003WC		ic57k08.met	JK19.041	0	1	
42	Unknown	CCV56-15		ic57k08.met	JK19.042	0	1	
43	Unknown	K167-01	497 µs/cm	ic57k08.met	JK19.043	0	1	
44	Unknown	K167-02	512	ic57k08.met	JK19.044	0	1	
45	Unknown	K167-03	515	ic57k08.met	JK19.045	0	1	
46	Unknown	TEST		ic57k08.met	JK19.046	0	1	
47	Unknown	K167-05	502 µs/cm	ic57k08.met	JK19.047	0	1	
48	Unknown	K167-06	357	ic57k08.met	JK19.048	0	1	
49	Unknown	K167-06M		ic57k08.met	JK19.049	0	1	
50	Unknown	K167-06D		ic57k08.met	JK19.050	0	1	
51	Unknown	K167-07	690	ic57k08.met	JK19.051	0	1	
52	Unknown	TEST		ic57k08.met	JK19.052	0	1	
53	Unknown	CCV57-30		ic57k08.met	JK19.053	0	1	
54	Unknown	K167-09	18.8 µs/cm	ic57k08.met	JK19.054	0	1	
55	Unknown	K167-10	733 µs/cm	ic57k08.met	JK19.055	0	1	
56	Unknown	K174-01	548	ic57k08.met	JK19.056	0	1	
57	Unknown	K174-01M		ic57k08.met	JK19.057	0	1	
58	Unknown	K174-01D		ic57k08.met	JK19.058	0	1	
59	Unknown	K174-02	566	ic57k08.met	JK19.059	0	1	
60	Unknown	K174-03	663	ic57k08.met	JK19.060	0	1	
61	Unknown	K174-04	908	ic57k08.met	JK19.061	0	1	
62	Unknown	K174-05	734	ic57k08.met	JK19.062	0	1	FINAL
63	Unknown	K174-06	19.3	ic57k08.met	JK19.063	0	1	

Method Development

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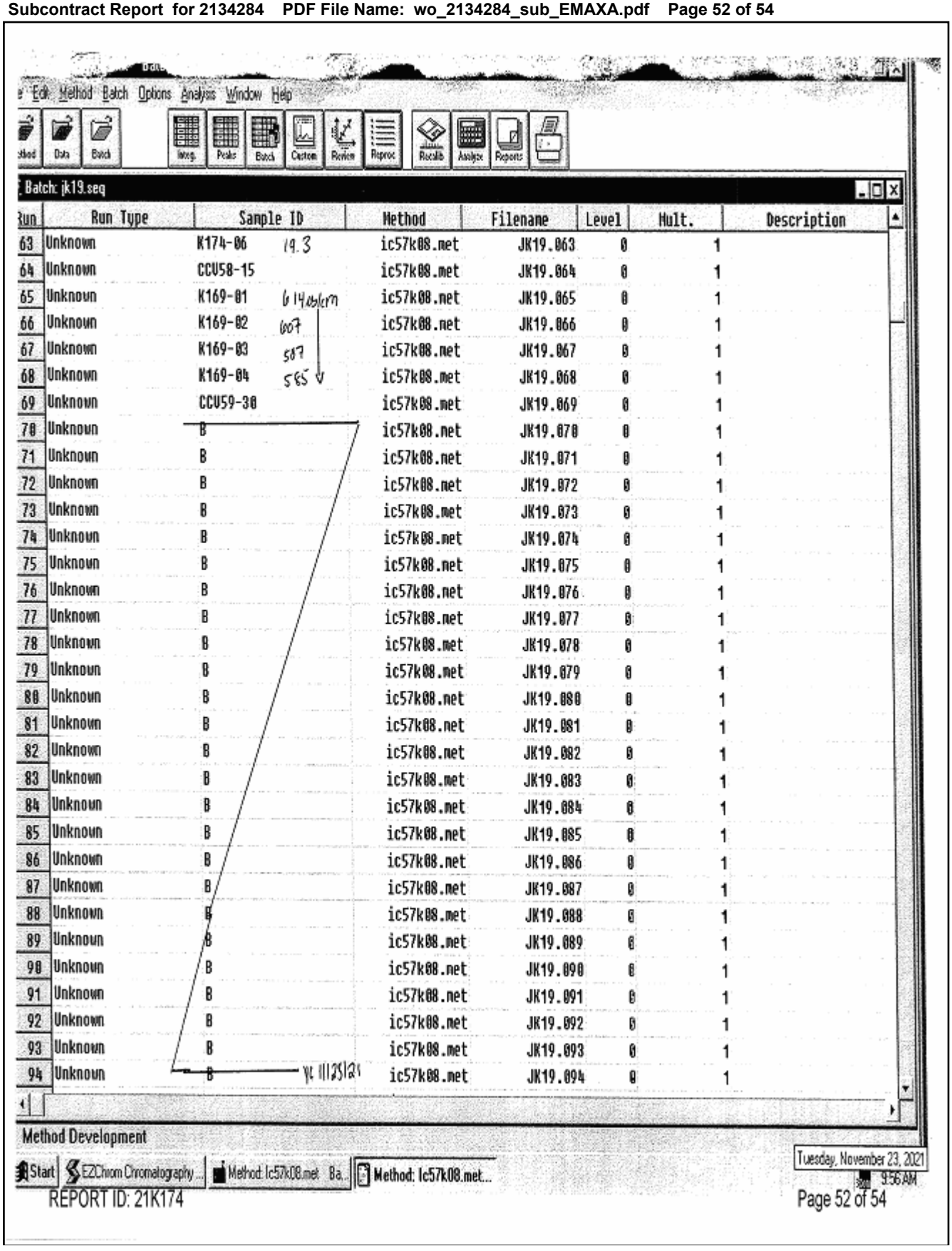

Edit Method Batch Options Analysis Window Help

Batch: jk19.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
63	Unknown	K174-06 19.3	ic57k08.met	JK19.063	0	1	
64	Unknown	CCU58-15	ic57k08.met	JK19.064	0	1	
65	Unknown	K169-01 6 14 ablern	ic57k08.met	JK19.065	0	1	
66	Unknown	K169-02 607	ic57k08.met	JK19.066	0	1	
67	Unknown	K169-03 587	ic57k08.met	JK19.067	0	1	
68	Unknown	K169-04 565	ic57k08.met	JK19.068	0	1	
69	Unknown	CCU59-30	ic57k08.met	JK19.069	0	1	
70	Unknown	B	ic57k08.met	JK19.070	0	1	
71	Unknown	B	ic57k08.met	JK19.071	0	1	
72	Unknown	B	ic57k08.met	JK19.072	0	1	
73	Unknown	B	ic57k08.met	JK19.073	0	1	
74	Unknown	B	ic57k08.met	JK19.074	0	1	
75	Unknown	B	ic57k08.met	JK19.075	0	1	
76	Unknown	B	ic57k08.met	JK19.076	0	1	
77	Unknown	B	ic57k08.met	JK19.077	0	1	
78	Unknown	B	ic57k08.met	JK19.078	0	1	
79	Unknown	B	ic57k08.met	JK19.079	0	1	
80	Unknown	B	ic57k08.met	JK19.080	0	1	
81	Unknown	B	ic57k08.met	JK19.081	0	1	
82	Unknown	B	ic57k08.met	JK19.082	0	1	
83	Unknown	B	ic57k08.met	JK19.083	0	1	
84	Unknown	B	ic57k08.met	JK19.084	0	1	
85	Unknown	B	ic57k08.met	JK19.085	0	1	
86	Unknown	B	ic57k08.met	JK19.086	0	1	
87	Unknown	B	ic57k08.met	JK19.087	0	1	
88	Unknown	B	ic57k08.met	JK19.088	0	1	
89	Unknown	B	ic57k08.met	JK19.089	0	1	
90	Unknown	B	ic57k08.met	JK19.090	0	1	
91	Unknown	B	ic57k08.met	JK19.091	0	1	
92	Unknown	B	ic57k08.met	JK19.092	0	1	
93	Unknown	B	ic57k08.met	JK19.093	0	1	
94	Unknown	B	ic57k08.met	JK19.094	0	1	

Method Development

Start EZChrom Chromatography ... Method: Ic57k08.met Ba... Method: Ic57k08.met...

Tuesday, November 23, 2021 9:56 AM

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RETENTION TIME WINDOW

REPORT ID: 21K174

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RETENTION TIME WINDOW
METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K174

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 15:29
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	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.
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project:	4Q21
BCL Project:	JPL- GW Monitoring Wells-CLP
BCL Work Order:	2134388
Invoice ID:	

Enclosed are the results of analyses for samples received by the laboratory on 11/1/2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Natalie Serda
Client Service Rep

Stuart Buttram
Technical Director

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

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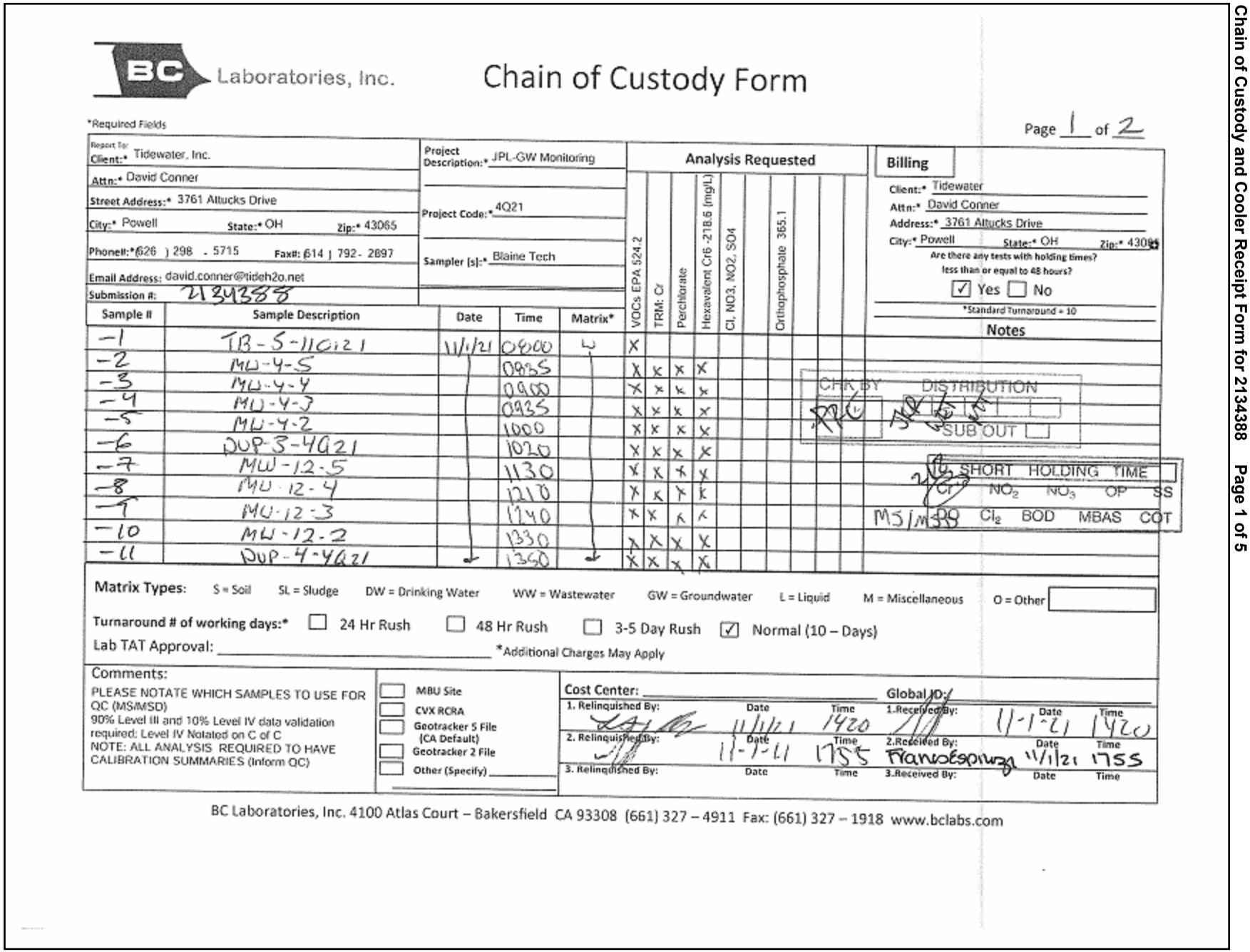
Table of Contents



BC Laboratories, Inc.

Chain of Custody Form

*Required Fields

Page 1 of 2

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 #: 2134388

Project Description:* JPL-GW Monitoring
Project Code:* 4Q21
Sampler (s):* Blaine Tech

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

Notes

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4		Orthophosphate 365.1			
-1	TB-S-110121	11/1/21	0900	W	X									
-2	MW-4-5		0835		X	X	X	X						
-3	MW-4-4		0900		X	X	X	X						
-4	MW-4-3		0935		X	X	X	X						
-5	MW-4-2		1000		X	X	X	X						
-6	DUP-3-4Q21		1020		X	X	X	X						
-7	MW-12-5		1130		X	X	X	X						
-8	MW-12-4		1210		X	X	X	X						
-9	MW-12-3		1240		X	X	X	X						
-10	MW-12-2		1330		X	X	X	X						
-11	DUP-4-4Q21	↓	1350	↓	X	X	X	X						

CHK BY MC
DISTRIBUTION
SUB OUT

SHORT HOLDING TIME
Cr+6 NO_2 NO_3 OP SS
MS/MSD Cl_2 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)

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

Cost Center: _____ Global ID: _____

	Date	Time		Date	Time
1. Relinquished By:	11/1/21	1420	1. Received By:	11-1-21	1420
2. Relinquished By:	11-1-21	1755	2. Received By: Francoespinoza	11/1/21	1755
3. Relinquished By:			3. Received By:		

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

Chain of Custody and Cooler Receipt Form for 2134388 Page 2 of 5

Chain of Custody Form

BC Laboratories, Inc.

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 #: 2134388

Project Description:* JPL-GW Monitoring
Project Code:* 4021
Sampler (s):* Blaine Tech

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

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4	Orthophosphate 365.1			Notes
-12	EB-S-111121	11/1/21	1410	U	X	X	X	X					

Analysis Requested

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)

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

Cost Center: _____ Global ID: _____

1. Relinquished By:	Date 11/1/21	Time 1420	1.Received By:	Date 11-1-21	Time 1420
2. Relinquished By:	Date 11-1-21	Time 1715	2.Received By:	Date	Time
3. Relinquished By:	Date	Time	3.Received By:	Date 11/1/21	Time 1757

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 #: 2134388

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: P5 Thermometer ID: 208

Temperature: (A) 0.3 °C / (C) 0.3 °C

Date/Time 10/01/21 1055

Analyst Init ZC1

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES XU8								D	G,H	D
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6} I06										
QT INORGANIC CHEMICAL METALS M04								F	K,L	E
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz M03								E	I,J	E
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK 094	A									
40ml VOA VIAL 096	A (BC 10/01/21)	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-F	A-C
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: ZC1 Date/Time: 10/01/21 1100
A = Actual / C = Corrected

Rev 22 04/13/21
[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 22]

BC LABORATORIES INC. COOLER RECEIPT FORM Page 4 Of 5

Submission #: 2134388

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 0.2 °C / (C) 0.2 °C

Date/Time 11/01/21 1755

Analyst Init ZCI

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES X48	D	D	D	D	D	D	D			
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6 J06	F	F	F	F	F	F	F			
QT INORGANIC CHEMICAL METALS MOU										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	E	E	E	E	E	E	E			
PT CYANIDE	Bc Metals									
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 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: ZCI Date/Time: 11/01/21 1900
A = Actual / C = Corrected

Rev 22 04/13/21
(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 3

Submission #: 2134388

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 0.2 °C / (C) 0.2 °C

Date/Time 11/01/21 1755

Analyst Init ZC1

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES X46	D	D								
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6} I06	F	F								
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz (16oz) M0	E	E								
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL 096	A-C	A-C								
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: ZC1 Date/Time: 11/01/21 1900

A = Actual / C = Corrected

Rev 22 04/13/21

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134388-01	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 08:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-5-110121	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Trip Blank
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-5-110121	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134388-02	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 08:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-4-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134388-03	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 09:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-4-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134388-04	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 09:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-4-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134388-05	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 10:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-4-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-4-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134388-06	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 10:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-3-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-3-4Q21	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information		
2134388-07	**COC Number:**	---	**Receive Date:** 11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:** 11/01/2021 11:30
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-12-5	**Lab Matrix:** Water
	Sampled By:	BTST	**Sample Type:** Water
			Delivery Work Order:
			Global ID: 0000000000
			Location ID (FieldPoint): MW-12-5
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
2134388-08	**COC Number:**	---	**Receive Date:** 11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:** 11/01/2021 12:10
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-12-4	**Lab Matrix:** Water
	Sampled By:	BTST	**Sample Type:** Water
			Delivery Work Order:
			Global ID: 0000000000
			Location ID (FieldPoint): MW-12-4
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:
2134388-09	**COC Number:**	---	**Receive Date:** 11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:** 11/01/2021 12:40
	Sampling Location:	---	**Sample Depth:** ---
	Sampling Point:	MW-12-3	**Lab Matrix:** Water
	Sampled By:	BTST	**Sample Type:** Water
			Delivery Work Order:
			Global ID: 0000000000
			Location ID (FieldPoint): MW-12-3
			Matrix: W
			Sample QC Type (SACode): CS
			Cooler ID:

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134388-10	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 13:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-12-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: 0000000000			
	Location ID (FieldPoint): MW-12-2			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
2134388-11	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 13:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-4-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: 0000000000			
	Location ID (FieldPoint): DUP-4-4Q21			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			
2134388-12	**COC Number:**	---	**Receive Date:**	11/01/2021 17:55
	Project Number:	NASA/JPL	**Sampling Date:**	11/01/2021 14:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-S-11/1/21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
	Delivery Work Order:			
	Global ID: 0000000000			
	Location ID (FieldPoint): EB-S-11/1/21			
	Matrix: W			
	Sample QC Type (SACode): CS			
	Cooler ID:			

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-01 | **Client Sample Name:** NASA/JPL, TB-5-110121, 11/1/2021 8:00:00AM

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

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-01 | **Client Sample Name:** NASA/JPL, TB-5-110121, 11/1/2021 8:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-01 | **Client Sample Name:** NASA/JPL, TB-5-110121, 11/1/2021 8:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 09:46	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-01 | **Client Sample Name:** NASA/JPL, TB-5-110121, 11/1/2021 8:00:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 09:46	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-02 | **Client Sample Name:** NASA/JPL, MW-4-5, 11/1/2021 8:35:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-02 | **Client Sample Name:** NASA/JPL, MW-4-5, 11/1/2021 8:35:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-02 | **Client Sample Name:** NASA/JPL, MW-4-5, 11/1/2021 8:35:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	87.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 10:10	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-02 | **Client Sample Name:** NASA/JPL, MW-4-5, 11/1/2021 8:35:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 10:10	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-02 | **Client Sample Name:** NASA/JPL, MW-4-5, 11/1/2021 8:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000053**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020	**J**	1
Total Recoverable Chromium	**1.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 08:05	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:43	ARD	PE-EL2	1	B124727	EPA 200.2

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-03 | **Client Sample Name:** NASA/JPL, MW-4-4, 11/1/2021 9:00:00AM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-03 | **Client Sample Name:** NASA/JPL, MW-4-4, 11/1/2021 9:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-03 | **Client Sample Name:** NASA/JPL, MW-4-4, 11/1/2021 9:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 10:34	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-03 | **Client Sample Name:** NASA/JPL, MW-4-4, 11/1/2021 9:00:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 10:34	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-03 | **Client Sample Name:** NASA/JPL, MW-4-4, 11/1/2021 9:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000066**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 08:15	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:45	ARD	PE-EL2	1	B124727	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-04 | **Client Sample Name:** NASA/JPL, MW-4-3, 11/1/2021 9:35:00AM

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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-04 | **Client Sample Name:** NASA/JPL, MW-4-3, 11/1/2021 9:35:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-04 | **Client Sample Name:** NASA/JPL, MW-4-3, 11/1/2021 9:35:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	89.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 10:59	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-04 | **Client Sample Name:** NASA/JPL, MW-4-3, 11/1/2021 9:35:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 10:59	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-04 | **Client Sample Name:** NASA/JPL, MW-4-3, 11/1/2021 9:35:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00019**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020	**J**	1
Total Recoverable Chromium	**0.81**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 08:24	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:47	ARD	PE-EL2	1	B124727	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-05 | **Client Sample Name:** NASA/JPL, MW-4-2, 11/1/2021 10:00:00AM

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	**0.67**	**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. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-05 | **Client Sample Name:** NASA/JPL, MW-4-2, 11/1/2021 10:00:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-05 | **Client Sample Name:** NASA/JPL, MW-4-2, 11/1/2021 10:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 11:23	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-05 | **Client Sample Name:** NASA/JPL, MW-4-2, 11/1/2021 10:00:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 11:23	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-05 | **Client Sample Name:** NASA/JPL, MW-4-2, 11/1/2021 10:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00019**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 08:34	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:48	ARD	PE-EL2	1	B124727	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-06 | **Client Sample Name:** NASA/JPL, DUP-3-4Q21, 11/1/2021 10:20:00AM

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	**0.67**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-06 | **Client Sample Name:** NASA/JPL, DUP-3-4Q21, 11/1/2021 10:20:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-06 | **Client Sample Name:** NASA/JPL, DUP-3-4Q21, 11/1/2021 10:20:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	90.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 11:48	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-06 | **Client Sample Name:** NASA/JPL, DUP-3-4Q21, 11/1/2021 10:20:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 11:48	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-06 | **Client Sample Name:** NASA/JPL, DUP-3-4Q21, 11/1/2021 10:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00019**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 09:03	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:50	ARD	PE-EL2	1	B124727	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-07 | **Client Sample Name:** NASA/JPL, MW-12-5, 11/1/2021 11:30:00AM

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	**0.22**	**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	**0.26**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-07 | **Client Sample Name:** NASA/JPL, MW-12-5, 11/1/2021 11:30:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-07 | **Client Sample Name:** NASA/JPL, MW-12-5, 11/1/2021 11:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	104	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 12:12	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-07 | **Client Sample Name:** NASA/JPL, MW-12-5, 11/1/2021 11:30:00AM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 12:12	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-07 | **Client Sample Name:** NASA/JPL, MW-12-5, 11/1/2021 11:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0011**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020		1
Total Recoverable Chromium	**2.0**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 09:12	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:51	ARD	PE-EL2	1	B124727	EPA 200.2

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-08 | **Client Sample Name:** NASA/JPL, MW-12-4, 11/1/2021 12:10:00PM

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	**0.28**	**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	**0.34**	**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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-08 | **Client Sample Name:** NASA/JPL, MW-12-4, 11/1/2021 12:10:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-08 | **Client Sample Name:** NASA/JPL, MW-12-4, 11/1/2021 12:10:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 12:36	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-08 | **Client Sample Name:** NASA/JPL, MW-12-4, 11/1/2021 12:10:00PM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 12:36	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-08 | **Client Sample Name:** NASA/JPL, MW-12-4, 11/1/2021 12:10:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00043**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020		1
Total Recoverable Chromium	**1.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 09:22	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:53	ARD	PE-EL2	1	B124727	EPA 200.2

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-09 | **Client Sample Name:** NASA/JPL, MW-12-3, 11/1/2021 12:40:00PM

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	**0.40**	**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	**1.2**	**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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-09 | **Client Sample Name:** NASA/JPL, MW-12-3, 11/1/2021 12:40:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-09 | **Client Sample Name:** NASA/JPL, MW-12-3, 11/1/2021 12:40:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	99.0	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	87.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 07:45	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-09 | **Client Sample Name:** NASA/JPL, MW-12-3, 11/1/2021 12:40:00PM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 07:45	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-09 | **Client Sample Name:** NASA/JPL, MW-12-3, 11/1/2021 12:40:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00024**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 07:27	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:20	11/10/21 10:11	ARD	PE-EL2	1	B124727	EPA 200.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-10 | **Client Sample Name:** NASA/JPL, MW-12-2, 11/1/2021 1:30:00PM

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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-10 | **Client Sample Name:** NASA/JPL, MW-12-2, 11/1/2021 1:30:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-10 | **Client Sample Name:** NASA/JPL, MW-12-2, 11/1/2021 1:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 13:00	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-10 | **Client Sample Name:** NASA/JPL, MW-12-2, 11/1/2021 1:30:00PM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 13:00	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-10 | **Client Sample Name:** NASA/JPL, MW-12-2, 11/1/2021 1:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00041**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020		1
Total Recoverable Chromium	**0.76**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 09:31	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:30	11/10/21 11:21	ARD	PE-EL2	1	B124728	EPA 200.2

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-11 | **Client Sample Name:** NASA/JPL, DUP-4-4Q21, 11/1/2021 1:50:00PM

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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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-11 | **Client Sample Name:** NASA/JPL, DUP-4-4Q21, 11/1/2021 1:50:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-11 | **Client Sample Name:** NASA/JPL, DUP-4-4Q21, 11/1/2021 1:50:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 13:24	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-11 | **Client Sample Name:** NASA/JPL, DUP-4-4Q21, 11/1/2021 1:50:00PM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 13:24	MGC	MS-V5	1	B124106	EPA 524.2

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-11 | **Client Sample Name:** NASA/JPL, DUP-4-4Q21, 11/1/2021 1:50:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00041**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000020		1
Total Recoverable Chromium	**0.90**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/04/21 13:00	11/05/21 09:41	SAV	IC-4	1	B124370	No Prep
2	EPA-200.8	11/09/21 17:30	11/10/21 11:37	ARD	PE-EL2	1	B124728	EPA 200.2

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-12 | **Client Sample Name:** NASA/JPL, EB-S-11/1/21, 11/1/2021 2:10:00PM

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: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-12 | **Client Sample Name:** NASA/JPL, EB-S-11/1/21, 11/1/2021 2:10:00PM

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	**0.61**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134388-12 | **Client Sample Name:** NASA/JPL, EB-S-11/1/21, 11/1/2021 2:10:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 13:49	MGC	MS-V5	1	B124106	EPA 524.2

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134388-12 | **Client Sample Name:** NASA/JPL, EB-S-11/1/21, 11/1/2021 2:10:00PM

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	Prep Method
1	EPA-524.2	11/03/21 07:00	11/03/21 13:49	MGC	MS-V5	1	B124106	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134388-12 | **Client Sample Name:** NASA/JPL, EB-S-11/1/21, 11/1/2021 2:10:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00011**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	**0.52**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/05/21 06:00	11/05/21 10:10	SAV	IC-4	1	B124371	No Prep
2	EPA-200.8	11/09/21 17:30	11/10/21 11:39	ARD	PE-EL2	1	B124728	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
Benzene	B124106-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124106-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124106-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124106-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124106-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124106-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124106-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124106-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124106-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124106-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124106-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124106-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124106-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B124106-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124106-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124106-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124106-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124106-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124106-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124106-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124106-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124106-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124106-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124106-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124106-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124106-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124106-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124106-BLK1	ND	ug/L	0.50	0.14	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
trans-1,3-Dichloropropene	B124106-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124106-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124106-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124106-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124106-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124106-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124106-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124106-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124106-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124106-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124106-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124106-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124106-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124106-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B124106-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124106-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124106-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124106-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124106-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124106-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124106-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124106-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124106-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124106-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124106-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124106-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124106-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124106-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124106-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124106-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124106-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124106-BLK1	ND	ug/L	4.0	1.3	

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
Ethyl t-butyl ether	B124106-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124106-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124106-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124106-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124106-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124106-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124106-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124106-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124106-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124106-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124106-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124106-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124106-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124106-BLK1**	**107**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124106-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124106-BLK1**	**93.5**	%	**80 - 120 (LCL - UCL)**		

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124106										
Benzene	B124106-BS1	LCS	24.880	25.000	ug/L	99.5		70 - 130		
Bromodichloromethane	B124106-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
Chlorobenzene	B124106-BS1	LCS	25.190	25.000	ug/L	101		70 - 130		
Chloroethane	B124106-BS1	LCS	26.230	25.000	ug/L	105		70 - 130		
1,4-Dichlorobenzene	B124106-BS1	LCS	25.510	25.000	ug/L	102		70 - 130		
1,1-Dichloroethane	B124106-BS1	LCS	25.840	25.000	ug/L	103		70 - 130		
1,1-Dichloroethene	B124106-BS1	LCS	26.240	25.000	ug/L	105		70 - 130		
Toluene	B124106-BS1	LCS	25.460	25.000	ug/L	102		70 - 130		
Trichloroethene	B124106-BS1	LCS	25.470	25.000	ug/L	102		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124106-BS1	LCS	10.380	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	B124106-BS1	LCS	10.630	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124106-BS1	LCS	9.6700	10.000	ug/L	96.7		80 - 120		

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124106	Used client sample: Y - Description: MW-12-3, 11/01/2021 12:40										
Benzene	MS	2134388-09	ND	25.640	25.000	ug/L		103		70 - 130	
	MSD	2134388-09	ND	24.810	25.000	ug/L	3.3	99.2	20	70 - 130	
Bromodichloromethane	MS	2134388-09	ND	28.640	25.000	ug/L		115		70 - 130	
	MSD	2134388-09	ND	27.300	25.000	ug/L	4.8	109	20	70 - 130	
Chlorobenzene	MS	2134388-09	ND	26.080	25.000	ug/L		104		70 - 130	
	MSD	2134388-09	ND	25.830	25.000	ug/L	1.0	103	20	70 - 130	
Chloroethane	MS	2134388-09	ND	26.970	25.000	ug/L		108		70 - 130	
	MSD	2134388-09	ND	26.020	25.000	ug/L	3.6	104	20	70 - 130	
1,4-Dichlorobenzene	MS	2134388-09	ND	26.120	25.000	ug/L		104		70 - 130	
	MSD	2134388-09	ND	26.100	25.000	ug/L	0.1	104	20	70 - 130	
1,1-Dichloroethane	MS	2134388-09	ND	26.880	25.000	ug/L		108		70 - 130	
	MSD	2134388-09	ND	26.260	25.000	ug/L	2.3	105	20	70 - 130	
1,1-Dichloroethene	MS	2134388-09	ND	27.740	25.000	ug/L		111		70 - 130	
	MSD	2134388-09	ND	26.520	25.000	ug/L	4.5	106	20	70 - 130	
Toluene	MS	2134388-09	ND	26.190	25.000	ug/L		105		70 - 130	
	MSD	2134388-09	ND	25.480	25.000	ug/L	2.7	102	20	70 - 130	
Trichloroethene	MS	2134388-09	ND	27.150	25.000	ug/L		109		70 - 130	
	MSD	2134388-09	ND	25.710	25.000	ug/L	5.4	103	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134388-09	ND	10.220	10.000	ug/L		102		75 - 125	
	MSD	2134388-09	ND	9.8700	10.000	ug/L	3.5	98.7		75 - 125	
Toluene-d8 (Surrogate)	MS	2134388-09	ND	10.380	10.000	ug/L		104		80 - 120	
	MSD	2134388-09	ND	10.230	10.000	ug/L	1.5	102		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134388-09	ND	9.8700	10.000	ug/L		98.7		80 - 120	
	MSD	2134388-09	ND	9.8600	10.000	ug/L	0.1	98.6		80 - 120	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124106						
Chloroacetonitrile	B124106-BLK1	0	ug/L			
1-Chlorobutane	B124106-BLK1	0	ug/L			
1,1-Dichloropropanone	B124106-BLK1	0	ug/L			
Methyl acrylate	B124106-BLK1	0	ug/L			
Nitrobenzene	B124106-BLK1	0	ug/L			
2-Nitropropane	B124106-BLK1	0	ug/L			

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124370						
Hexavalent Chromium	**B124370-BLK1**	**0.000020000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124371						
Hexavalent Chromium	B124371-BLK1	ND	mg/L	0.00020	0.000020	
QC Batch ID: B124727						
Total Recoverable Chromium	B124727-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124728						
Total Recoverable Chromium	B124728-BLK1	ND	ug/L	3.0	0.50	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124370										
Hexavalent Chromium	B124370-BS1	LCS	0.021971	0.020000	mg/L	110		90 - 110		
QC Batch ID: B124371										
Hexavalent Chromium	B124371-BS1	LCS	0.022099	0.020000	mg/L	110		90 - 110		
QC Batch ID: B124727										
Total Recoverable Chromium	B124727-BS1	LCS	41.883	40.000	ug/L	105		85 - 115		
QC Batch ID: B124728										
Total Recoverable Chromium	B124728-BS1	LCS	40.849	40.000	ug/L	102		85 - 115		

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ENVIRONMENTAL SCIENCES

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Reported: 12/15/2021 15:04
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124370	Used client sample: Y - Description: MW-12-3, 11/01/2021 12:40										
Hexavalent Chromium	DUP	2134388-09	0.00024400	0.00022600		mg/L	7.7		10		
	MS	2134388-09	0.00024400	0.020375	0.020202	mg/L		99.6		90 - 110	
	MSD	2134388-09	0.00024400	0.020346	0.020202	mg/L	0.1	99.5	10	90 - 110	
QC Batch ID: B124371	Used client sample: Y - Description: EB-S-11/1/21, 11/01/2021 14:10										
Hexavalent Chromium	DUP	**2134388-12**	**0.00010700**	**0.000090000**		**mg/L**	**17.3**		**10**		**J,A02**
	MS	**2134388-12**	**0.00010700**	**0.020732**	**0.020202**	**mg/L**		**102**		**90 - 110**	
	MSD	**2134388-12**	**0.00010700**	**0.020579**	**0.020202**	**mg/L**	**0.7**	**101**	**10**	**90 - 110**	
QC Batch ID: B124727	Used client sample: Y - Description: MW-12-3, 11/01/2021 12:40										
Total Recoverable Chromium	DUP	2134388-09	ND	ND		ug/L			20		
	MS	2134388-09	ND	41.371	40.000	ug/L		103		70 - 130	
	MSD	2134388-09	ND	39.266	40.000	ug/L	5.2	98.2	20	70 - 130	
QC Batch ID: B124728	Used client sample: Y - Description: MW-12-2, 11/01/2021 13:30										
Total Recoverable Chromium	DUP	2134388-10	0.76300	0.85900		ug/L	11.8		20		J
	MS	2134388-10	0.76300	39.537	40.000	ug/L		96.9		70 - 130	
	MSD	2134388-10	0.76300	40.702	40.000	ug/L	2.9	99.8	20	70 - 130	

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-09-2021
EMAX Batch No.: 21K173

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2134388

Enclosed is the Laboratory report for samples received on 11/19/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2134388-02	K173-01	11/01/21	WATER	PERCHLORATE BY IC
2134388-03	K173-02	11/01/21	WATER	PERCHLORATE BY IC
2134388-04	K173-03	11/01/21	WATER	PERCHLORATE BY IC
2134388-05	K173-04	11/01/21	WATER	PERCHLORATE BY IC
2134388-06	K173-05	11/01/21	WATER	PERCHLORATE BY IC
2134388-07	K173-06	11/01/21	WATER	PERCHLORATE BY IC
2134388-08	K173-07	11/01/21	WATER	PERCHLORATE BY IC
2134388-09	K173-08	11/01/21	WATER	PERCHLORATE BY IC
2134388-10	K173-09	11/01/21	WATER	PERCHLORATE BY IC
2134388-11	K173-10	11/01/21	WATER	PERCHLORATE BY IC
2134388-12	K173-11	11/01/21	WATER	PERCHLORATE BY IC
2134388-09MS	K173-08M	11/01/21	WATER	PERCHLORATE BY IC
2134388-09MSD	K173-08S	11/01/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

REPORT ID: 21K173 Page 1 of 77

SUBCONTRACT ORDER

21K173

Coolers

BC Laboratories

2134388

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory $EMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

Q 11/18/21 9:20

Analysis	Due	Expires	Laboratory ID	Comments
1 **Sample ID: 2134388-02**	**Water**	**Sampled:11/01/21 08:35**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 08:35		
Containers Supplied:				
2 **Sample ID: 2134388-03**	**Water**	**Sampled:11/01/21 09:00**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 09:00		
Containers Supplied:				
3 **Sample ID: 2134388-04**	**Water**	**Sampled:11/01/21 09:35**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 09:35		
Containers Supplied:				
4 **Sample ID: 2134388-05**	**Water**	**Sampled:11/01/21 10:00**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 10:00		
Containers Supplied:				
5 **Sample ID: 2134388-06**	**Water**	**Sampled:11/01/21 10:20**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 10:20		
Containers Supplied:				

* Needs EDF

Released By — Date 11-18-21 — Received By — Date

Released By — Date — Received By — Date 11/19/21 10:00

Temp @ 5.5°

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SUBCONTRACT ORDER 21K173

BC Laboratories

2134388

Analysis	Due	Expires	Laboratory ID	Comments
6 **Sample ID: 2134388-07**	**Water**	**Sampled: 11/01/21 11:30**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 11:30		
Containers Supplied:				
7 **Sample ID: 2134388-08**	**Water**	**Sampled: 11/01/21 12:10**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 12:10		
Containers Supplied:				
8 **Sample ID: 2134388-09**	**Water**	**Sampled: 11/01/21 12:40**		**CLP LEVEL IV MS/MSD**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 12:40		
Containers Supplied:				
9 **Sample ID: 2134388-10**	**Water**	**Sampled: 11/01/21 13:30**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 13:30		
Containers Supplied:				
10 **Sample ID: 2134388-11**	**Water**	**Sampled: 11/01/21 13:50**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 13:50		
Containers Supplied:				
11 **Sample ID: 2134388-12**	**Water**	**Sampled: 11/01/21 14:10**		**CLP LEVEL III**
i314.0w Perchlorate (ug/L)	11/15/21 17:00	11/29/21 14:10		
Containers Supplied:				

Released By 11-18-21 Date Received By Date

Released By Date Received By 11/19/21 10:00 Date

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SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K173
☐ Fedex ☐ UPS ☐ GSO ☑ Others GLS	470571181821318376 71	Recipient JOCelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 11/19/21 Time 10:00

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐
Temperatures (Cool, ≤6 °C but not frozen)	☐ Cooler 1 ____ °C	☐ Cooler 2 ____ °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☑ Cooler 5 5.5 °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	*A - S/N* 210191066	(B) *S/N* 210271396	*C - S/N* ____	*D - S/N* ____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
6	6	D10		R1
1-11	1-11	D1		

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: Sample 6 indicates MS/MSD on COC, received only 1 container

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
(D1)	Analysis is not indicated in label	D13	Out of Holding Time	(R1)	Proceed as indicated in ☐ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in ____	D16	Preservation not indicated in ____	R4	Use vial with smallest bubble first
D5	Container -(improper) [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in ____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	
(D10)	No initial/date on corrections in COC/label	D22		R10	
D11	Container count mismatch COC vs received	D23		R11	
D12	Container size mismatch COC vs received	D24		R12	

REVIEWS:

Sample Labeling JOCelyne Solis-Ramos Date 11/19/21

SRF Date 11/19/21

PM Date 11/22/21

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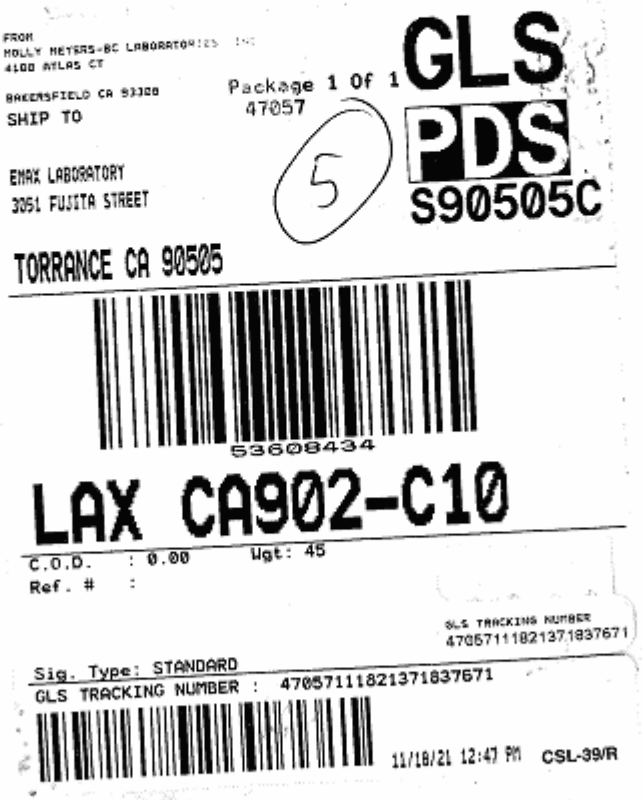
Temp: 5.5/B



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REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

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LABORATORY REPORT FOR

PACE ANALYTICAL

2134388

METHOD E314.0
PERCHLORATE

SDG#: 21K173

REPORT ID: 21K173 Page 7 of 77

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2134388

SDG : 21K173

METHOD E314.0
PERCHLORATE

A total of eleven(11) water samples were received on 11/19/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. PCK004WB and PCK005WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. PCK004WL/PCK004WC and PCK005WL/PCK005WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD and one(1) MS were analyzed.
- Percent recovery was within MS QC limits in K173-06M.
- Percent recovery within MS/MSD QC limits in K173-08M/K173-08S.
- Sample duplicate was analyzed and RPD was within expected value.
Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

REPORT ID: 21K173

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METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2134388
Batch No. : 21K173

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK3W	PCX0044B	ND	1	NA	2.00	0.500	1.00	11/21/2119:33	NA	21JK21005	21JK21004	PCX004W	NA	NA
LCS3W	PCX0044L	24.3	1	NA	2.00	0.500	1.00	11/21/2120:14	NA	21JK21007	21JK21004	PCX004W	NA	NA
LCD3W	PCX0044C	24.5	1	NA	2.00	0.500	1.00	11/21/2120:35	NA	21JK21008	21JK21004	PCX004W	NA	NA
2134388-02	K173-01	ND	1	NA	2.00	0.500	1.00	11/22/2101:08	NA	21JK21021	21JK21020	PCX004W	11/01/2108:35	11/19/21
2134388-03	K173-02	ND	1	NA	2.00	0.500	1.00	11/22/2101:29	NA	21JK21022	21JK21020	PCX004W	11/01/2109:00	11/19/21
2134388-04	K173-03	2.98	1	NA	2.00	0.500	1.00	11/22/2101:50	NA	21JK21023	21JK21020	PCX004W	11/01/2109:35	11/19/21
2134388-07	K173-06	2.01	1	NA	2.00	0.500	1.00	11/22/2102:53	NA	21JK21026	21JK21020	PCX004W	11/01/2111:30	11/19/21
2134388-07MS	K173-06M	16.2	1	NA	2.00	0.500	1.00	11/22/2103:14	NA	21JK21027	21JK21020	PCX004W	11/01/2111:30	11/19/21
2134388-07DUP	K173-06D	2.01	1	NA	2.00	0.500	1.00	11/22/2103:35	NA	21JK21028	21JK21020	PCX004W	11/01/2111:30	11/19/21
2134388-08	K173-07	2.26	1	NA	2.00	0.500	1.00	11/22/2103:56	NA	21JK21029	21JK21020	PCX004W	11/01/2112:10	11/19/21
2134388-10	K173-09	1.76J	1	NA	2.00	0.500	1.00	11/22/2104:59	NA	21JK21032	21JK21031	PCX004W	11/01/2113:30	11/19/21
2134388-11	K173-10	1.76J	1	NA	2.00	0.500	1.00	11/22/2105:20	NA	21JK21033	21JK21031	PCX004W	11/01/2113:50	11/19/21
2134388-12	K173-11	ND	1	NA	2.00	0.500	1.00	11/22/2105:41	NA	21JK21034	21JK21031	PCX004W	11/01/2114:10	11/19/21
2134388-05	K173-04I	59.1	5	NA	10.0	2.50	5.00	11/22/2109:43	NA	21JK21038	21JK21036	PCX004W	11/01/2110:00	11/19/21
2134388-06	K173-05I	57.2	5	NA	10.0	2.50	5.00	11/22/2110:06	NA	21JK21039	21JK21036	PCX004W	11/01/2110:20	11/19/21
MBLK2W	PCX0054B	ND	1	NA	2.00	0.500	1.00	11/22/2117:38	NA	21JK22005	21JK22004	PCX005W	NA	NA
LCS2W	PCX0054L	24.9	1	NA	2.00	0.500	1.00	11/22/2118:20	NA	21JK22007	21JK22004	PCX005W	NA	NA
LCD2W	PCX0054C	25.0	1	NA	2.00	0.500	1.00	11/22/2118:41	NA	21JK22008	21JK22004	PCX005W	NA	NA
2134388-09	K173-08	1.23J	1	NA	2.00	0.500	1.00	11/22/2122:53	NA	21JK22020	21JK22019	PCX005W	11/01/2112:40	11/19/21
2134388-09MS	K173-08M	16.2	1	NA	2.00	0.500	1.00	11/22/2123:14	NA	21JK22021	21JK22019	PCX005W	11/01/2112:40	11/19/21
2134388-09MSD	K173-08S	16.3	1	NA	2.00	0.500	1.00	11/22/2123:35	NA	21JK22022	21JK22019	PCX005W	11/01/2112:40	11/19/21

Note: Detection limits are reported relative to sample result significant figures.

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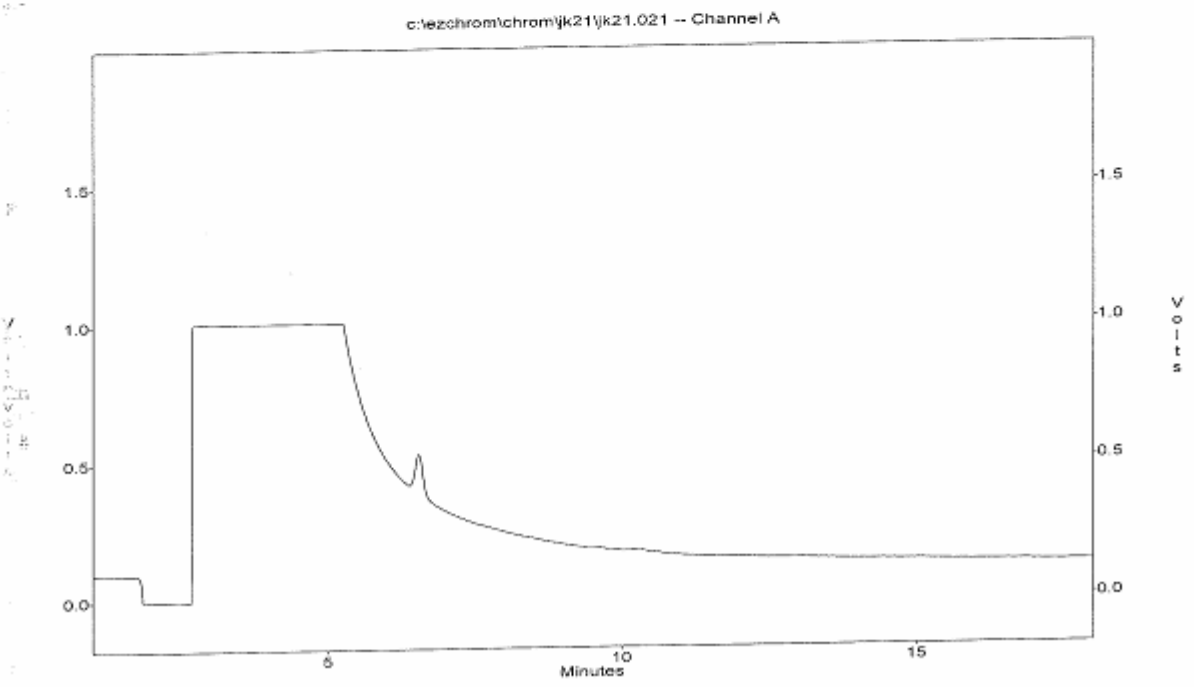
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.021
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-01
Acquired : Nov 22, 2021 01:08:19
Printed : Nov 23, 2021 08:25:47
User : YCabal

Channel A Results

	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K173

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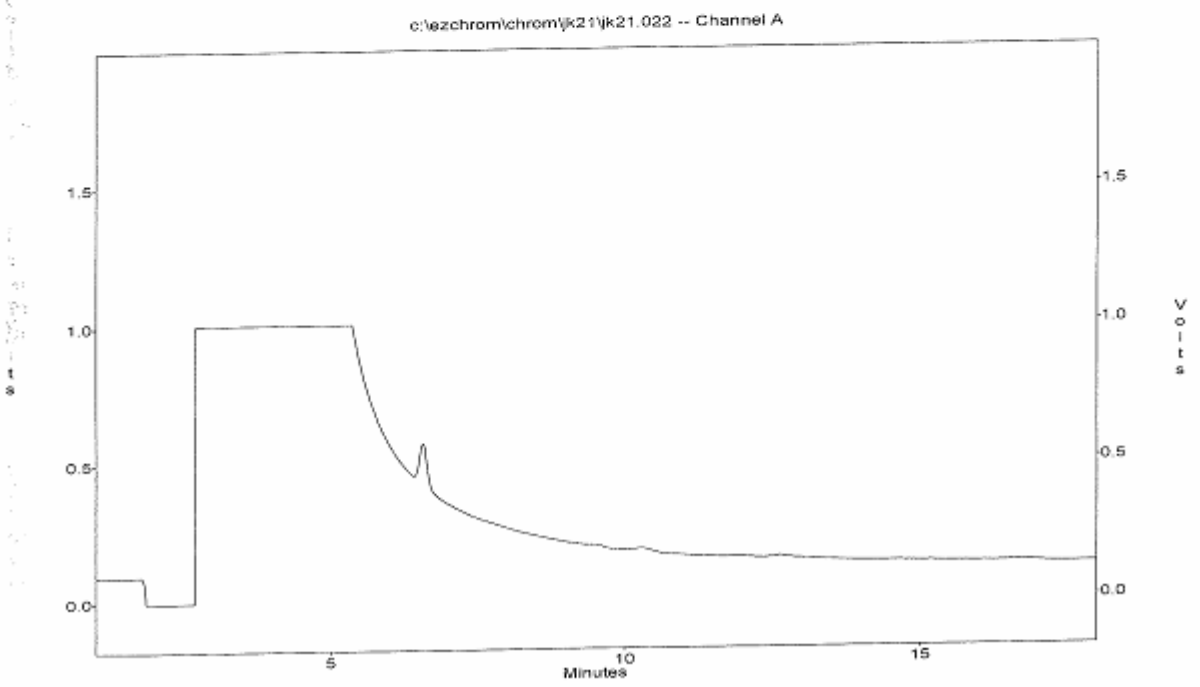
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.022
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-02
Acquired : Nov 22, 2021 01:29:21
Printed : Nov 23, 2021 08:26:38
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



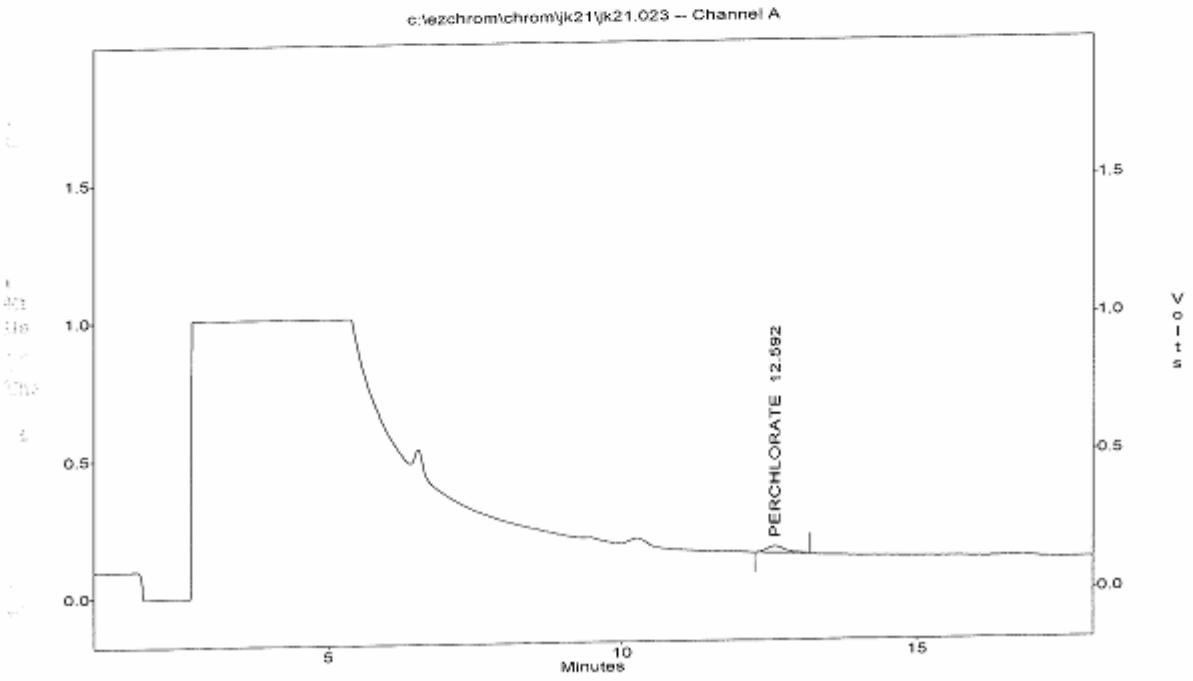
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.023
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-03
Acquired : Nov 22, 2021 01:50:22
Printed : Nov 23, 2021 08:27:15
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.59	508220	23676	180791.531	2.981



REPORT ID: 21K173

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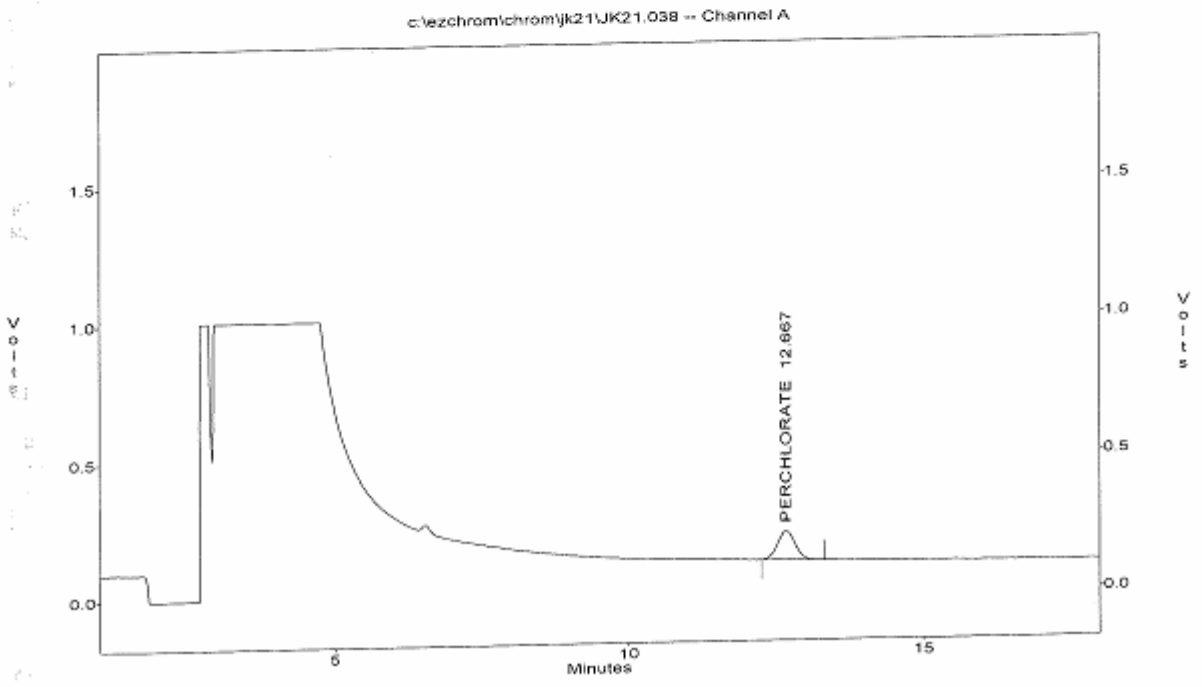
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\JK21.038
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-04I DF=5
Acquired : Nov 22, 2021 09:43:53
Printed : Nov 23, 2021 09:46:58
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.67	2154803	104448	180791.531	59.057



REPORT ID: 21K173

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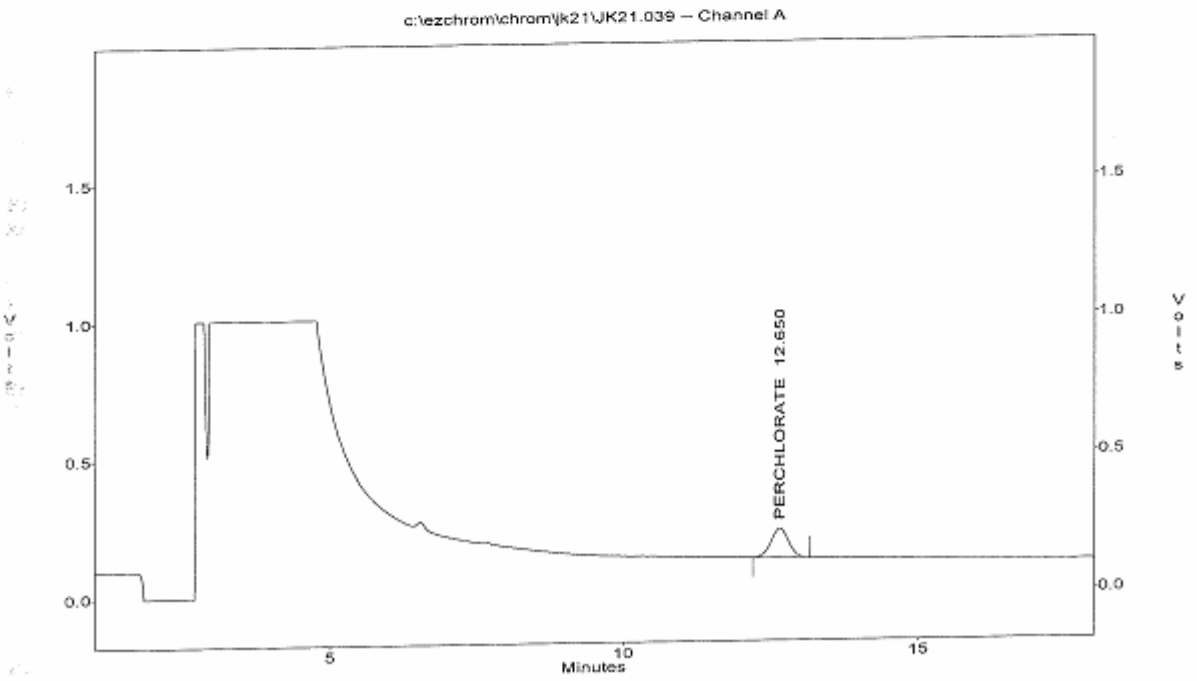
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\JK21.039
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-05I DF=5
Acquired : Nov 22, 2021 10:06:47
Printed : Nov 23, 2021 09:46:58
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	2084253	102850	180791.531	57.165



REPORT ID: 21K173

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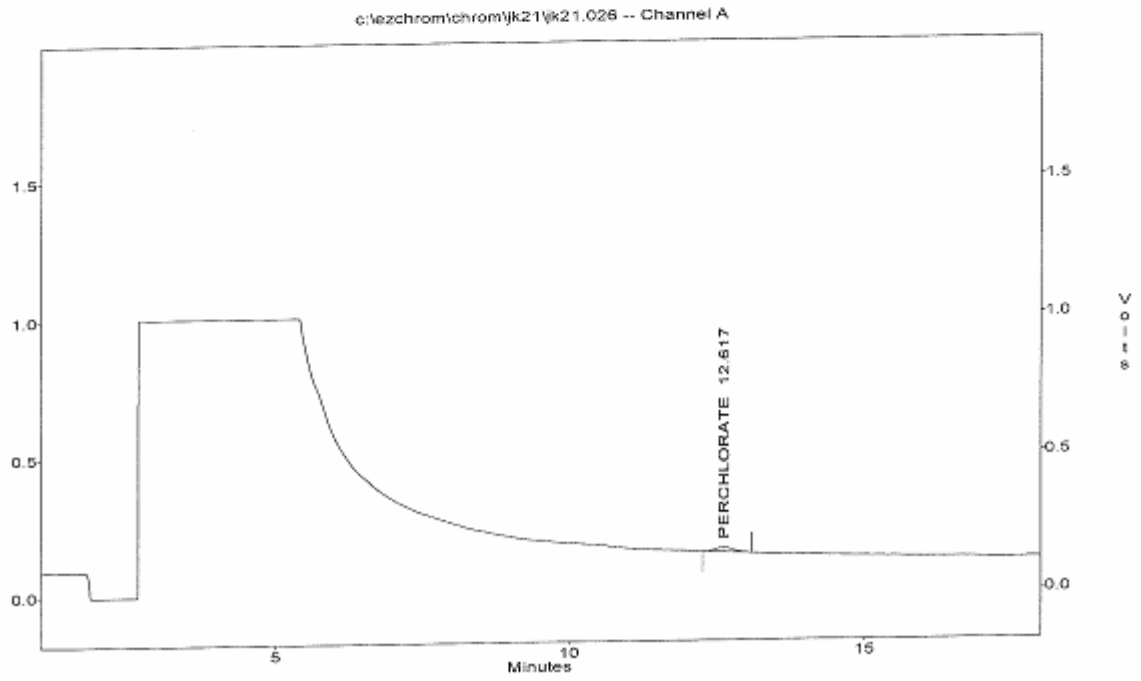
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.026
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-06
Acquired : Nov 22, 2021 02:53:25
Printed : Nov 23, 2021 08:28:39
User : YCabal

Channel A Results

	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.62	327542	15984	180791.531	2.012



REPORT ID: 21K173

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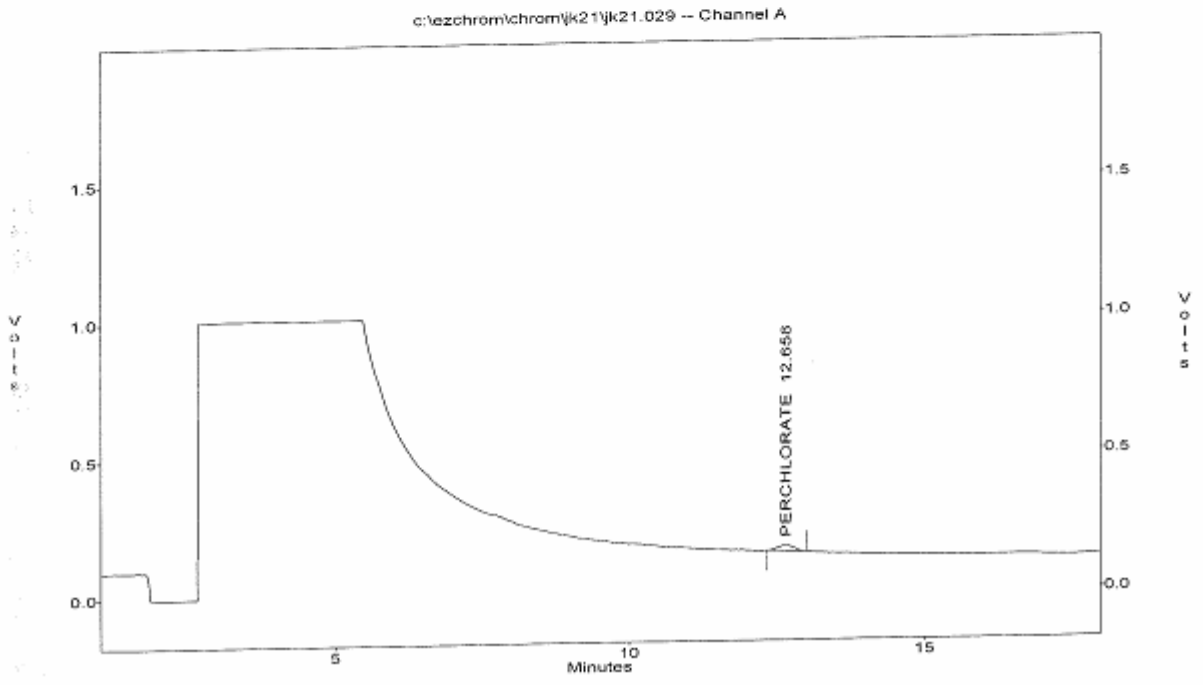
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.029
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-07
Acquired : Nov 22, 2021 03:56:29
Printed : Nov 23, 2021 08:31:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.66	374332	19792	180791.531	2.263



REPORT ID: 21K173

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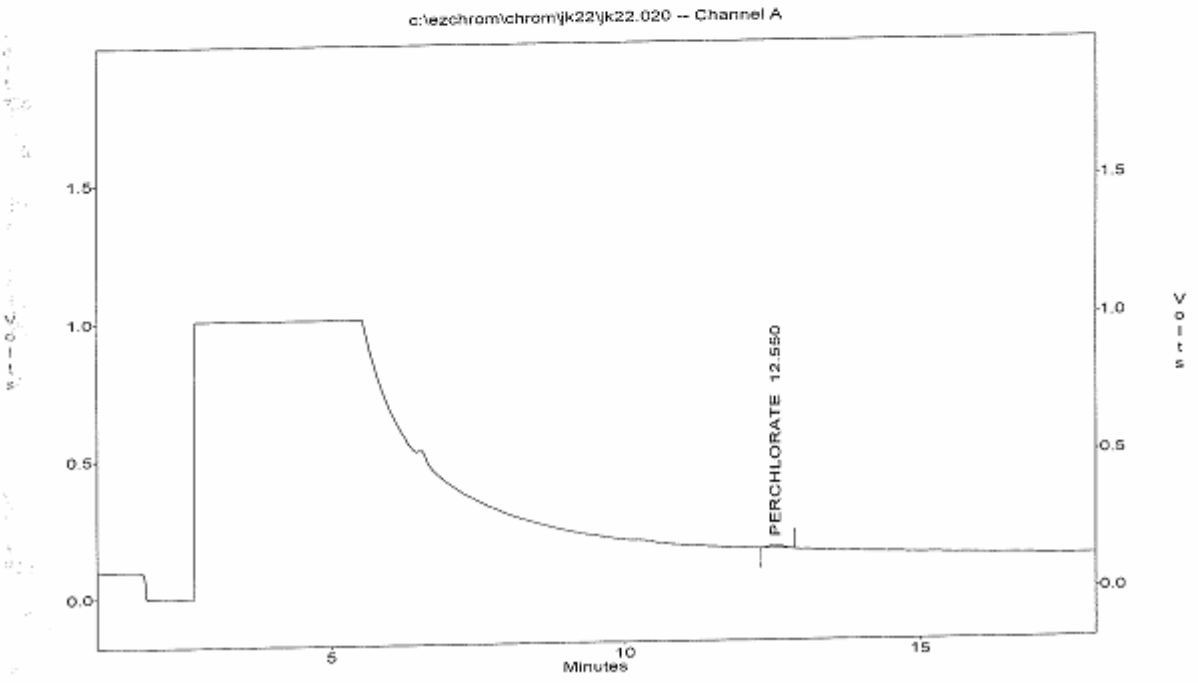
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.020
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-08
Acquired : Nov 22, 2021 22:53:26
Printed : Nov 23, 2021 08:08:18
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.55	181490	10679	180791.531	1.229



REPORT ID: 21K173

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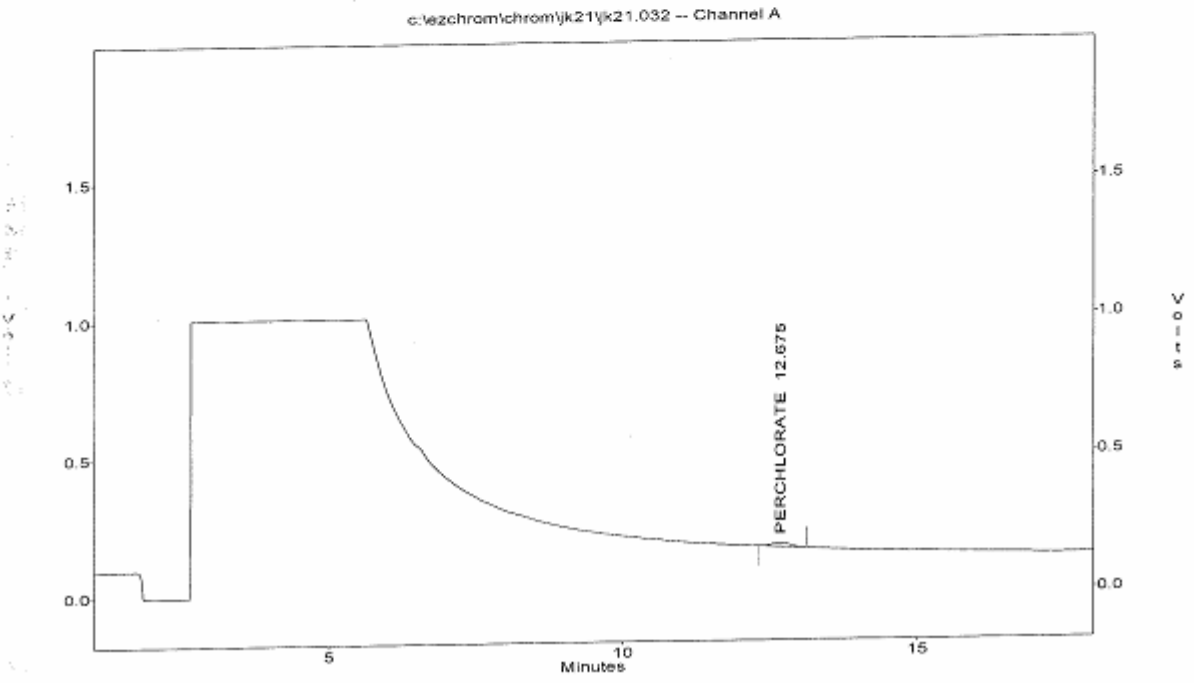
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.032
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-09
Acquired : Nov 22, 2021 04:59:33
Printed : Nov 23, 2021 08:32:45
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.68	280489	13678	180791.531	1.760



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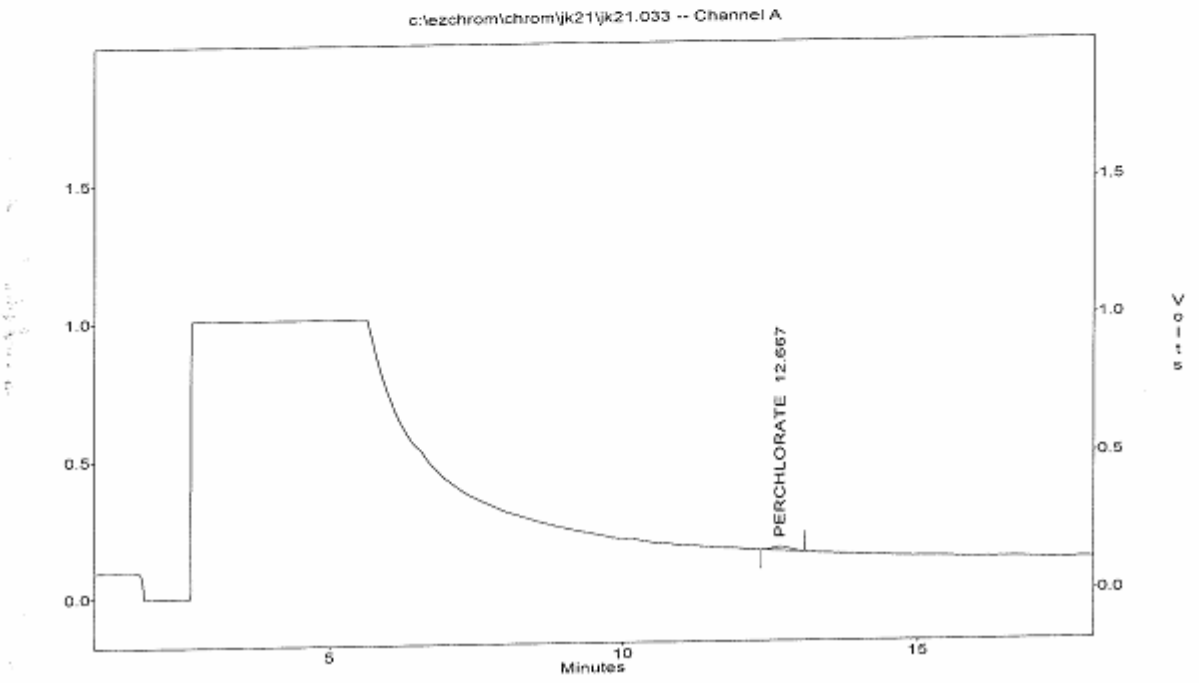
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.033
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-10
Acquired : Nov 22, 2021 05:20:34
Printed : Nov 23, 2021 08:33:02
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.67	280841	13368	180791.531	1.761



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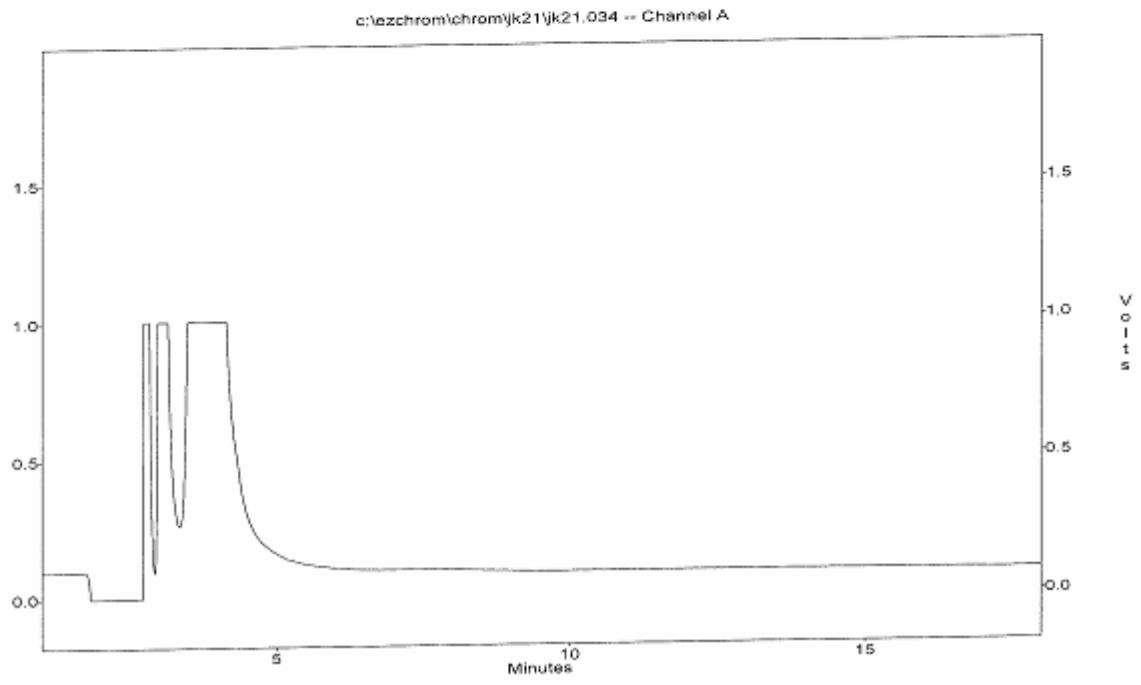
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.034
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-11
Acquired : Nov 22, 2021 05:41:35
Printed : Nov 23, 2021 08:33:10
User : YCabal

Channel A Results

	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K173

QC SUMMARIES

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134388
BATCH NO. : 21K173
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK004WB	PCK004WL	PCK004WC
LAB FILE ID :	21JK21005	21JK21007	21JK21008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/21/2119:31	11/21/2120:14	11/21/2120:35
PREP BATCH :	PCK004W	PCK004W	PCK004W
CALIBRATION REF:	21JK21004	21JK21004	21JK21004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.3	97	25	24.5	98	1	85-115	15

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134388
BATCH NO. : 21K173
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	PCK005WB	PCK005WL	PCK005WC
LAB FILE ID :	21JK22005	21JK22007	21JK22008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/22/2117:38	11/22/2118:20	11/22/2118:41
PREP BATCH :	PCK005W	PCK005W	PCK005W
CALIBRATION REF:	21JK22004	21JK22004	21JK22004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	24.9	100	25	25.0	100	0	85-115	15

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EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134388
BATCH NO. : 21K173
METHOD : E314.0

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR:	1	1
SAMPLE ID	: 2134388-07	2134388-07MS
LAB SAMPLE ID	: K173-06	K173-06M
LAB FILE ID	: 21JK21026	21JK21027
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/22/2102:53	11/22/2103:14
PREP BATCH	: PCK004W	PCK004W
CALIBRATION REF:	21JK21020	21JK21020

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Perchlorate	2.01	15.00	16.2	95	80-120

REPORT ID: 21K173 Page 25 of 77

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134388
BATCH NO. : 21K173
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 2134388-09	2134388-09MS	2134388-09MSD
LAB SAMPLE ID	: K173-08	K173-08M	K173-08S
LAB FILE ID	: 21JK22020	21JK22021	21JK22022
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/22/2122:53	11/22/2123:14	11/22/2123:35
PREP BATCH	: PCK005W	PCK005W	PCK005W
CALIBRATION REF:	21JK22019	21JK22019	21JK22019

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	1.23	15.00	16.2	100	15.00	16.3	101	1	80-120	15

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EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134388
BATCH NO. : 21K173
METHOD : E314.0

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: 2134388-07	2134388-07DUP
LAB SAMPLE ID	: K173-06	K173-06D
LAB FILE ID	: 21JK21026	21JK21028
DATE PREPARED	: NA	NA
DATE ANALYZED	: 11/22/2102:53	11/22/2103:35
PREP BATCH	: PCK004W	PCK004W
CALIBRATION REF	: 21JK21020	21JK21020

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	DUP RESULT (ug/L)	RPD (%)	MAX RPD (%)
Perchlorate	2.01	2.01	0	15

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QC DATA

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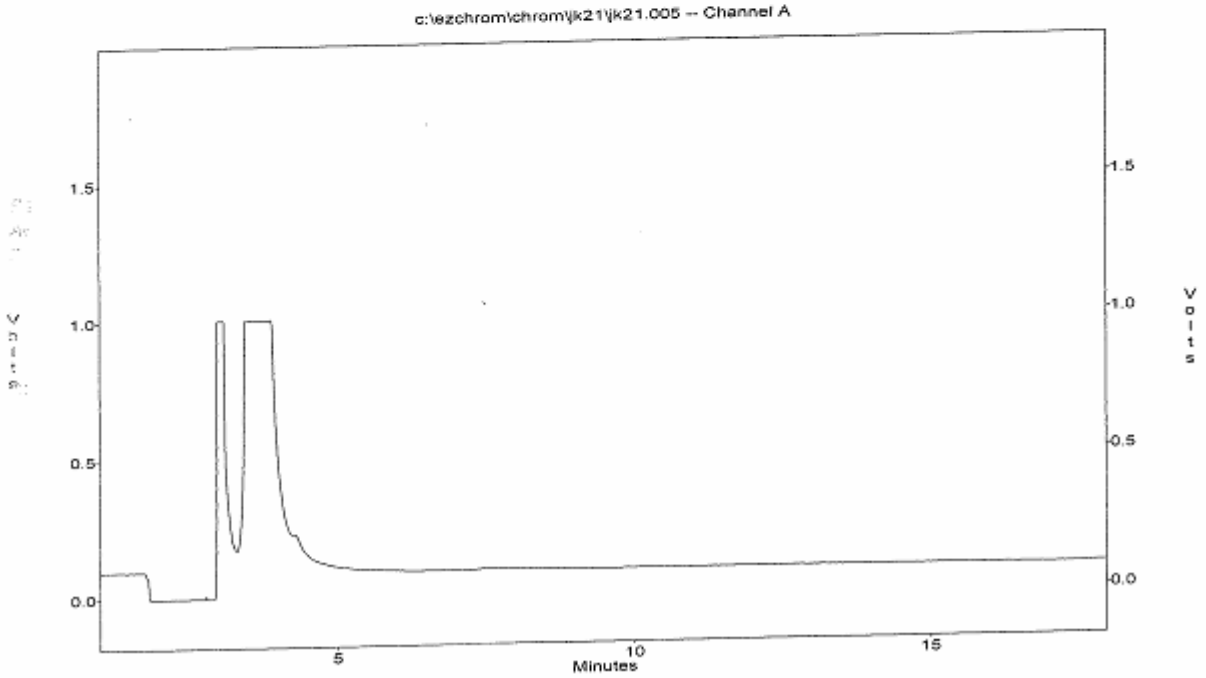
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK004WB
Acquired : Nov 21, 2021 19:31:58
Printed : Nov 23, 2021 08:15:26
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K173

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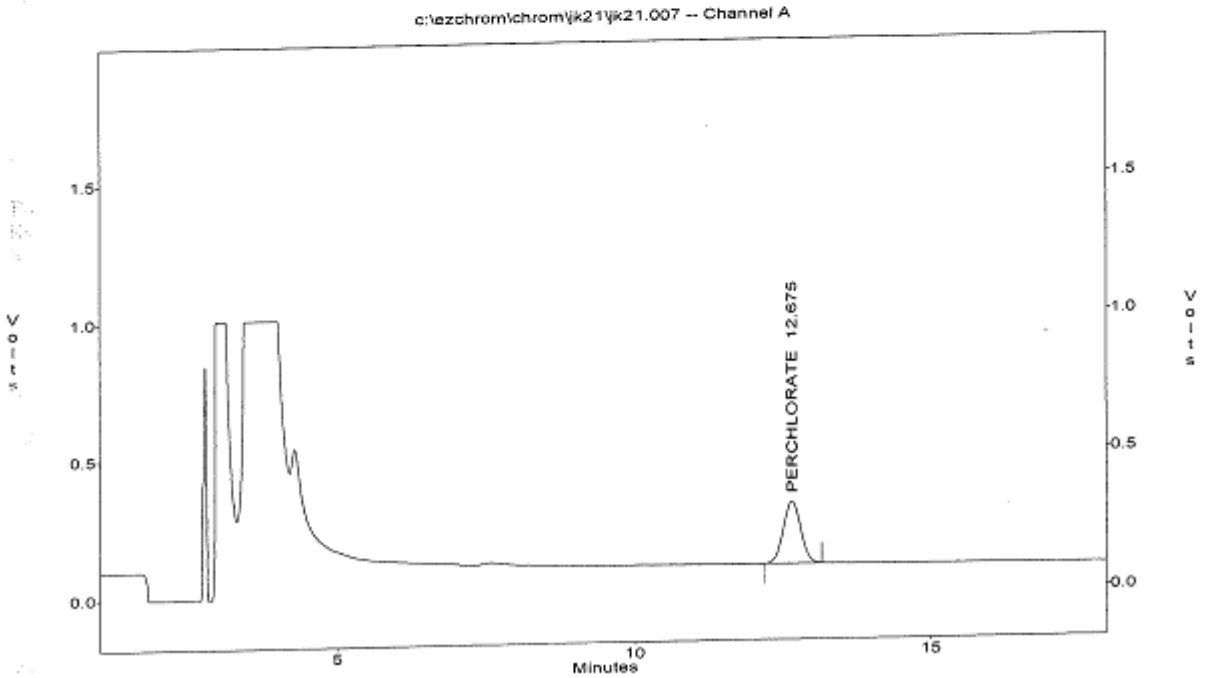
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK004WL
Acquired : Nov 21, 2021 20:14:01
Printed : Nov 23, 2021 08:16:20
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)	A/H
1	PERCHLORATE	12.68	4492462	223069	180791.531	24.348	20.139 ✓

$PD_{A/H} = \frac{|22.330 - 20.139|}{20.139} \times 100 = 11\%$ ✓



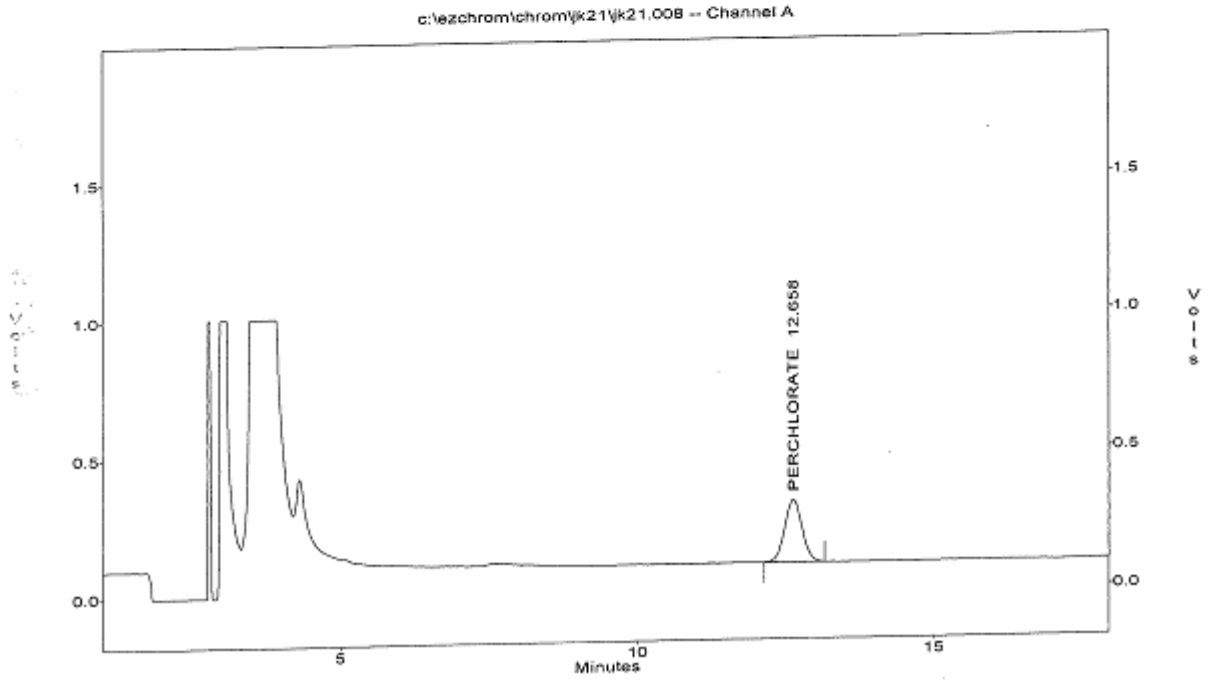
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK004WC
Acquired : Nov 21, 2021 20:35:02
Printed : Nov 23, 2021 08:16:49
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.66	4520136	224576	180791.531	24.497

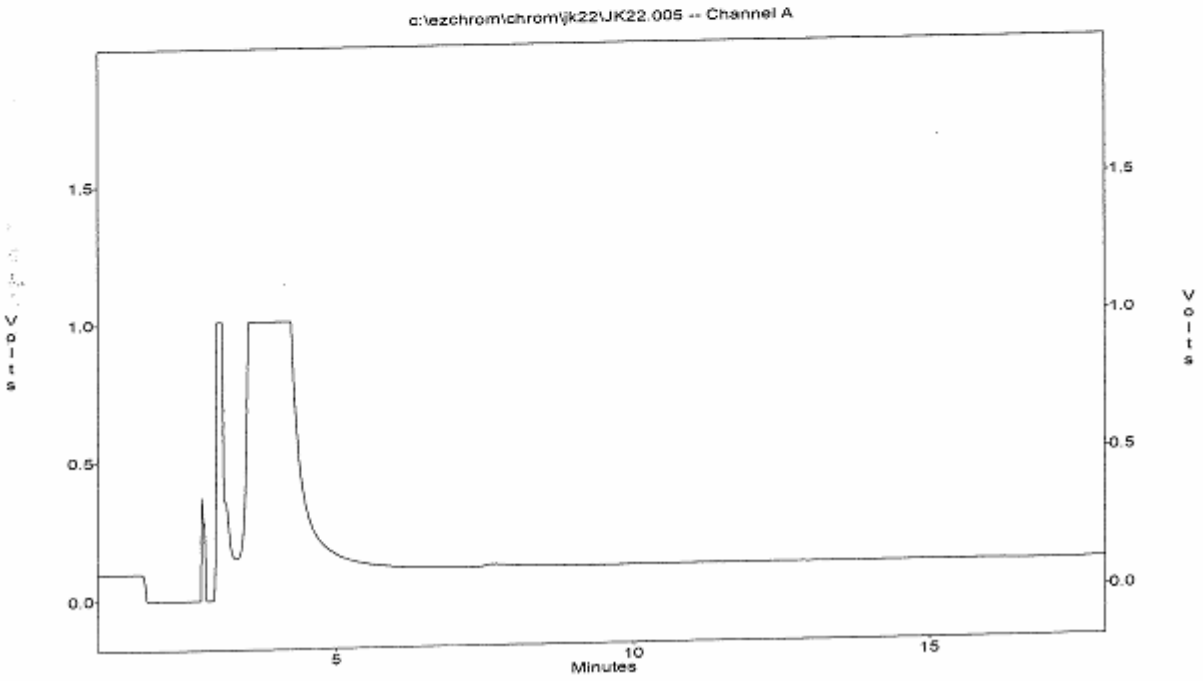


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WB
Acquired : Nov 22, 2021 17:38:07
Printed : Nov 23, 2021 09:21:51
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K173

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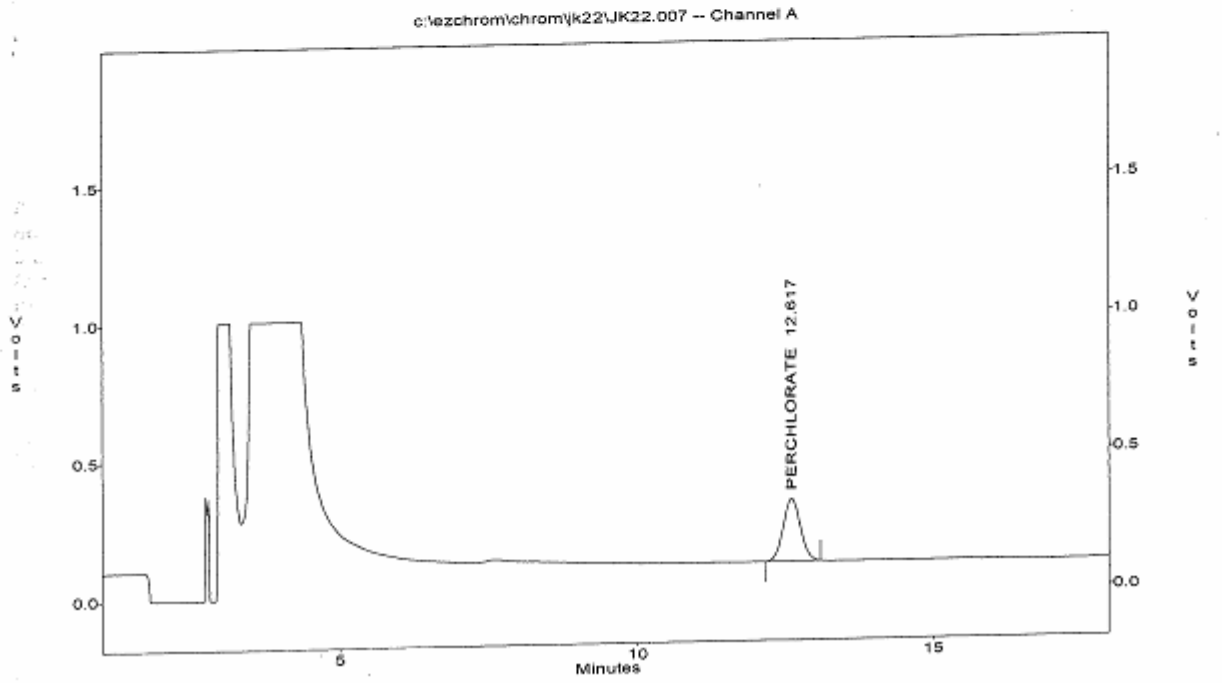
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WL
Acquired : Nov 22, 2021 18:20:10
Printed : Nov 23, 2021 09:21:57
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)	A|H
1	PERCHLORATE	12.62	4602827	226928	180791.531	24.940	20.283 ✓

$PD_{A|H} = \frac{|22.450 - 20.283|}{20.283} \times 100 = 11\%$ ✓ 12/8/21



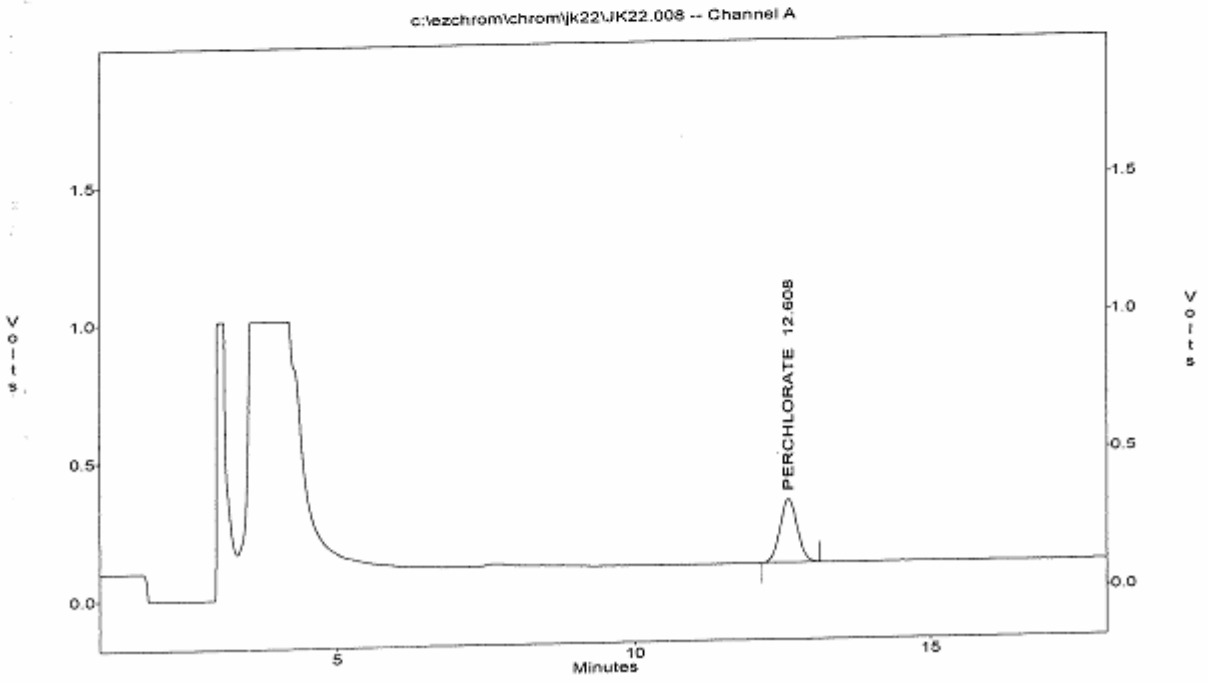
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\JK22.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK005WC
Acquired : Nov 22, 2021 18:41:10
Printed : Nov 23, 2021 09:21:57
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	4612770	228590	180791.531	24.993



REPORT ID: 21K173

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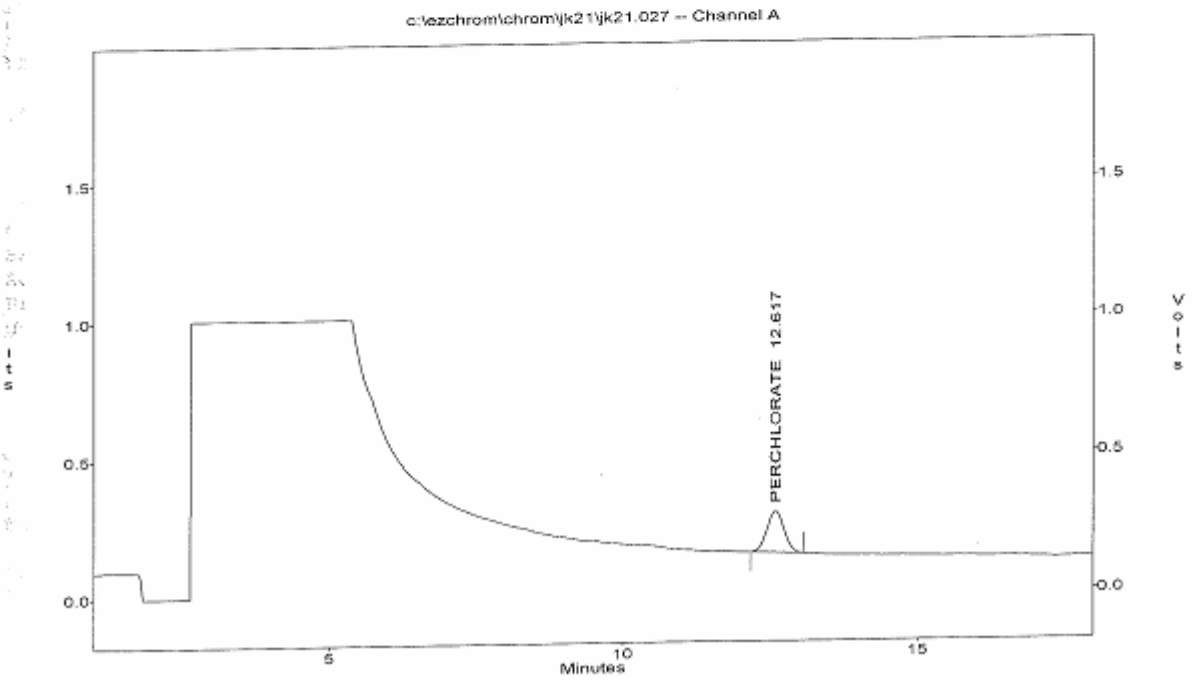
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.027
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-06M
Acquired : Nov 22, 2021 03:14:27
Printed : Nov 23, 2021 08:29:25
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.62	2981075	148884	180791.531	16.243



REPORT ID: 21K173

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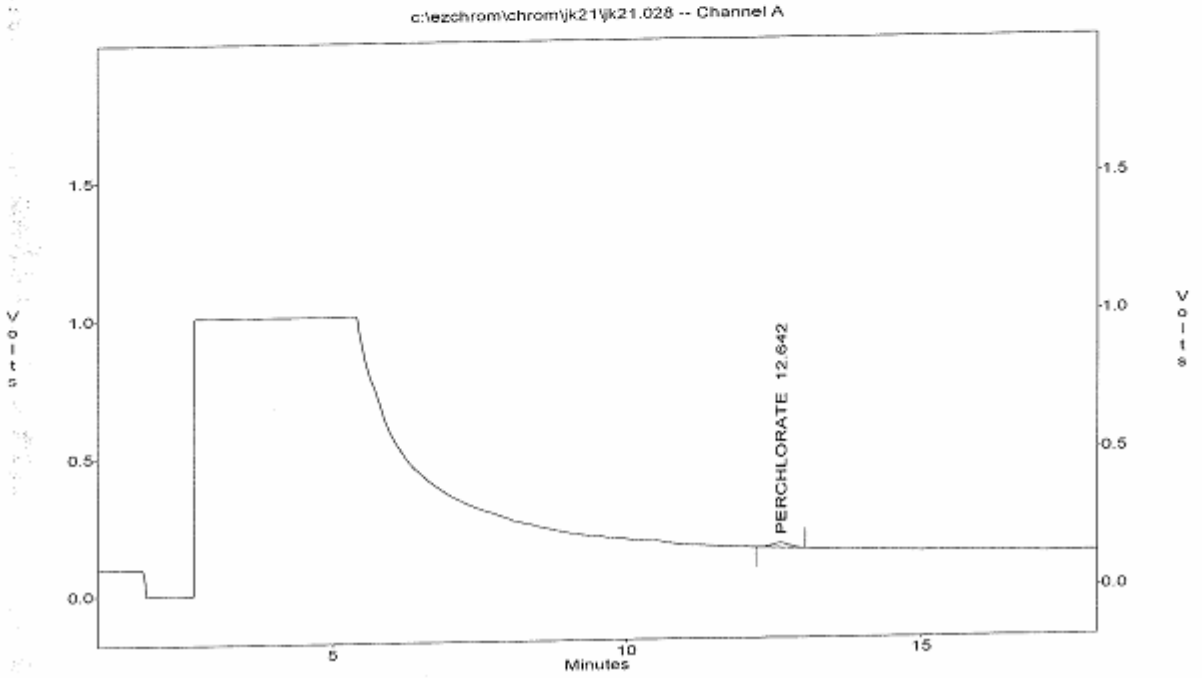
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.028
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-06D
Acquired : Nov 22, 2021 03:35:28
Printed : Nov 23, 2021 08:30:56
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.64	326361	16171	180791.531	2.006



REPORT ID: 21K173

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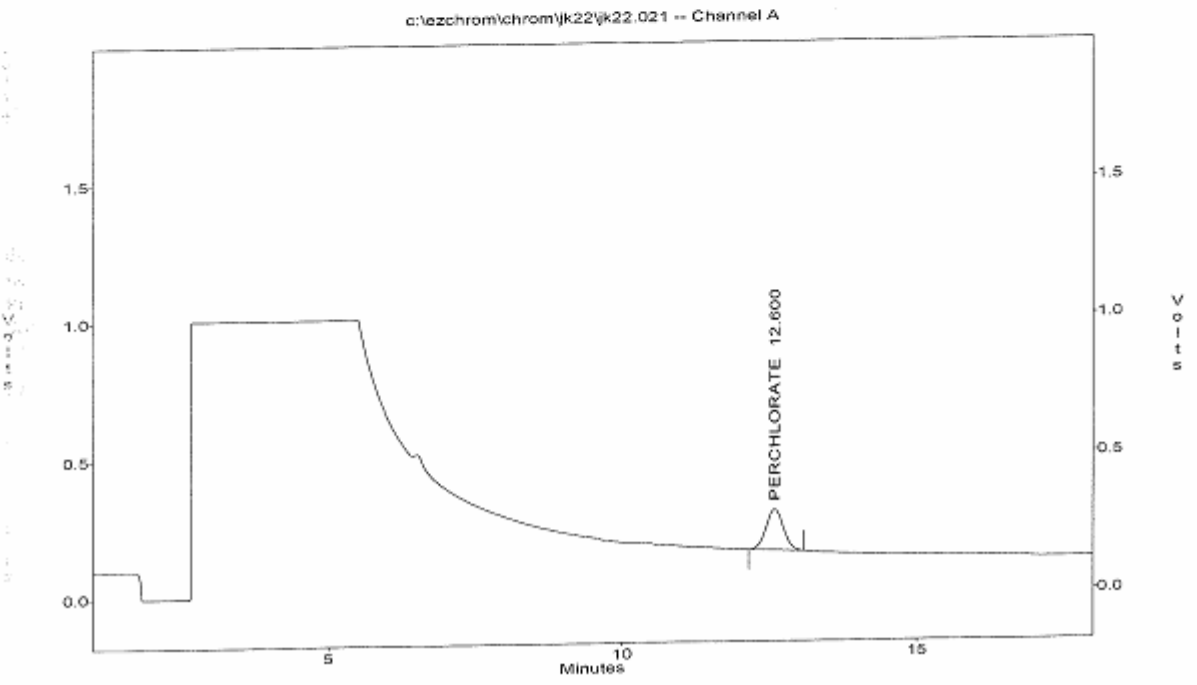
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.021
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-08M
Acquired : Nov 22, 2021 23:14:27
Printed : Nov 23, 2021 08:11:33
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	2966684	147242	180791.531	16.165



REPORT ID: 21K173

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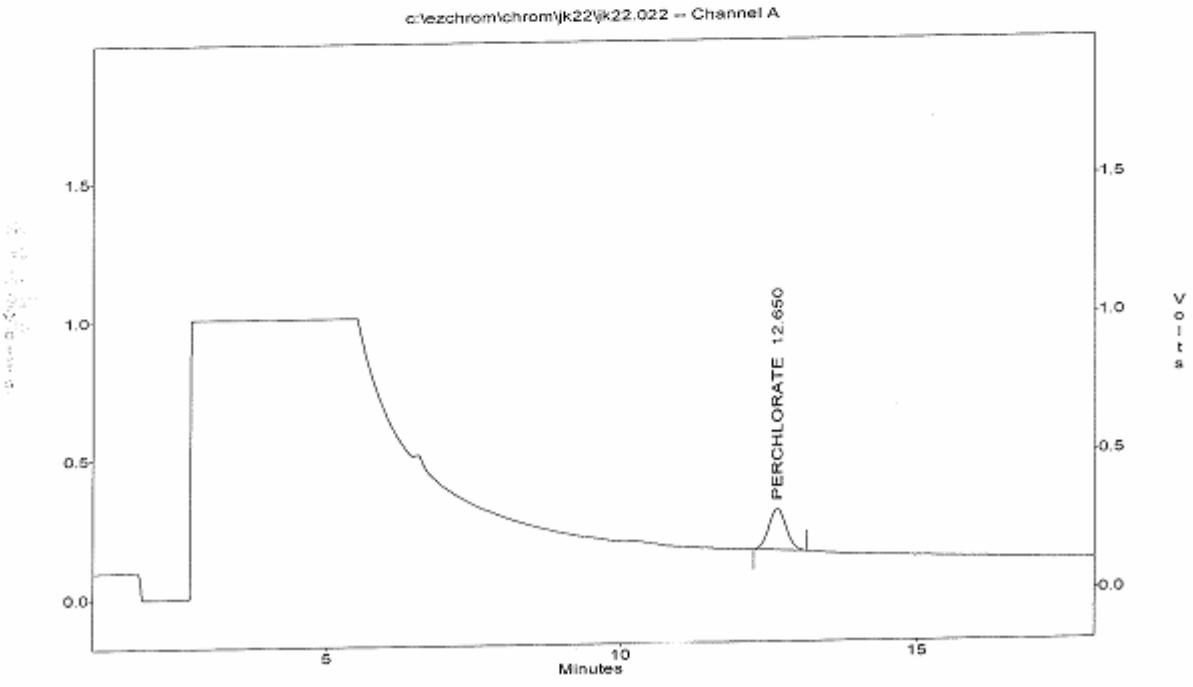
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.022
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K173-08S
Acquired : Nov 22, 2021 23:35:28
Printed : Nov 23, 2021 08:12:01
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.65	2993067	148001	180791.531	16.307



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INITIAL CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K173

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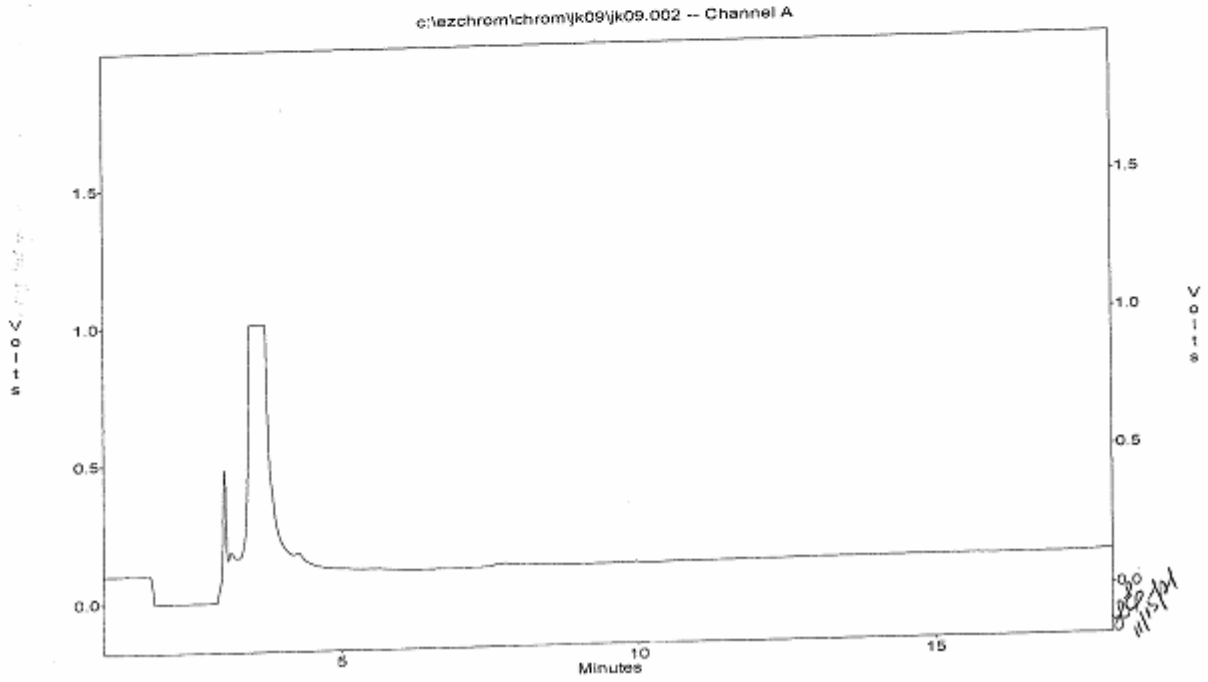
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



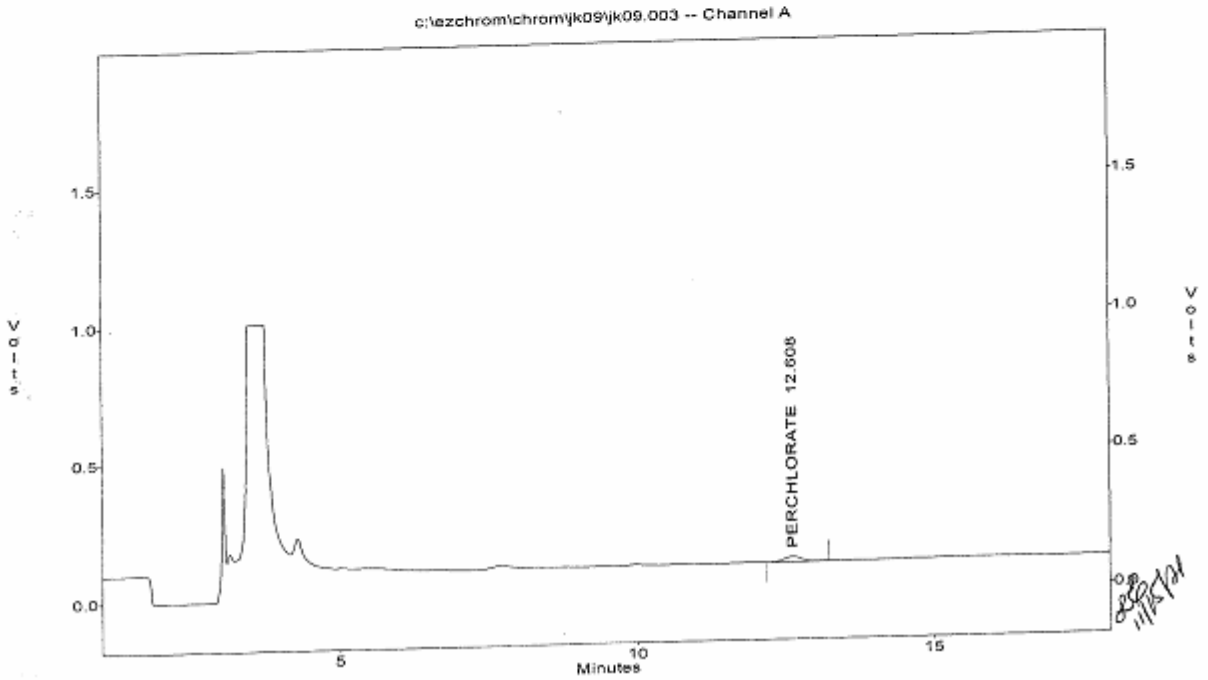
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



REPORT ID: 21K173

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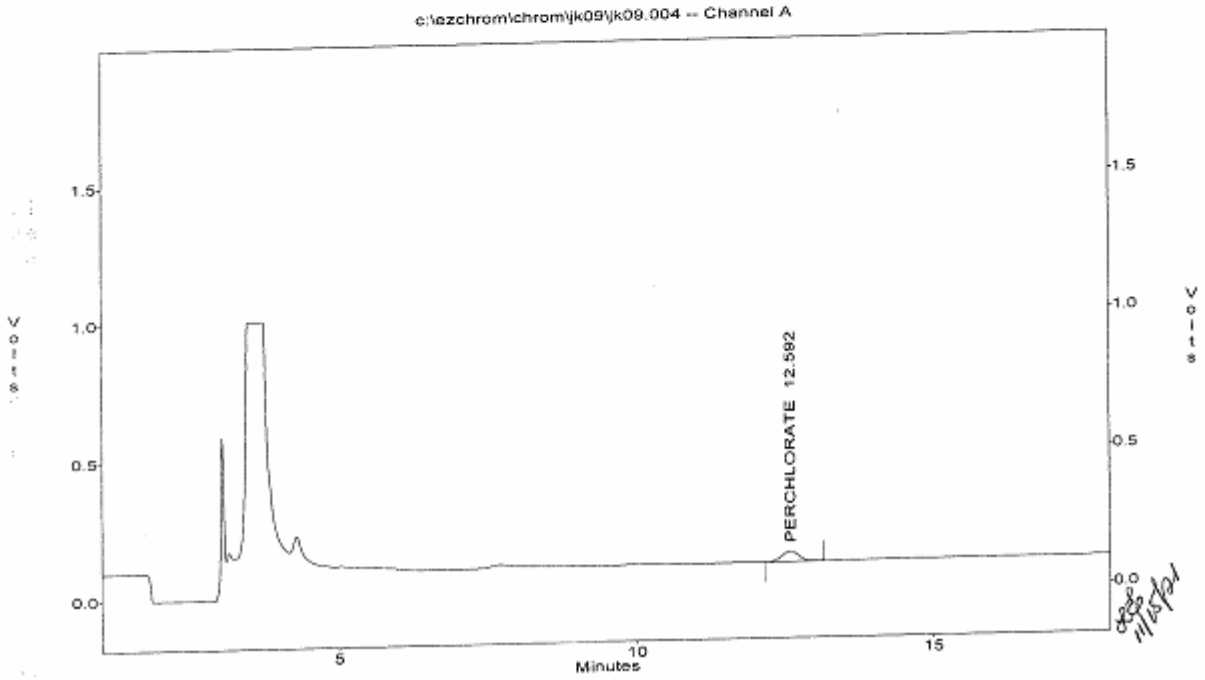
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



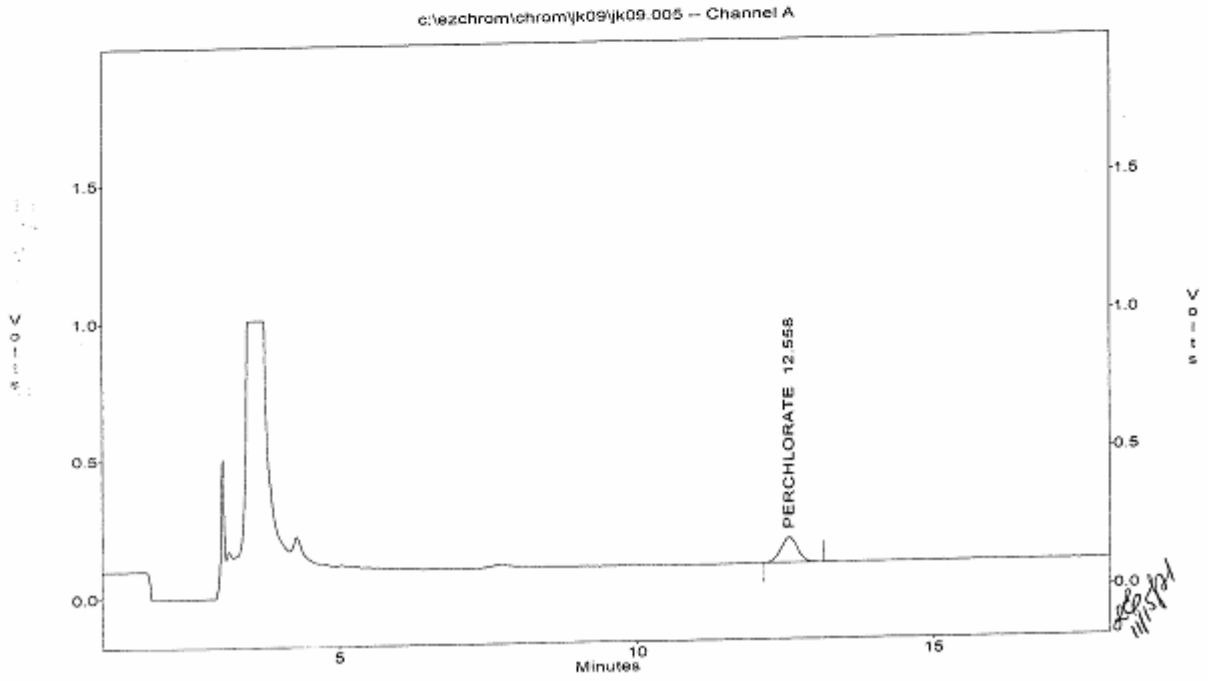
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



REPORT ID: 21K173

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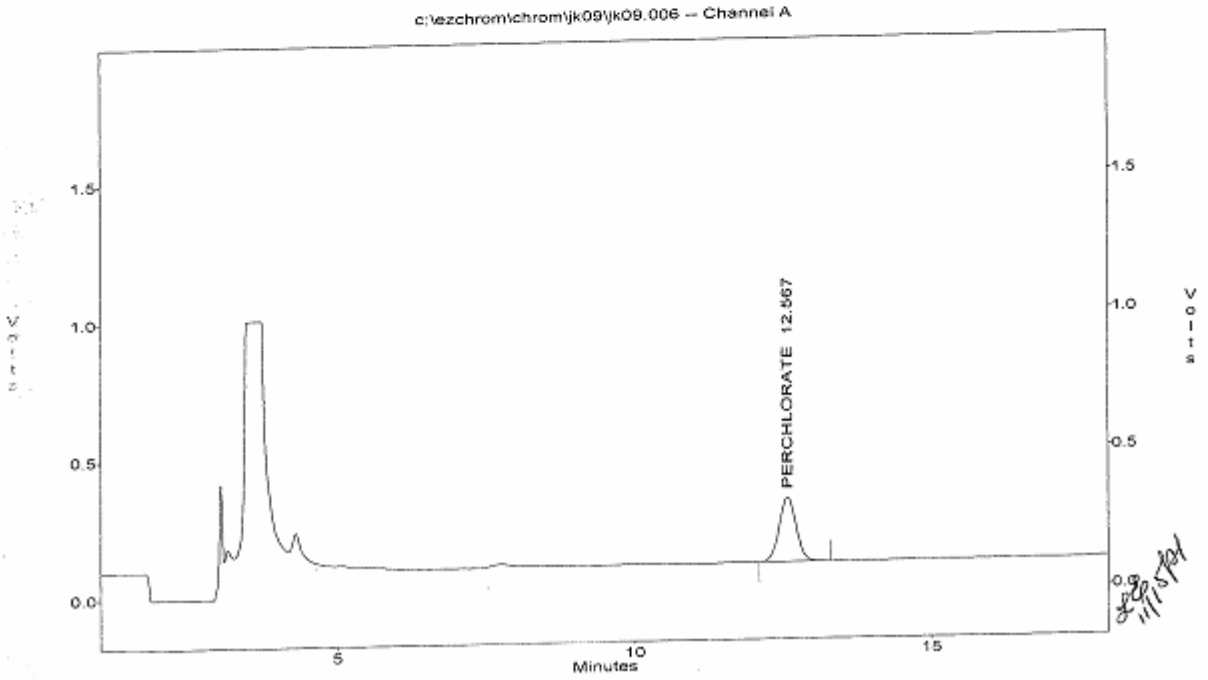
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



REPORT ID: 21K173

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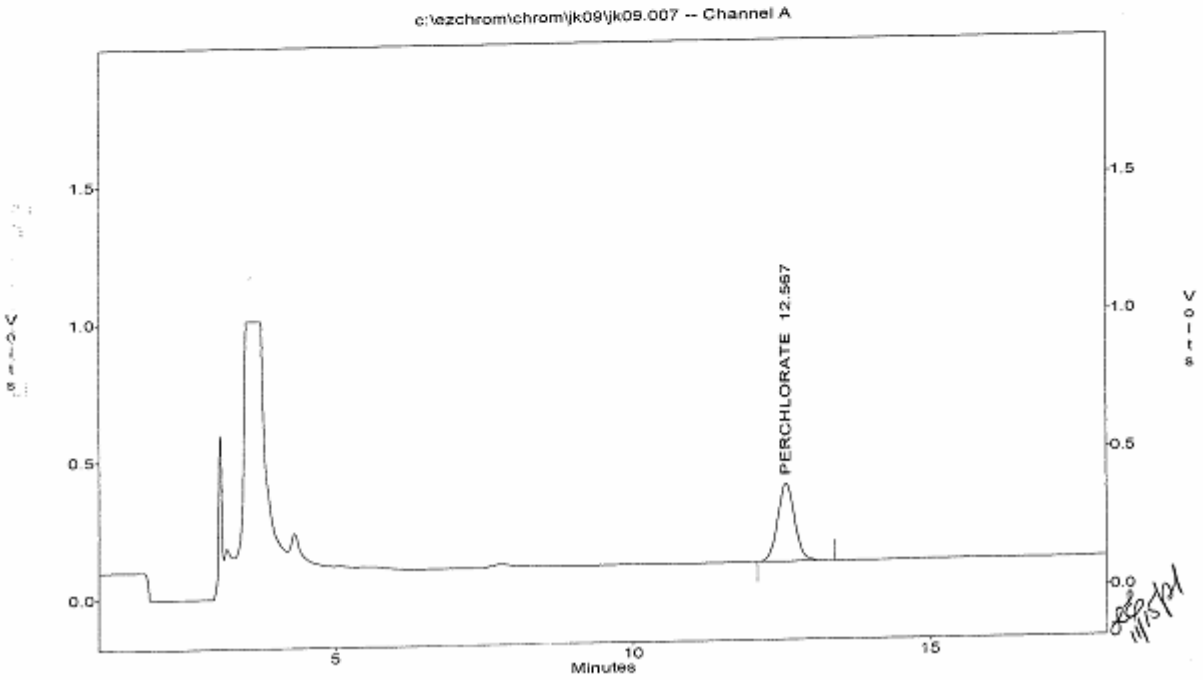
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : SS
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



REPORT ID: 21K173

* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

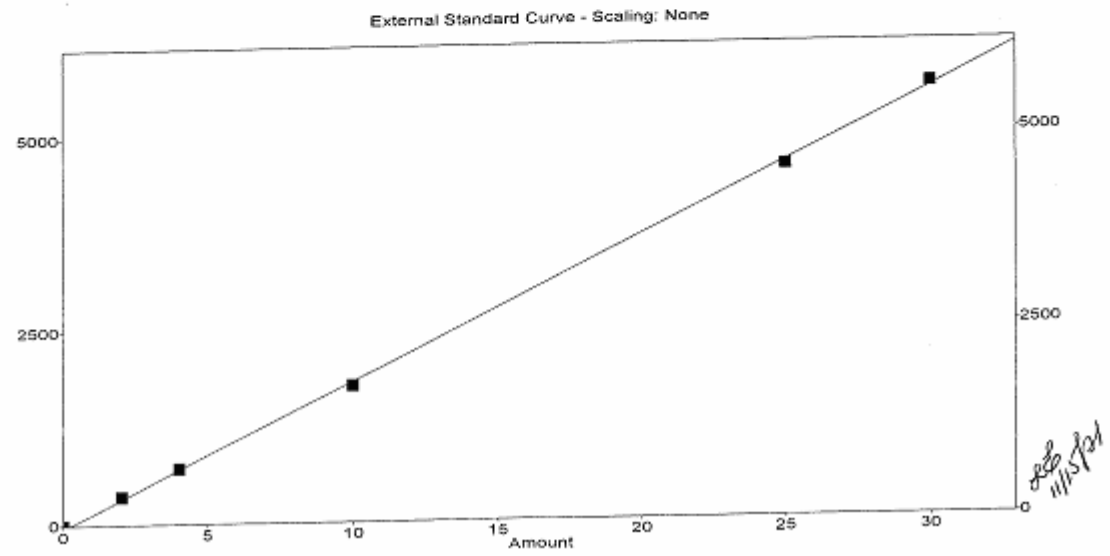
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36295e-006 x Area + 0.255269
r^2 = 0.999512



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SECOND SOURCE VERIFICATION

REPORT ID: 21K173

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K173

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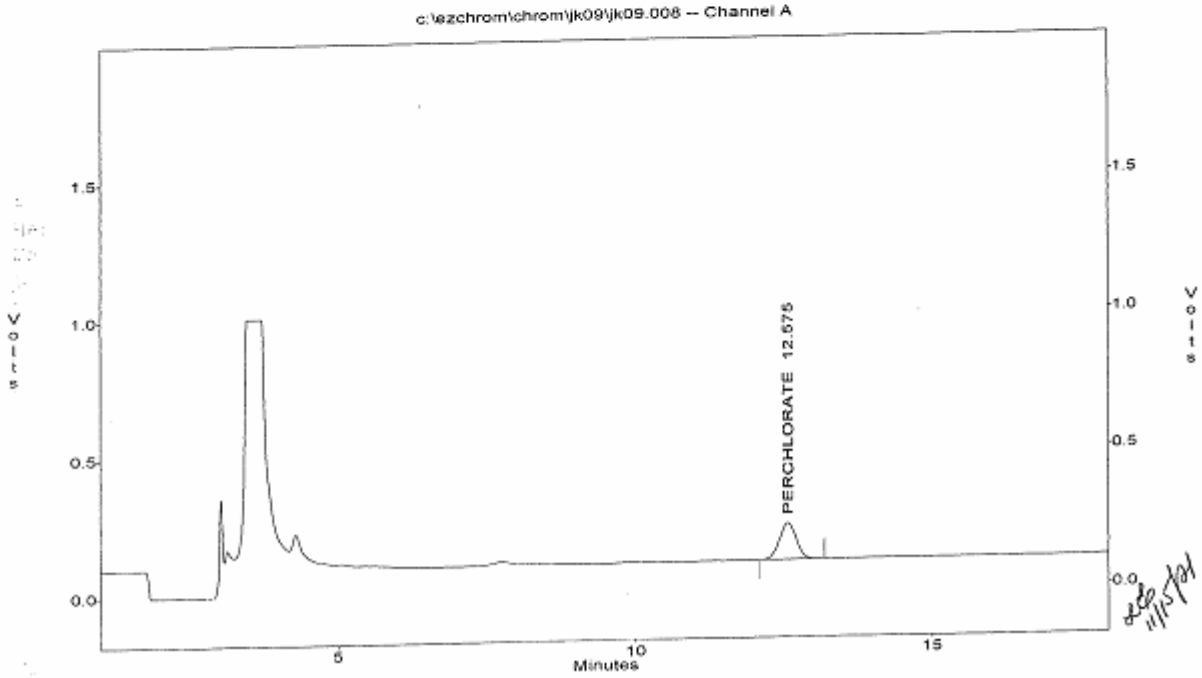
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



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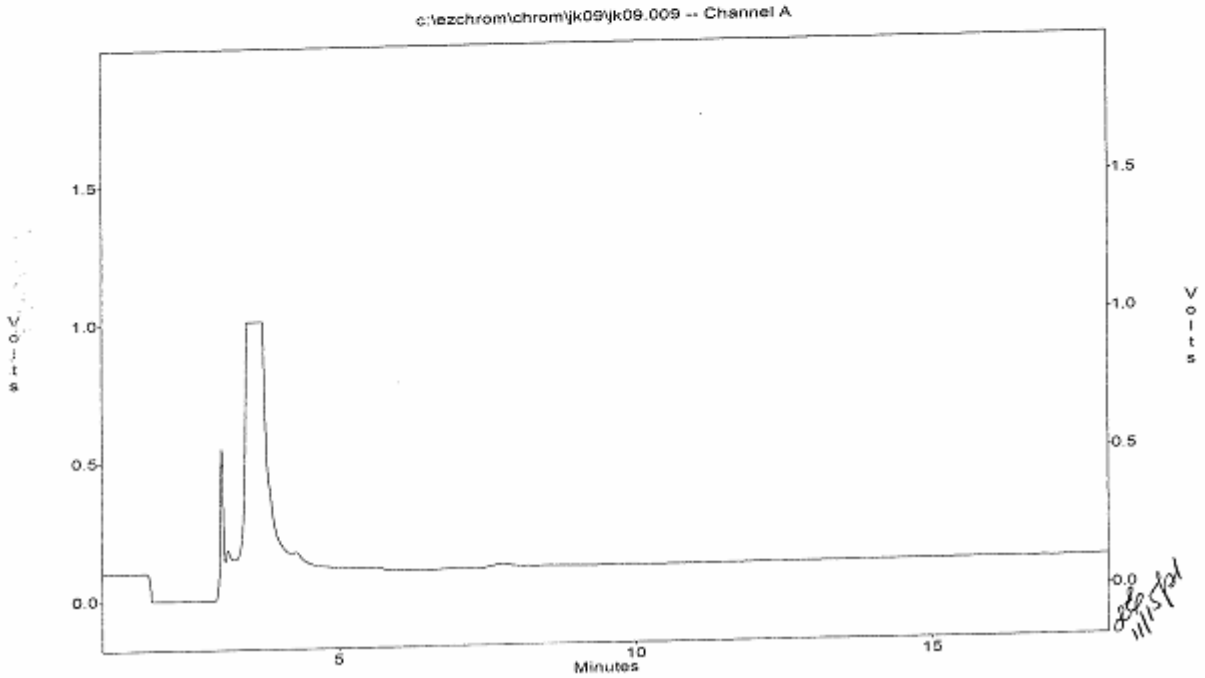
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K173

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DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 213438B
SDG : 21K173
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK21009	CCV60-15	98.6	11/21/2120:56
21JK21020	CCV61-30	99.7	11/22/2100:47
21JK21031	CCV62-15	101	11/22/2104:38
21JK21036	CCV63-30	103	11/22/2106:23
21JK21040	CCV64-15	102	11/22/2110:28
21JK22009	CCV65-30	105	11/22/2119:02
21JK22019	CCV66-15	101	11/22/2122:32
21JK22023	CCV67-30	102	11/22/2123:56

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK21001	RINSE	P	IC57K08	11/21/2118:07	1
JK21002	RINSE	P	IC57K08	11/21/2118:28	1
JK21003	RINSE	P	IC57K08	11/21/2118:49	1
JK21004	IPCS	P	IC57K08	11/21/2119:10	1
JK21005	PCK004WB	P	IC57K08	11/21/2119:31	1
JK21006	MRLK2101	P	IC57K08	11/21/2119:53	1
JK21007	PCK004WL	P	IC57K08	11/21/2120:14	1
JK21008	PCK004WC	P	IC57K08	11/21/2120:35	1
JK21009	CCV60-15	P	IC57K08	11/21/2120:56	1
JK21010	K193-01	P	IC57K08	11/21/2121:17	1
JK21011	K169-05	P	IC57K08	11/21/2121:38	1
JK21012	K169-05M	P	IC57K08	11/21/2121:59	1
JK21013	K169-05D	P	IC57K08	11/21/2122:20	1
JK21014	K169-06	P	IC57K08	11/21/2122:41	1
JK21015	K169-07	P	IC57K08	11/21/2123:02	1
JK21016	K169-08	P	IC57K08	11/21/2123:23	1
JK21017	K169-09	P	IC57K08	11/21/2123:44	1
JK21018	K169-10	P	IC57K08	11/22/2100:05	1
JK21019	K169-11	P	IC57K08	11/22/2100:26	1
JK21020	CCV61-30	P	IC57K08	11/22/2100:47	1
JK21021	K173-01	P	IC57K08	11/22/2101:08	1
JK21022	K173-02	P	IC57K08	11/22/2101:29	1
JK21023	K173-03	P	IC57K08	11/22/2101:50	1
JK21024	K173-04	*	IC57K08	11/22/2102:11	1
JK21025	K173-05	*	IC57K08	11/22/2102:32	1
JK21026	K173-06	P	IC57K08	11/22/2102:53	1
JK21027	K173-06M	P	IC57K08	11/22/2103:14	1
JK21028	K173-06D	P	IC57K08	11/22/2103:35	1
JK21029	K173-07	P	IC57K08	11/22/2103:56	1
JK21030	TEST	P	IC57K08	11/22/2104:17	1
JK21031	CCV62-15	P	IC57K08	11/22/2104:38	1
JK21032	K173-09	P	IC57K08	11/22/2104:59	1
JK21033	K173-10	P	IC57K08	11/22/2105:20	1
JK21034	K173-11	P	IC57K08	11/22/2105:41	1
JK21035	TEST	P	IC57K08	11/22/2106:02	1
JK21036	CCV63-30	P	IC57K08	11/22/2106:23	1
JK21037	K193-01I	P	IC57K08	11/22/2109:20	10
JK21038	K173-04I	P	IC57K08	11/22/2109:43	5
JK21039	K173-05I	P	IC57K08	11/22/2110:06	5
JK21040	CCV64-15	P	IC57K08	11/22/2110:28	1

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK22001	RINSE	P	IC57K08	11/22/2116:14	1
JK22002	RINSE	P	IC57K08	11/22/2116:35	1
JK22003	RINSE	P	IC57K08	11/22/2116:56	1
JK22004	IPCS	P	IC57K08	11/22/2117:17	1
JK22005	PCK005WB	P	IC57K08	11/22/2117:38	1
JK22006	MRLK2201	P	IC57K08	11/22/2117:59	1
JK22007	PCK005WL	P	IC57K08	11/22/2118:20	1
JK22008	PCK005WC	P	IC57K08	11/22/2118:41	1
JK22009	CCV65-30	P	IC57K08	11/22/2119:02	1
JK22010	K166-08	P	IC57K08	11/22/2119:23	1
JK22011	K166-08M	P	IC57K08	11/22/2119:44	1
JK22012	K166-08S	P	IC57K08	11/22/2120:05	1
JK22013	K167-04	P	IC57K08	11/22/2120:26	1
JK22014	K167-04M	P	IC57K08	11/22/2120:47	1
JK22015	K167-04S	P	IC57K08	11/22/2121:08	1
JK22016	K167-08	P	IC57K08	11/22/2121:29	1
JK22017	K167-08M	P	IC57K08	11/22/2121:50	1
JK22018	K167-08S	P	IC57K08	11/22/2122:11	1
JK22019	CCV66-15	P	IC57K08	11/22/2122:32	1
JK22020	K173-08	P	IC57K08	11/22/2122:53	1
JK22021	K173-08M	P	IC57K08	11/22/2123:14	1
JK22022	K173-08S	P	IC57K08	11/22/2123:35	1
JK22023	CCV67-30	P	IC57K08	11/22/2123:56	1

REPORT ID: 21K173

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IC RESULT FORM CalVersion: PCHLO314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK21001	RINSE	P	.000	11/21/2118:07	1
JK21002	RINSE	P	.000	11/21/2118:28	1
JK21003	RINSE	P	.000	11/21/2118:49	1
JK21004	IPCS	P	96.3%	11/21/2119:10	1
JK21005	PCKD04WB	P	.000	11/21/2119:31	1
JK21006	MRLK2101	P	97.2%	11/21/2119:53	1
JK21007	PCK004WL	P	24.3	11/21/2120:14	1
JK21008	PCK004WC	P	24.5	11/21/2120:35	1
JK21009	CCV60-15	P	98.6%	11/21/2120:56	1
JK21010	K193-01	P	.000	11/21/2121:17	1
JK21011	K169-05	P	.000	11/21/2121:38	1
JK21012	K169-05M	P	14.8	11/21/2121:59	1
JK21013	K169-05D	P	.000	11/21/2122:20	1
JK21014	K169-06	P	4.71	11/21/2122:41	1
JK21015	K169-07	P	4.26	11/21/2123:02	1
JK21016	K169-08	P	1.49	11/21/2123:23	1
JK21017	K169-09	P	1.23	11/21/2123:44	1
JK21018	K169-10	P	2.05	11/22/2100:05	1
JK21019	K169-11	P	.000	11/22/2100:26	1
JK21020	CCV61-30	P	99.7%	11/22/2100:47	1
JK21021	K173-01	P	.000	11/22/2101:08	1
JK21022	K173-02	P	.000	11/22/2101:29	1
JK21023	K173-03	P	2.98	11/22/2101:50	1
JK21024	K173-04	*	60E	11/22/2102:11	1
JK21025	K173-05	*	59.4E	11/22/2102:32	1
JK21026	K173-06	P	2.01	11/22/2102:53	1
JK21027	K173-06M	P	16.2	11/22/2103:14	1
JK21028	K173-06D	P	2.01	11/22/2103:35	1
JK21029	K173-07	P	2.26	11/22/2103:56	1
JK21030	TEST	P	1.79	11/22/2104:17	1
JK21031	CCV62-15	P	101%	11/22/2104:38	1
JK21032	K173-09	P	1.76	11/22/2104:59	1
JK21033	K173-10	P	1.76	11/22/2105:20	1
JK21034	K173-11	P	.000	11/22/2105:41	1
JK21035	TEST	P	14.7	11/22/2106:02	1
JK21036	CCV63-30	P	103%	11/22/2106:23	1
JK21037	K193-01I	P	.000	11/22/2109:20	10
JK21038	K173-04I	P	59.1	11/22/2109:43	5
JK21039	K173-05I	P	57.2	11/22/2110:06	5
JK21040	CCV64-15	P	102%	11/22/2110:28	1

REPORT ID: 21K173

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK22001	RINSE	P	.000	11/22/2116:14	1
JK22002	RINSE	P	.000	11/22/2116:35	1
JK22003	RINSE	P	.000	11/22/2116:56	1
JK22004	IPCS	P	99.4%	11/22/2117:17	1
JK22005	PCK005WB	P	.000	11/22/2117:38	1
JK22006	MRLK2201	P	103%	11/22/2117:59	1
JK22007	PCK005WL	P	24.9	11/22/2118:20	1
JK22008	PCK005WC	P	25	11/22/2118:41	1
JK22009	CCV65-30	P	105%	11/22/2119:02	1
JK22010	K166-08	P	5.06	11/22/2119:23	1
JK22011	K166-08M	P	20.1	11/22/2119:44	1
JK22012	K166-08S	P	19.9	11/22/2120:05	1
JK22013	K167-04	P	2.81	11/22/2120:26	1
JK22014	K167-04M	P	17.8	11/22/2120:47	1
JK22015	K167-04S	P	17.9	11/22/2121:08	1
JK22016	K167-08	P	11.5	11/22/2121:29	1
JK22017	K167-08M	P	26.5	11/22/2121:50	1
JK22018	K167-08S	P	26.7	11/22/2122:11	1
JK22019	CCV66-15	P	101%	11/22/2122:32	1
JK22020	K173-08	P	1.23	11/22/2122:53	1
JK22021	K173-08M	P	16.2	11/22/2123:14	1
JK22022	K173-08S	P	16.3	11/22/2123:35	1
JK22023	CCV67-30	P	102%	11/22/2123:56	1

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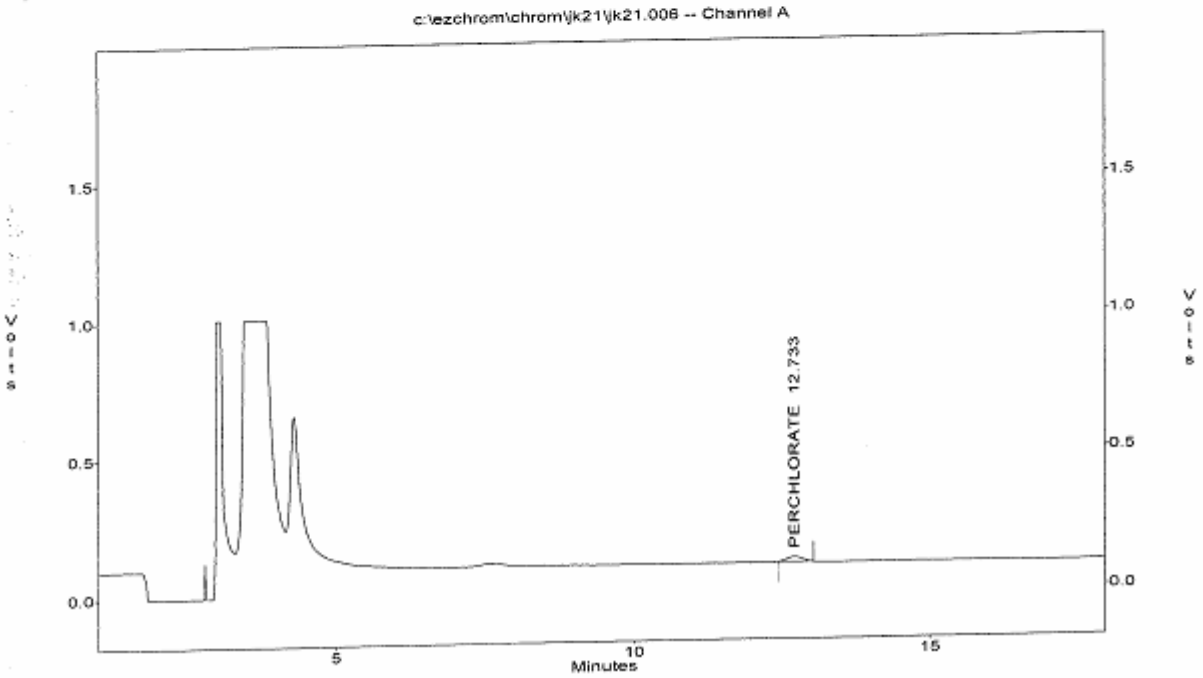
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2101
Acquired : Nov 21, 2021 19:53:00
Printed : Nov 23, 2021 08:15:54
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.73	315046	17655	180791.531	1.945



REPORT ID: 21K173

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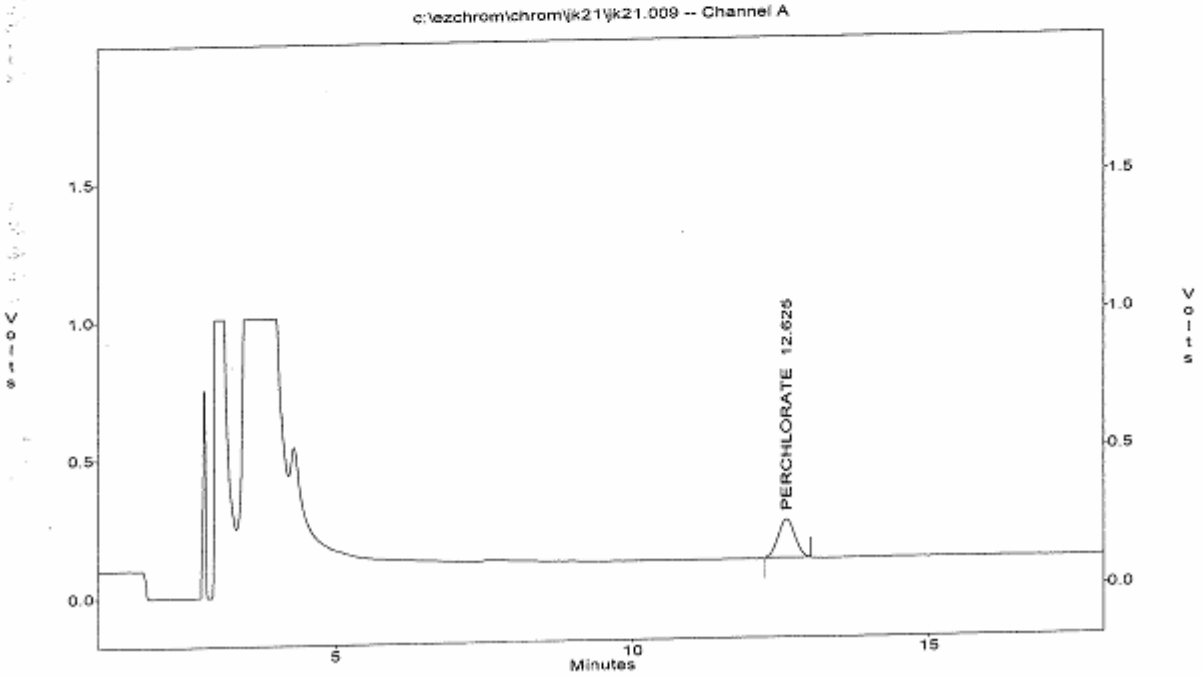
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV60-15
Acquired : Nov 21, 2021 20:56:03
Printed : Nov 23, 2021 08:18:10
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	2711046	138469	180791.531	14.794



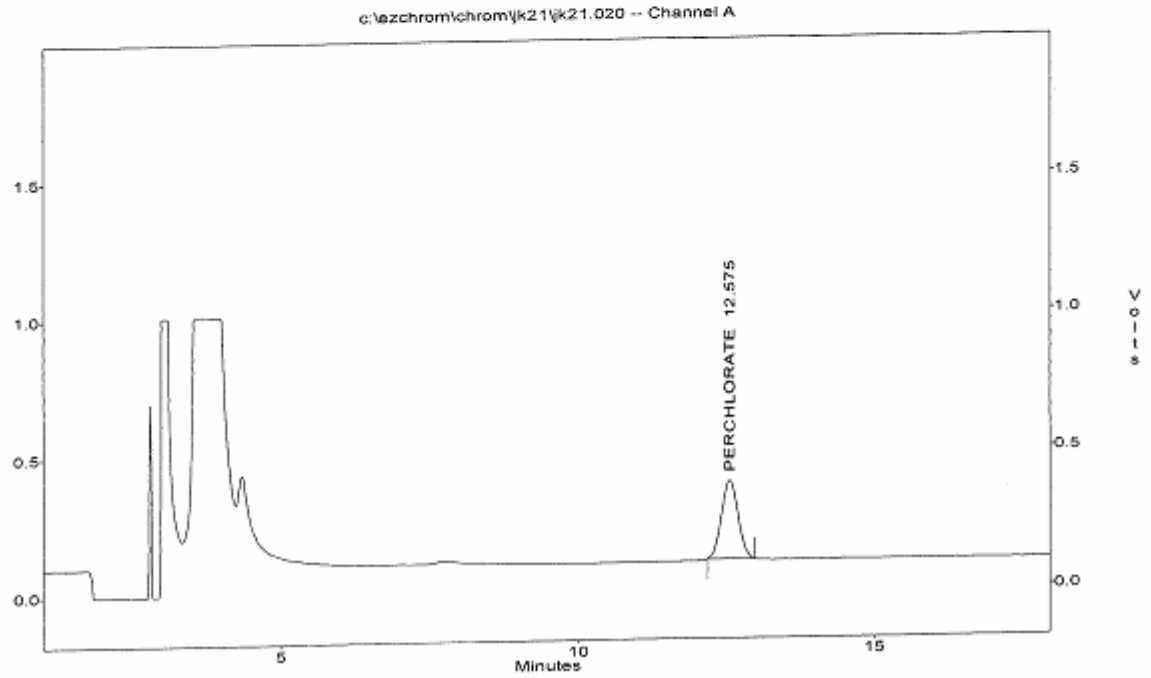
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.020
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV61-30
Acquired : Nov 22, 2021 00:47:18
Printed : Nov 23, 2021 08:25:40
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5530446	283538	180791.531	29.915



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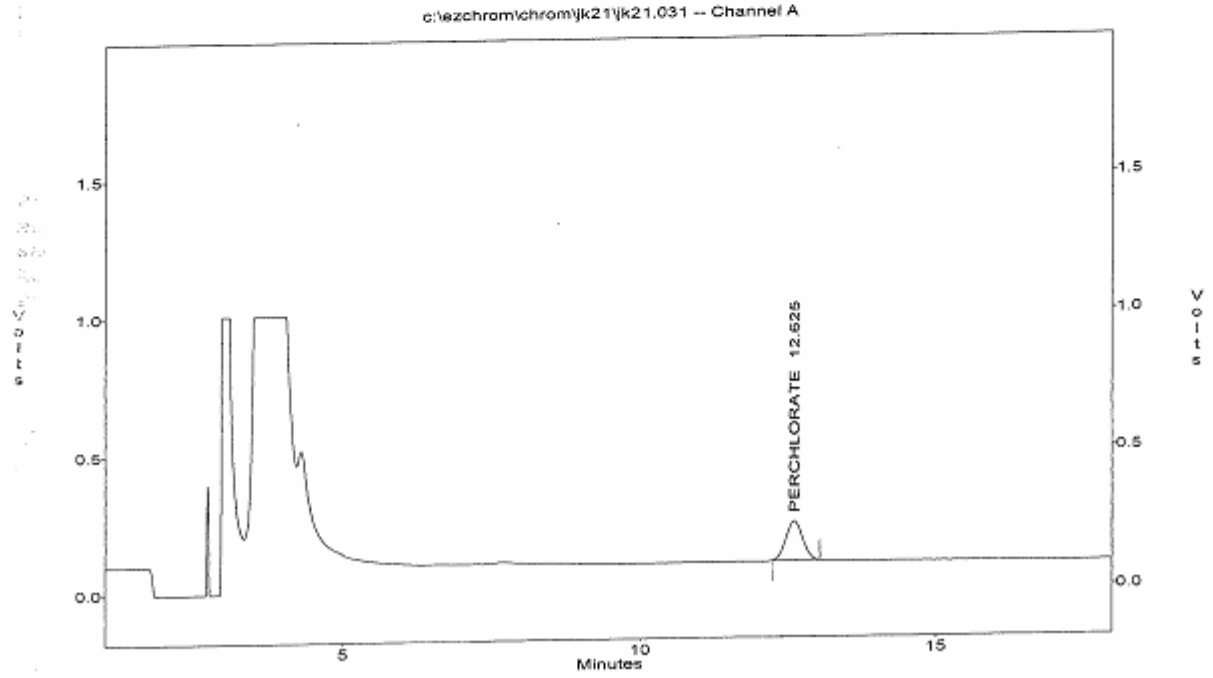
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.031
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV62-15
Acquired : Nov 22, 2021 04:38:32
Printed : Nov 23, 2021 08:32:24
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.63	2779021	140535	180791.531	15.159



REPORT ID: 21K173

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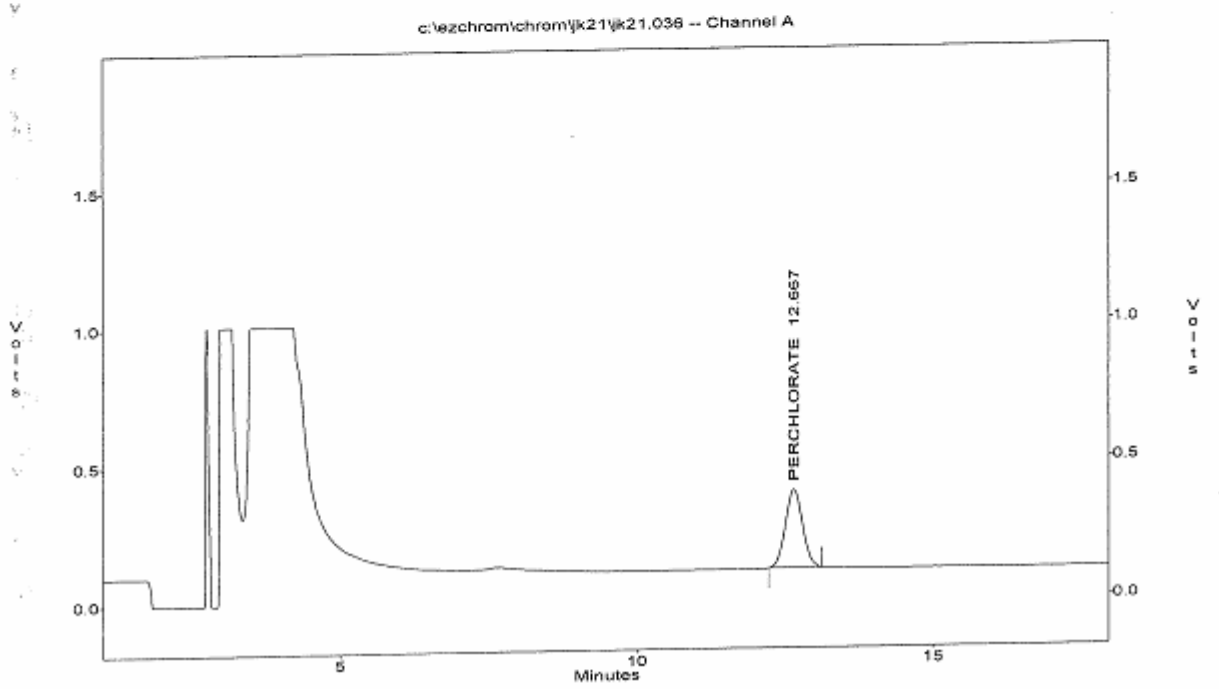
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.036
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV63-30
Acquired : Nov 22, 2021 06:23:39
Printed : Nov 23, 2021 08:34:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.67	5697891	283211	180791.531	30.813



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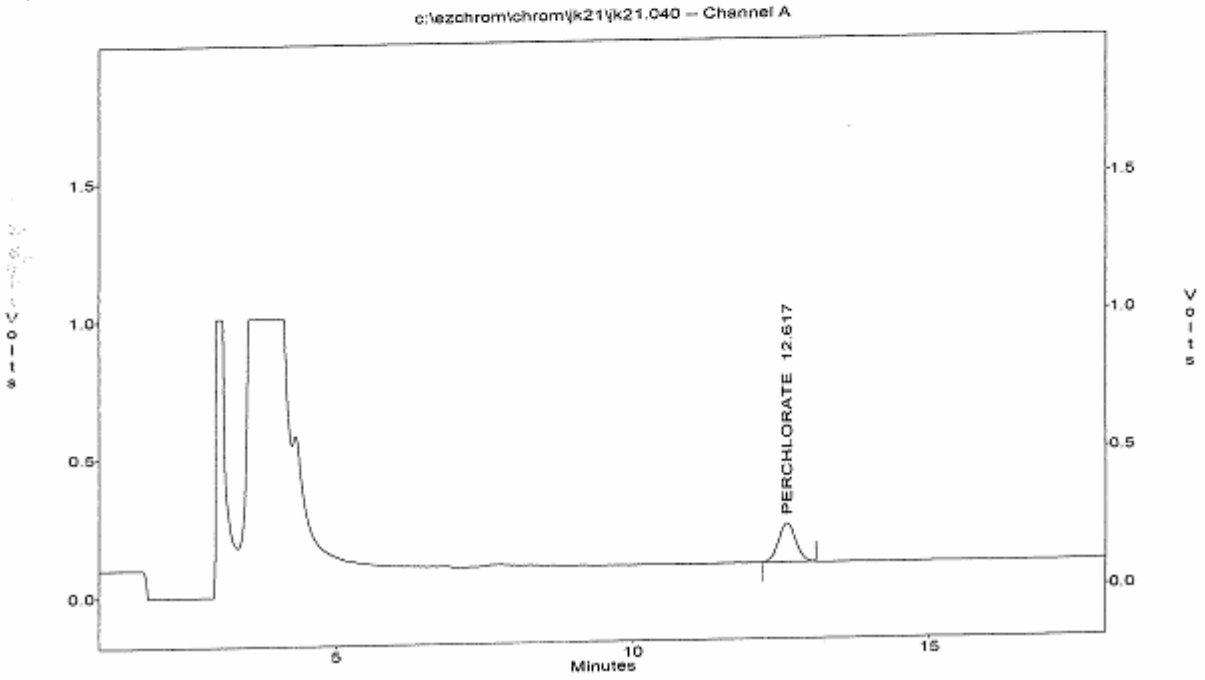
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk21\jk21.040
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV64-15
Acquired : Nov 22, 2021 10:28:10
Printed : Nov 23, 2021 08:35:26
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.62	2791535	138636	180791.531	15.226



REPORT ID: 21K173

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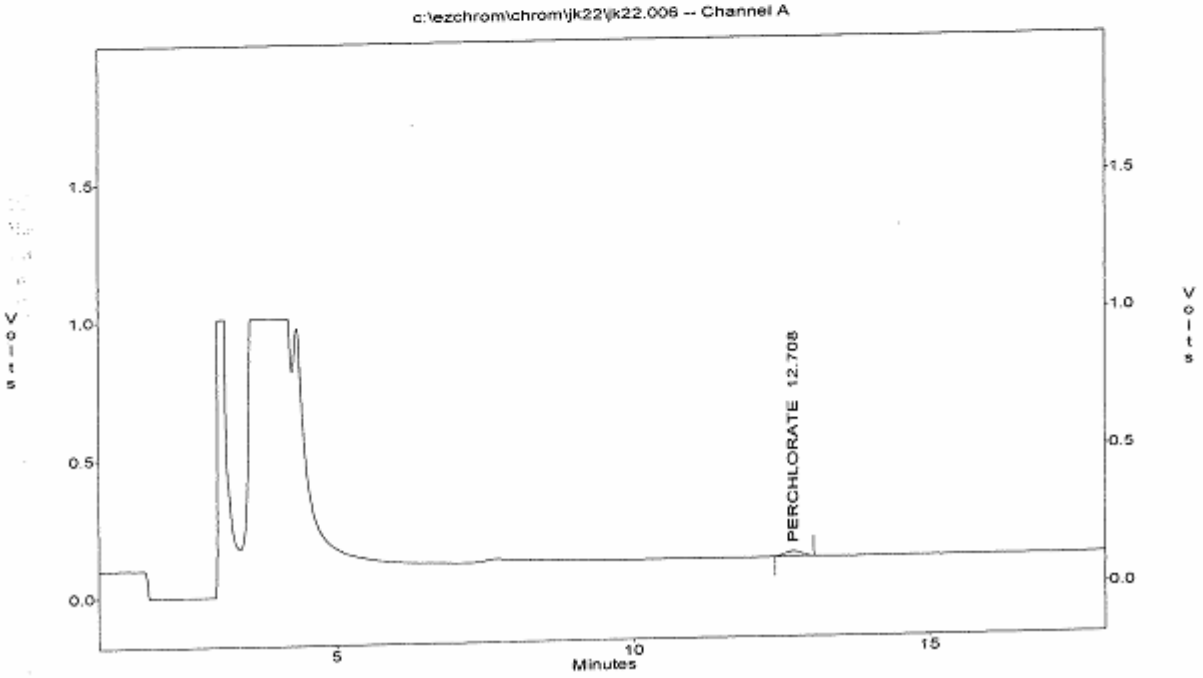
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2201
Acquired : Nov 22, 2021 17:59:08
Printed : Nov 23, 2021 07:57:26
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.71	338466	17979	180791.531	2.070



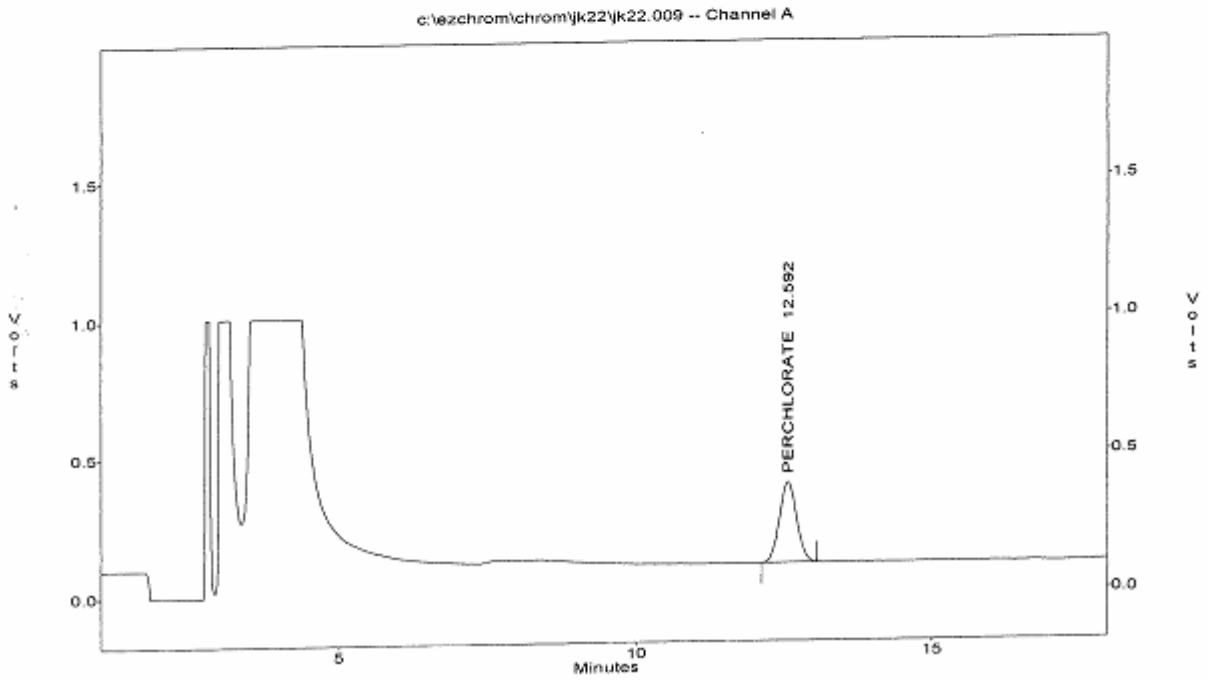
REPORT ID: 21K173

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV65-30
Acquired : Nov 22, 2021 19:02:11
Printed : Nov 23, 2021 07:59:03
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	5802324	290291	180791.531	31.373



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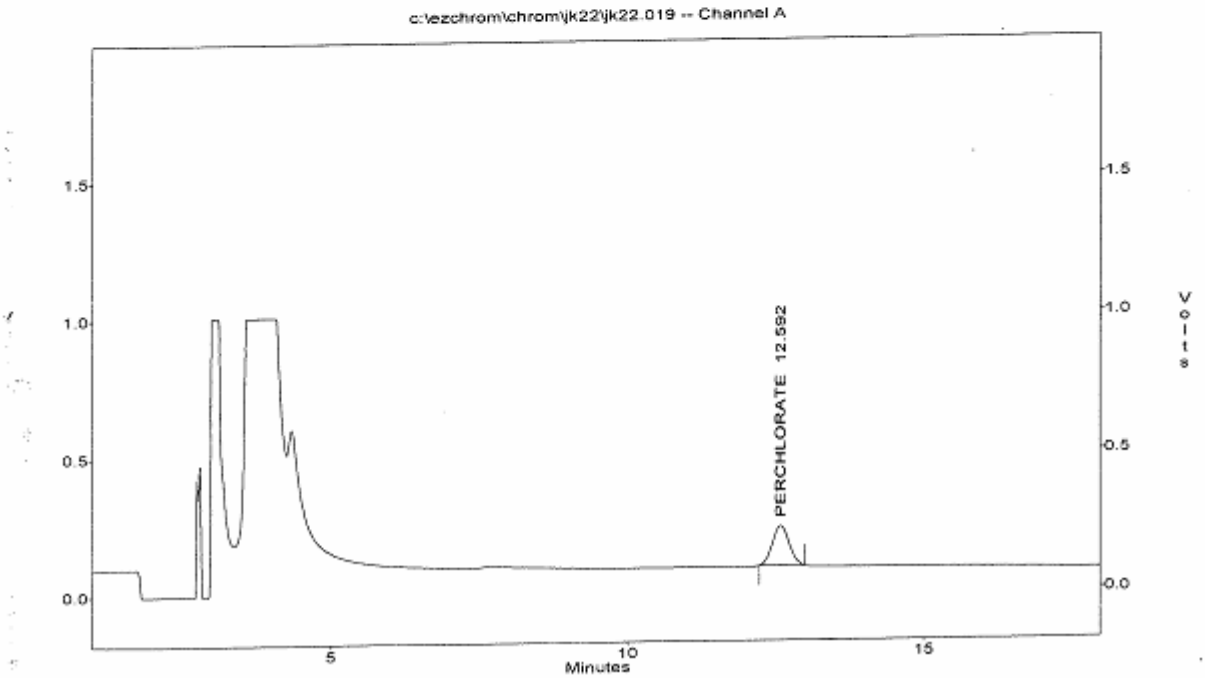
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.019
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV66-15
Acquired : Nov 22, 2021 22:32:25
Printed : Nov 23, 2021 08:07:32
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.59	2789638	142693	180791.531	15.216



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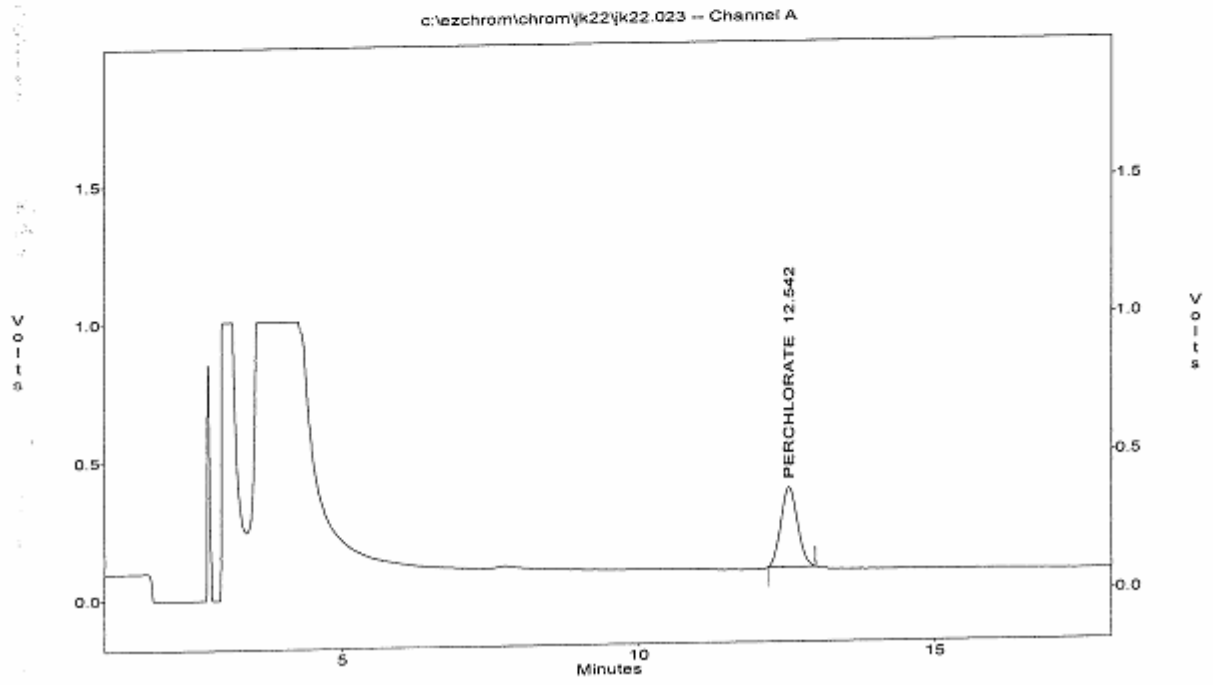
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk22\jk22.023
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV67-30
Acquired : Nov 22, 2021 23:56:29
Printed : Nov 23, 2021 08:13:22
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	5675244	289506	180791.531	30.691



REPORT ID: 21K173

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ANALYTICAL LOG(S)

REPORT ID: 21K173 Page 68 of 77

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwR1-02-18-04

Reagent Water ID #: SwIA-611-03-01

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
Swi-02-09-17	999	999
Swi-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
Swi-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181794499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 17011014
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 18011214
Flow: 1.50mL/min Sample loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 17011085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #: 35520012
0.2 µm filter lot #:	1.5 oz; lot #;

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57 K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

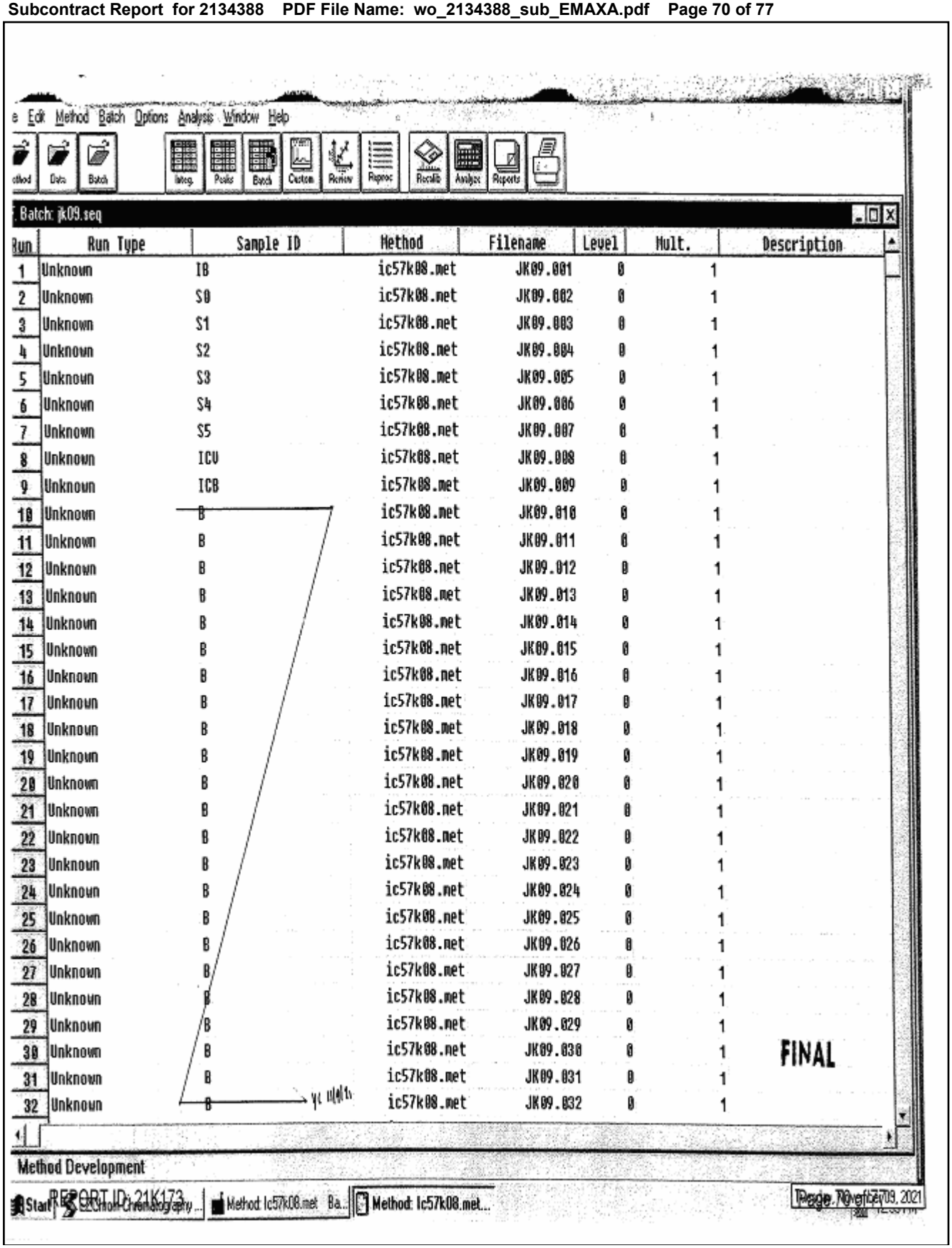
STANDARDS ID	
ICAL	SW48-003-04-01
ICV	SW48-003-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/8/21



Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

REPORT ID: 21K173

Method: ic57k08.met Ba...

Method: ic57k08.met...

Page 70 of 77 09, 2021

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-02-18-04

Reagent Water ID #: SWIA-011-03-02

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 181794494

Comments:

PCK004W: K193; K169; K193
* MS: Used 0.15mL (1ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

Snapseal container

0.45 µm filter lot #: 210890103 4 oz; lot #: 3352001Z

0.2 µm filter lot #: - 1.5 oz; lot #: 250 20009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK21
Method File:	IC57K08
Analytical Batch:	PCK004W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SW4B-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	SW4B-003-03-27

MCT Ref. MCT # 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: VC

Date: 11/21/21

REPORT ID: 21K173

e Edit Method Batch Options Analysis Window Help

Batch: jk21.seq

Run	Run Type	Sample ID		Method	Filename	Level	Mult.	Description
1	Unknown	RINSE		ic57k08.met	JK21.001	0	1	
2	Unknown	RINSE		ic57k08.met	JK21.002	0	1	
3	Unknown	RINSE		ic57k08.met	JK21.003	0	1	
4	Unknown	IPCS 300/25		ic57k08.met	JK21.004	0	1	
5	Unknown	PCK004WB		ic57k08.met	JK21.005	0	1	
6	Unknown	HRLK2101		ic57k08.met	JK21.006	0	1	
7	Unknown	PCK004WL		ic57k08.met	JK21.007	0	1	
8	Unknown	PCK004WC		ic57k08.met	JK21.008	0	1	
9	Unknown	CCV60-15		ic57k08.met	JK21.009	0	1	
10	Unknown	K193-01	1214 µs/cm	ic57k08.met	JK21.010	0	1	
11	Unknown	K169-05	590	ic57k08.met	JK21.011	0	1	
12	Unknown	K169-05M	↓	ic57k08.met	JK21.012	0	1	
13	Unknown	K169-05D		ic57k08.met	JK21.013	0	1	
14	Unknown	K169-06	639	ic57k08.met	JK21.014	0	1	
15	Unknown	K169-07	735	ic57k08.met	JK21.015	0	1	
16	Unknown	K169-08	696	ic57k08.met	JK21.016	0	1	
17	Unknown	K169-09	684	ic57k08.met	JK21.017	0	1	
18	Unknown	K169-10	539	ic57k08.met	JK21.018	0	1	
19	Unknown	K169-11	13.9 ↓	ic57k08.met	JK21.019	0	1	
20	Unknown	CCV61-30		ic57k08.met	JK21.020	0	1	
21	Unknown	K173-01	564 µs/cm	ic57k08.met	JK21.021	0	1	
22	Unknown	K173-02	582	ic57k08.met	JK21.022	0	1	
23	Unknown	K173-03	636	ic57k08.met	JK21.023	0	1	
24	Unknown	K173-04	729	ic57k08.met	JK21.024	0	1	OVER RANGE
25	Unknown	K173-05	735	ic57k08.met	JK21.025	0	1	OVER RANGE
26	Unknown	K173-06	565 ↓	ic57k08.met	JK21.026	0	1	
27	Unknown	K173-06M	↓	ic57k08.met	JK21.027	0	1	
28	Unknown	K173-06D	↓	ic57k08.met	JK21.028	0	1	
29	Unknown	K173-07	581 µs/cm	ic57k08.met	JK21.029	0	1	
30	Unknown	TEST		ic57k08.met	JK21.030	0	1	FINAL
31	Unknown	CCV62-15		ic57k08.met	JK21.031	0	1	
32	Unknown	K173-09	604 µs/cm	ic57k08.met	JK21.032	0	1	

Method Development

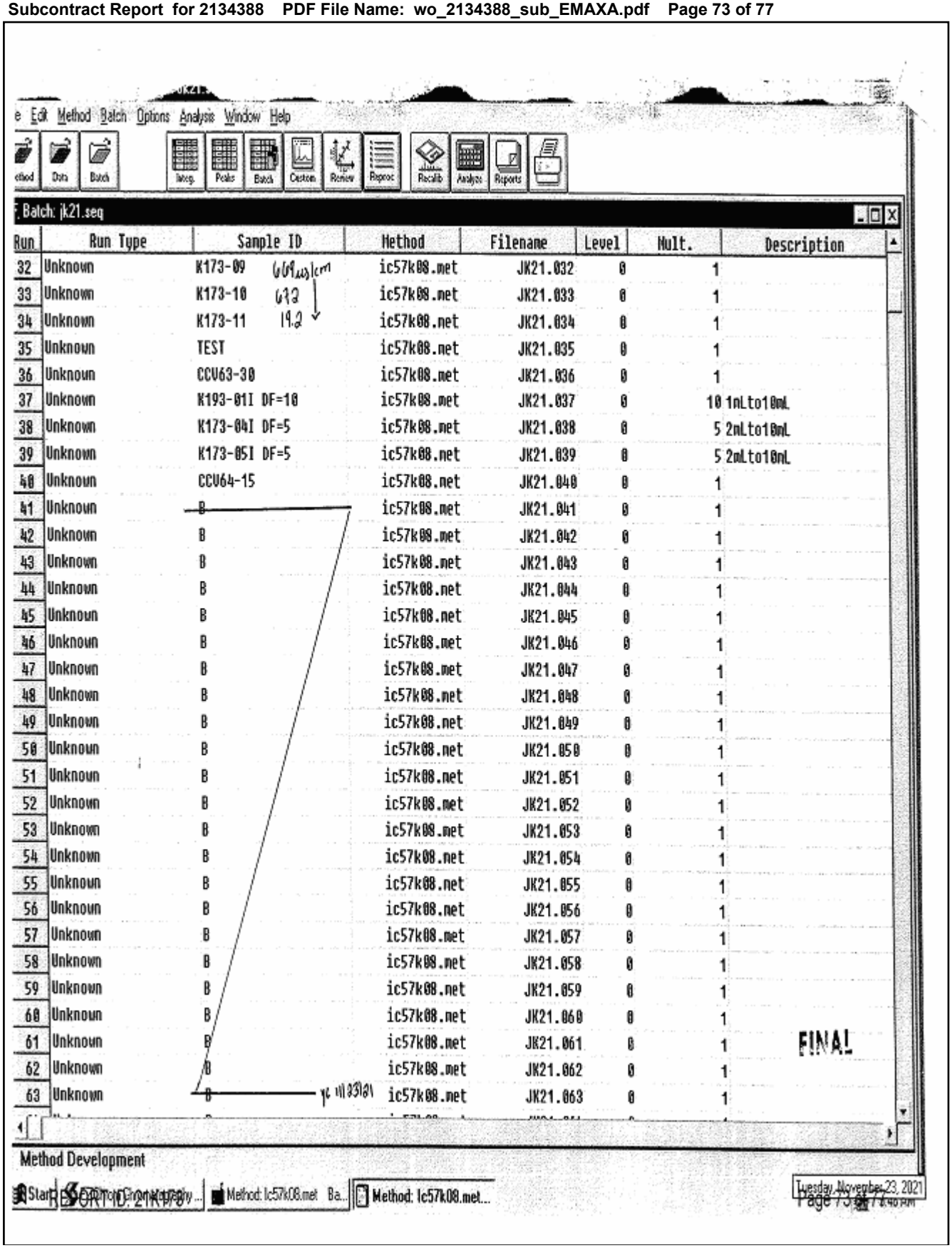
REPORT ID: 21K0738

Method: ic57k08.met Ba...

Method: ic57k08.met...

Tuesday, November 23, 2021

Page



e Edit Method Batch Options Analysis Window Help

Batch: jk21.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
32	Unknown	K173-09	ic57k08.met	JK21.032	0	1	
33	Unknown	K173-10	ic57k08.met	JK21.033	0	1	
34	Unknown	K173-11	ic57k08.met	JK21.034	0	1	
35	Unknown	TEST	ic57k08.met	JK21.035	0	1	
36	Unknown	CCV63-30	ic57k08.met	JK21.036	0	1	
37	Unknown	K193-01I DF=10	ic57k08.met	JK21.037	0	10	1mLto10mL
38	Unknown	K173-04I DF=5	ic57k08.met	JK21.038	0	5	2mLto10mL
39	Unknown	K173-05I DF=5	ic57k08.met	JK21.039	0	5	2mLto10mL
40	Unknown	CCV64-15	ic57k08.met	JK21.040	0	1	
41	Unknown	B	ic57k08.met	JK21.041	0	1	
42	Unknown	B	ic57k08.met	JK21.042	0	1	
43	Unknown	B	ic57k08.met	JK21.043	0	1	
44	Unknown	B	ic57k08.met	JK21.044	0	1	
45	Unknown	B	ic57k08.met	JK21.045	0	1	
46	Unknown	B	ic57k08.met	JK21.046	0	1	
47	Unknown	B	ic57k08.met	JK21.047	0	1	
48	Unknown	B	ic57k08.met	JK21.048	0	1	
49	Unknown	B	ic57k08.met	JK21.049	0	1	
50	Unknown	B	ic57k08.met	JK21.050	0	1	
51	Unknown	B	ic57k08.met	JK21.051	0	1	
52	Unknown	B	ic57k08.met	JK21.052	0	1	
53	Unknown	B	ic57k08.met	JK21.053	0	1	
54	Unknown	B	ic57k08.met	JK21.054	0	1	
55	Unknown	B	ic57k08.met	JK21.055	0	1	
56	Unknown	B	ic57k08.met	JK21.056	0	1	
57	Unknown	B	ic57k08.met	JK21.057	0	1	
58	Unknown	B	ic57k08.met	JK21.058	0	1	
59	Unknown	B	ic57k08.met	JK21.059	0	1	
60	Unknown	B	ic57k08.met	JK21.060	0	1	
61	Unknown	B	ic57k08.met	JK21.061	0	1	
62	Unknown	B	ic57k08.met	JK21.062	0	1	
63	Unknown	B	ic57k08.met	JK21.063	0	1	

FINAL

Method Development

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 23

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwRI-02-18-04

Reagent Water ID #: SwIA-011-03-02

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: 04

Standard ID	TV (µS/cm)	Reading (µS/cm)
Swi-02-09-17	999	999
Swi-02-09-19	99927	100,000
CMC Reading (Acceptance criteria: ± 30)		
Swi-02-09-04	1412	1410

Temperature: 25 °C Thermometer ID: 161179499

Comments:

PCK005W: K166; K167; K173
• MS/MSD: Used 0.15mL (15ppb) of Sw48-003-03-27 to a volume of 10mL of sample.

Snapseal container

0.45 µm filter lot #: 21089003 4 oz; lot #; 33520012

0.2 µm filter lot #: - 1.5 oz; lot #; 25020009

Book #: A57-038
Instrument No.: 57
CMC Instrument No.: 29
Pipette ID: SW9A-04-17
A42762405
SW9A-04-052
Balance ID: 10601202
Analytical Sequence: JK22
Method File: IC57K08
Analytical Batch: PCK005W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	-
ICV	-
CCV-15	SIA148-003-04-09
CCV-30	-08
LCS	-07
IPC	-06
MRL	-03
MS	Sw48-003-04-27

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/22/21

REPORT ID: 21K173

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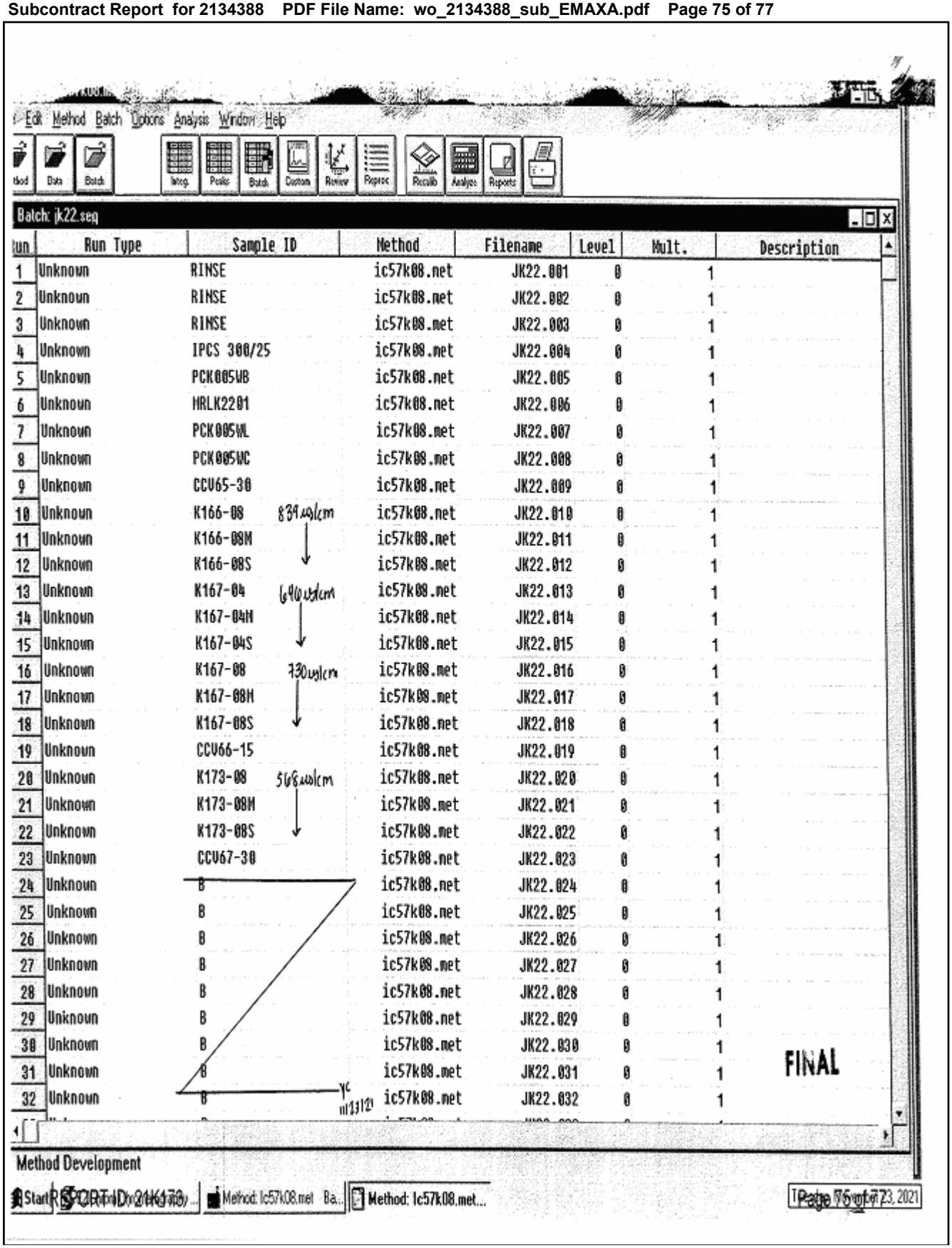

Edit Method Batch Options Analysis Window Help

Batch: jk22.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	RINSE	ic57k08.met	JK22.001	0	1	
2	Unknown	RINSE	ic57k08.met	JK22.002	0	1	
3	Unknown	RINSE	ic57k08.met	JK22.003	0	1	
4	Unknown	IPCS 300/25	ic57k08.met	JK22.004	0	1	
5	Unknown	PCK005WB	ic57k08.met	JK22.005	0	1	
6	Unknown	HRLK2201	ic57k08.met	JK22.006	0	1	
7	Unknown	PCK005WL	ic57k08.met	JK22.007	0	1	
8	Unknown	PCK005WC	ic57k08.met	JK22.008	0	1	
9	Unknown	CCV65-30	ic57k08.met	JK22.009	0	1	
10	Unknown	K166-08 839 ug/cm	ic57k08.met	JK22.010	0	1	
11	Unknown	K166-08M	ic57k08.met	JK22.011	0	1	
12	Unknown	K166-08S	ic57k08.met	JK22.012	0	1	
13	Unknown	K167-04 640 ug/cm	ic57k08.met	JK22.013	0	1	
14	Unknown	K167-04M	ic57k08.met	JK22.014	0	1	
15	Unknown	K167-04S	ic57k08.met	JK22.015	0	1	
16	Unknown	K167-08 730 ug/cm	ic57k08.met	JK22.016	0	1	
17	Unknown	K167-08M	ic57k08.met	JK22.017	0	1	
18	Unknown	K167-08S	ic57k08.met	JK22.018	0	1	
19	Unknown	CCV66-15	ic57k08.met	JK22.019	0	1	
20	Unknown	K173-08 568 ug/cm	ic57k08.met	JK22.020	0	1	
21	Unknown	K173-08M	ic57k08.met	JK22.021	0	1	
22	Unknown	K173-08S	ic57k08.met	JK22.022	0	1	
23	Unknown	CCV67-30	ic57k08.met	JK22.023	0	1	
24	Unknown	B	ic57k08.met	JK22.024	0	1	
25	Unknown	B	ic57k08.met	JK22.025	0	1	
26	Unknown	B	ic57k08.met	JK22.026	0	1	
27	Unknown	B	ic57k08.met	JK22.027	0	1	
28	Unknown	B	ic57k08.met	JK22.028	0	1	
29	Unknown	B	ic57k08.met	JK22.029	0	1	
30	Unknown	B	ic57k08.met	JK22.030	0	1	
31	Unknown	B	ic57k08.met	JK22.031	0	1	
32	Unknown	B	ic57k08.met	JK22.032	0	1	

FINAL

Method Development

Method: ic57k08.met Ba... Method: ic57k08.met...

RETENTION TIME WINDOW

REPORT ID: 21K173 Page 76 of 77

RETENTION TIME WINDOW
METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K173

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 15:04
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	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.
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project: 4Q21
BCL Project: JPL- GW Monitoring Wells-CLP
BCL Work Order: 2134782
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 11/2/2021. 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

Table of Contents

Table of Contents

Chain of Custody and Cooler Receipt Form for 2134782 Page 1 of 5

BC Laboratories, Inc.

Chain of Custody Form

21-34782

Page 1 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) 258 - 5715 Fax#: 614) 792 - 2897
Email Address: david.conner@tidelh2o.net
Submission #:

Project Description:* JPL-GW Monitoring
Project Code:* 4Q21
Sampler (s):* Blaine Tech

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

Sample #	Sample Description	Date	Time	Matrix*	Analysis Requested: VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4	Orthophosphate 365.1	Notes
-1	TB-6-110221	11/2/21	0830	W	X	X	X	X			
-2	MW-20-5		0950		X	X	X	X			
-3	MW-20-4		1050		X	X	X	X			CHK BY DISTRIBUTION
-4	MW-20-3		1100		X	X	X	X			
-5	DUP-5-4Q21		1120		X	X	X	X			
-6	MW-20-2		1145		X	X	X	X			SUB-OUT
-7	MW-19-5		1230		X	X	X	X			
-8	MW-18-4		1310		X	X	X	X			DO ORP MBAS COT SS NO3 NO2 Br2 BO3
-9	DUP-6-4Q21		1330		X	X	X	X			
-10	MW-18-3		1415		X	X	X	X			SHORT HOLDING TIME
-11	MW-18-2		1445		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

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 $ File (CA Default)
☐ Geotracker 2 File
☐ Other (Specify) _____

Cost Center: _____ Global ID: _____

	Relinquished By:	Date	Time	Received By:	Date	Time
1.		11/2/21	1840		11-2-21	1520
2.		11-2-21	2340		11/3/21	1700
3.		11/3/21	1440		11/2/21	1940

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

Chain of Custody Form

BC Laboratories, Inc.

21-34782

*Required Fields

Page 2 of 2

Report To: Client:* Tidewater, Inc.	Project Description:* JPL-GW Monitoring
Attn:* David Conner	
Street Address:* 3761 Attucks Drive	Project Code:* 4Q21
City:* Powell State:* OH Zip:* 43065	
Phone#:* 626 | 298 - 5715 Fax#: 614 | 792 - 2897	Sampler (s):* Blaine Tech
Email Address: david.conner@tideh2o.net	L. Henderson
Submission #:	

Billing

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

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4		Orthophosphate 365.1				Notes
-12	EB-6- 110221	11/2/21	1500	W	X	X	X	X							

Analysis Requested

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).

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

Cost Center: _____ Global ID: _____

	Date	Time		Date	Time
1. Relinquished By:	11/2/21	1520	1. Received By: Gaby Beaudy	11-2-21	1520
2. Relinquished By: Gaby Beaudy	11-2-21	5p	2. Received By:	11/2/21	1700
3. Relinquished By:	11/2/21	1940	3. Received By:	11/2/21	1940

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 #: 21-34782

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐ BC Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☑ NO ☐ (W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 108

Temperature: (A) 0.7 °C / (C) 0.7 °C

Date/Time 11/2/21

Analyst Init PR 1940

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		E	E	E	E	E	E			
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}		D	D	D	D	D	D			
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)		F	F	F	F	F	F			
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: PRE Date/Time: 11/3/21 1850

A = Actual / C = Corrected

Rev 22 04/13/21

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 3

Submission #: 21-34782

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 108

Temperature: (A) 0.7 °C / (C) 0.7 °C

Date/Time 11/2/21

Analyst Init PE 1940

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										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-C	A-C								
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: PPE Date/Time: 11/3/21 1850

A = Actual / C = Corrected

Rev 22 04/13/21

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 3

Submission #: 21-34782

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 108

Temperature: (A) 0.8 °C / (C) 0.8 °C

Date/Time 11/2/21

Analyst Init FE 1940

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	E	E					E	E	E	E
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6	D	D					D	D	D	D
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	F	F					F	F	F	F
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: PRG Date/Time: 11/3/21 1850

A = Actual / C = Corrected

Rev 22 04/13/21

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134782-01	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 08:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-6-110221	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-6-110221	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-02	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 09:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-20-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-20-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-03	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 10:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-20-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-20-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134782-04	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 11:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-20-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-20-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-05	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 11:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-5-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-5-4Q21	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-06	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 11:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-20-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134782-07	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 12:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-18-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-18-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-08	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 13:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-18-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-18-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-09	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 13:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-6-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-6-4Q21	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134782-10	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 14:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-18-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-18-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-11	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-18-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-18-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134782-12	**COC Number:**	---	**Receive Date:**	11/02/2021 19:40
	Project Number:	NASA/JPL	**Sampling Date:**	11/02/2021 15:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-6-110221	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): EB-6-110221	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-01 | **Client Sample Name:** NASA/JPL, TB-6-110221, 11/2/2021 8:30:00AM

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	V11	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-01 | **Client Sample Name:** NASA/JPL, TB-6-110221, 11/2/2021 8:30:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-01 | **Client Sample Name:** NASA/JPL, TB-6-110221, 11/2/2021 8:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	99.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/04/21 23:53	MGC	MS-V5	1	B124220	EPA 524.2

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-01 | **Client Sample Name:** NASA/JPL, TB-6-110221, 11/2/2021 8:30:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/04/21 23:53	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-02 | **Client Sample Name:** NASA/JPL, MW-20-5, 11/2/2021 9:50:00AM

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	V11	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-02 | **Client Sample Name:** NASA/JPL, MW-20-5, 11/2/2021 9:50:00AM

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	**0.12**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-02 | **Client Sample Name:** NASA/JPL, MW-20-5, 11/2/2021 9:50:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 00:18	MGC	MS-V5	1	B124220	EPA 524.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-02 | **Client Sample Name:** NASA/JPL, MW-20-5, 11/2/2021 9:50:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 00:18	MGC	MS-V5	1	B124220	EPA 524.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-02 | **Client Sample Name:** NASA/JPL, MW-20-5, 11/2/2021 9:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00018**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000031	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 14:36	KB1	IC-4	1	B124830	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 08:51	ARD	PE-EL2	1	B124892	EPA 200.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-03 | **Client Sample Name:** NASA/JPL, MW-20-4, 11/2/2021 10:30:00AM

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	V11	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-03 | **Client Sample Name:** NASA/JPL, MW-20-4, 11/2/2021 10:30:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-03 | **Client Sample Name:** NASA/JPL, MW-20-4, 11/2/2021 10:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	94.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 00:42	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-03 | **Client Sample Name:** NASA/JPL, MW-20-4, 11/2/2021 10:30:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 00:42	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-03 | **Client Sample Name:** NASA/JPL, MW-20-4, 11/2/2021 10:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00020**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 17:22	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:25	ARD	PE-EL2	1	B124892	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-04 | **Client Sample Name:** NASA/JPL, MW-20-3, 11/2/2021 11:00:00AM

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	V11	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-04 | **Client Sample Name:** NASA/JPL, MW-20-3, 11/2/2021 11:00:00AM

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	**0.26**	**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	**0.65**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-04 | **Client Sample Name:** NASA/JPL, MW-20-3, 11/2/2021 11:00:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 01:06	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-04 | **Client Sample Name:** NASA/JPL, MW-20-3, 11/2/2021 11:00:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 01:06	MGC	MS-V5	1	B124220	EPA 524.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-04 | **Client Sample Name:** NASA/JPL, MW-20-3, 11/2/2021 11:00:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000091**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 17:31	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:27	ARD	PE-EL2	1	B124892	EPA 200.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-05 | **Client Sample Name:** NASA/JPL, DUP-5-4Q21, 11/2/2021 11:20:00AM

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	V11	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-05 | **Client Sample Name:** NASA/JPL, DUP-5-4Q21, 11/2/2021 11:20:00AM

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	**0.17**	**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	**0.32**	**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	**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	**0.20**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-05 | **Client Sample Name:** NASA/JPL, DUP-5-4Q21, 11/2/2021 11:20:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 01:30	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-05 | **Client Sample Name:** NASA/JPL, DUP-5-4Q21, 11/2/2021 11:20:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 01:30	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-05 | **Client Sample Name:** NASA/JPL, DUP-5-4Q21, 11/2/2021 11:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000096**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 17:41	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:28	ARD	PE-EL2	1	B124892	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-06 | **Client Sample Name:** NASA/JPL, MW-20-2, 11/2/2021 11:45:00AM

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	V11	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: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-06 | **Client Sample Name:** NASA/JPL, MW-20-2, 11/2/2021 11:45:00AM

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	**0.30**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-06 | **Client Sample Name:** NASA/JPL, MW-20-2, 11/2/2021 11:45:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	92.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 01:55	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-06 | **Client Sample Name:** NASA/JPL, MW-20-2, 11/2/2021 11:45:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 01:55	MGC	MS-V5	1	B124220	EPA 524.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-06 | **Client Sample Name:** NASA/JPL, MW-20-2, 11/2/2021 11:45:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000061**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 17:51	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:30	ARD	PE-EL2	1	B124892	EPA 200.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-07 | **Client Sample Name:** NASA/JPL, MW-18-5, 11/2/2021 12:30:00PM

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	V11	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. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-07 | **Client Sample Name:** NASA/JPL, MW-18-5, 11/2/2021 12:30:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-07 | **Client Sample Name:** NASA/JPL, MW-18-5, 11/2/2021 12:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 02:19	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-07 | **Client Sample Name:** NASA/JPL, MW-18-5, 11/2/2021 12:30:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 02:19	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-07 | **Client Sample Name:** NASA/JPL, MW-18-5, 11/2/2021 12:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00012**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 18:00	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:31	ARD	PE-EL2	1	B124892	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-08 | **Client Sample Name:** NASA/JPL, MW-18-4, 11/2/2021 1:10:00PM

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	**3.1**	**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	**1.2**	**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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-08 | **Client Sample Name:** NASA/JPL, MW-18-4, 11/2/2021 1:10:00PM

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	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-08 | **Client Sample Name:** NASA/JPL, MW-18-4, 11/2/2021 1:10:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	111	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	96.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 02:43	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-08 | **Client Sample Name:** NASA/JPL, MW-18-4, 11/2/2021 1:10:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 02:43	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-08 | **Client Sample Name:** NASA/JPL, MW-18-4, 11/2/2021 1:10:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0023**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073		1
Total Recoverable Chromium	**2.5**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 18:10	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:33	ARD	PE-EL2	1	B124892	EPA 200.2

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-09 | **Client Sample Name:** NASA/JPL, DUP-6-4Q21, 11/2/2021 1:30:00PM

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	**1.8**	**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	**0.87**	**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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-09 | **Client Sample Name:** NASA/JPL, DUP-6-4Q21, 11/2/2021 1:30:00PM

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	**0.76**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-09 | **Client Sample Name:** NASA/JPL, DUP-6-4Q21, 11/2/2021 1:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 03:07	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-09 | **Client Sample Name:** NASA/JPL, DUP-6-4Q21, 11/2/2021 1:30:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 03:07	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-09 | **Client Sample Name:** NASA/JPL, DUP-6-4Q21, 11/2/2021 1:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0022**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073		1
Total Recoverable Chromium	**2.6**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 18:19	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:15	11/12/21 09:35	ARD	PE-EL2	1	B124892	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-10 | **Client Sample Name:** NASA/JPL, MW-18-3, 11/2/2021 2:15:00PM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-10 | **Client Sample Name:** NASA/JPL, MW-18-3, 11/2/2021 2:15:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-10 | **Client Sample Name:** NASA/JPL, MW-18-3, 11/2/2021 2:15:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	95.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 07:10	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-10 | **Client Sample Name:** NASA/JPL, MW-18-3, 11/2/2021 2:15:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 07:10	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-10 | **Client Sample Name:** NASA/JPL, MW-18-3, 11/2/2021 2:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0016**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073		1
Total Recoverable Chromium	**1.3**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 18:29	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:00	ARD	PE-EL2	1	B124893	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-11 | **Client Sample Name:** NASA/JPL, MW-18-2, 11/2/2021 2:45:00PM

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	V11	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-11 | **Client Sample Name:** NASA/JPL, MW-18-2, 11/2/2021 2:45:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-11 | **Client Sample Name:** NASA/JPL, MW-18-2, 11/2/2021 2:45:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	99.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.3	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 07:34	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134782-11 | **Client Sample Name:** NASA/JPL, MW-18-2, 11/2/2021 2:45:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 07:34	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-11 | **Client Sample Name:** NASA/JPL, MW-18-2, 11/2/2021 2:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00010**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 18:39	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:32	ARD	PE-EL2	1	B124893	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-12 | **Client Sample Name:** NASA/JPL, EB-6-110221, 11/2/2021 3:00:00PM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-12 | **Client Sample Name:** NASA/JPL, EB-6-110221, 11/2/2021 3:00:00PM

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	**0.58**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134782-12 | **Client Sample Name:** NASA/JPL, EB-6-110221, 11/2/2021 3:00:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	91.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 07:59	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID:	2134782-12	**Client Sample Name:**	NASA/JPL, EB-6-110221, 11/2/2021 3:00:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 07:59	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134782-12 | **Client Sample Name:** NASA/JPL, EB-6-110221, 11/2/2021 3:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000083**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 18:38	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:33	ARD	PE-EL2	1	B124893	EPA 200.2

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124220						
Benzene	B124220-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124220-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124220-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124220-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124220-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124220-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124220-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124220-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124220-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124220-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124220-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124220-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124220-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B124220-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124220-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124220-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124220-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124220-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124220-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124220-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124220-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124220-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124220-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124220-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124220-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124220-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124220-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124220-BLK1	ND	ug/L	0.50	0.14	

Pace Analytical
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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124220						
trans-1,3-Dichloropropene	B124220-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124220-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124220-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124220-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124220-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124220-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124220-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124220-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124220-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124220-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124220-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124220-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124220-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B124220-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124220-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124220-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124220-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124220-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124220-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124220-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124220-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124220-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124220-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124220-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124220-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124220-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124220-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124220-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124220-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124220-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124220-BLK1	ND	ug/L	4.0	1.3	

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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124220						
Ethyl t-butyl ether	B124220-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124220-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124220-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124220-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124220-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124220-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124220-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124220-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124220-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124220-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124220-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124220-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124220-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124220-BLK1**	**107**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124220-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124220-BLK1**	**97.3**	%	**80 - 120 (LCL - UCL)**		

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124220										
Benzene	B124220-BS1	LCS	25.380	25.000	ug/L	102		70 - 130		
Bromodichloromethane	B124220-BS1	LCS	29.310	25.000	ug/L	117		70 - 130		
Chlorobenzene	B124220-BS1	LCS	25.960	25.000	ug/L	104		70 - 130		
Chloroethane	B124220-BS1	LCS	27.290	25.000	ug/L	109		70 - 130		
1,4-Dichlorobenzene	B124220-BS1	LCS	26.110	25.000	ug/L	104		70 - 130		
1,1-Dichloroethane	B124220-BS1	LCS	27.160	25.000	ug/L	109		70 - 130		
1,1-Dichloroethene	B124220-BS1	LCS	26.720	25.000	ug/L	107		70 - 130		
Toluene	B124220-BS1	LCS	26.280	25.000	ug/L	105		70 - 130		
Trichloroethene	B124220-BS1	LCS	29.650	25.000	ug/L	119		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124220-BS1	LCS	10.550	10.000	ug/L	106		75 - 125		
Toluene-d8 (Surrogate)	B124220-BS1	LCS	10.600	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124220-BS1	LCS	9.9300	10.000	ug/L	99.3		80 - 120		

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3761 Attucks Drive
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Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124220	Used client sample: Y - Description: MW-20-5, 11/02/2021 09:50										
Benzene	MS	2134782-02	ND	25.280	25.000	ug/L		101		70 - 130	
	MSD	2134782-02	ND	25.950	25.000	ug/L	2.6	104	20	70 - 130	
Bromodichloromethane	MS	2134782-02	ND	29.990	25.000	ug/L		120		70 - 130	
	MSD	2134782-02	ND	28.910	25.000	ug/L	3.7	116	20	70 - 130	
Chlorobenzene	MS	2134782-02	ND	25.810	25.000	ug/L		103		70 - 130	
	MSD	2134782-02	ND	25.360	25.000	ug/L	1.8	101	20	70 - 130	
Chloroethane	MS	2134782-02	ND	26.610	25.000	ug/L		106		70 - 130	
	MSD	2134782-02	ND	27.790	25.000	ug/L	4.3	111	20	70 - 130	
1,4-Dichlorobenzene	MS	2134782-02	ND	26.310	25.000	ug/L		105		70 - 130	
	MSD	2134782-02	ND	25.320	25.000	ug/L	3.8	101	20	70 - 130	
1,1-Dichloroethane	MS	2134782-02	ND	26.660	25.000	ug/L		107		70 - 130	
	MSD	2134782-02	ND	27.980	25.000	ug/L	4.8	112	20	70 - 130	
1,1-Dichloroethene	MS	2134782-02	ND	26.690	25.000	ug/L		107		70 - 130	
	MSD	2134782-02	ND	27.860	25.000	ug/L	4.3	111	20	70 - 130	
Toluene	MS	2134782-02	ND	26.850	25.000	ug/L		107		70 - 130	
	MSD	2134782-02	ND	26.200	25.000	ug/L	2.5	105	20	70 - 130	
Trichloroethene	MS	2134782-02	ND	27.270	25.000	ug/L		109		70 - 130	
	MSD	2134782-02	ND	26.040	25.000	ug/L	4.6	104	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134782-02	ND	10.560	10.000	ug/L		106		75 - 125	
	MSD	2134782-02	ND	10.840	10.000	ug/L	2.6	108		75 - 125	
Toluene-d8 (Surrogate)	MS	2134782-02	ND	10.760	10.000	ug/L		108		80 - 120	
	MSD	2134782-02	ND	10.460	10.000	ug/L	2.8	105		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134782-02	ND	9.6900	10.000	ug/L		96.9		80 - 120	
	MSD	2134782-02	ND	9.6300	10.000	ug/L	0.6	96.3		80 - 120	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:26
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124220						
Chloroacetonitrile	B124220-BLK1	0	ug/L			
1-Chlorobutane	B124220-BLK1	0	ug/L			
1,1-Dichloropropanone	B124220-BLK1	0	ug/L			
Methyl acrylate	B124220-BLK1	0	ug/L			
Nitrobenzene	B124220-BLK1	0	ug/L			
2-Nitropropane	B124220-BLK1	0	ug/L			

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3761 Attucks Drive
Powell, OH 43065

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Project Number: 4Q21
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: B124828						
Hexavalent Chromium	B124828-BLK1	ND	mg/L	0.00020	0.000020	
QC Batch ID: B124830						
Hexavalent Chromium	**B124830-BLK1**	**0.000031000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124831						
Hexavalent Chromium	**B124831-BLK1**	**0.000073000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124892						
Total Recoverable Chromium	B124892-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124893						
Total Recoverable Chromium	B124893-BLK1	ND	ug/L	3.0	0.50	

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ENVIRONMENTAL SCIENCES

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Powell, OH 43065

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Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124828										
Hexavalent Chromium	B124828-BS1	LCS	0.019187	0.020000	mg/L	95.9		90 - 110		
	B124828-BSD1	LCSD	0.018355	0.020000	mg/L	91.8	4.4	90 - 110	10	
QC Batch ID: B124830										
Hexavalent Chromium	B124830-BS1	LCS	0.018234	0.020000	mg/L	91.2		90 - 110		
	B124830-BSD1	LCSD	0.018497	0.020000	mg/L	92.5	1.4	90 - 110	10	
QC Batch ID: B124831										
Hexavalent Chromium	B124831-BS1	LCS	0.018634	0.020000	mg/L	93.2		90 - 110		
	B124831-BSD1	LCSD	0.018010	0.020000	mg/L	90.0	3.4	90 - 110	10	
QC Batch ID: B124892										
Total Recoverable Chromium	B124892-BS1	LCS	42.071	40.000	ug/L	105		85 - 115		
QC Batch ID: B124893										
Total Recoverable Chromium	B124893-BS1	LCS	40.869	40.000	ug/L	102		85 - 115		

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ENVIRONMENTAL SCIENCES

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Project Manager: David Conner

Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124828	Used client sample: N										
Hexavalent Chromium	DUP	2135051-04	0.00039600	0.00039400		mg/L	0.5		10		
	MS	2135051-04	0.00039600	0.019810	0.020202	mg/L		96.1		90 - 110	
	MSD	2135051-04	0.00039600	0.019771	0.020202	mg/L	0.2	95.9	10	90 - 110	
QC Batch ID: B124830	Used client sample: N										
Hexavalent Chromium	DUP	2135051-10	0.00058300	0.00056900		mg/L	2.4		10		
	MS	2135051-10	0.00058300	0.018839	0.020202	mg/L		90.4		90 - 110	
	MSD	2135051-10	0.00058300	0.018884	0.020202	mg/L	0.2	90.6	10	90 - 110	
QC Batch ID: B124831	Used client sample: N										
Hexavalent Chromium	DUP	2135051-11	0.00024900	0.00023900		mg/L	4.1		10		
	MS	2135051-11	0.00024900	0.018928	0.020202	mg/L		92.5		90 - 110	
	MSD	2135051-11	0.00024900	0.018903	0.020202	mg/L	0.1	92.3	10	90 - 110	
QC Batch ID: B124892	Used client sample: Y - Description: MW-20-5, 11/02/2021 09:50										
Total Recoverable Chromium	DUP	2134782-02	ND	ND		ug/L			20		
	MS	2134782-02	ND	41.822	40.000	ug/L		105		70 - 130	
	MSD	2134782-02	ND	41.964	40.000	ug/L	0.3	105	20	70 - 130	
QC Batch ID: B124893	Used client sample: Y - Description: MW-18-3, 11/02/2021 14:15										
Total Recoverable Chromium	DUP	2134782-10	1.2900	1.3070		ug/L	1.3		20		J
	MS	2134782-10	1.2900	41.526	40.000	ug/L		101		70 - 130	
	MSD	2134782-10	1.2900	43.385	40.000	ug/L	4.4	105	20	70 - 130	

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-07-2021
EMAX Batch No.: 21K207

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2134782

Enclosed is the Laboratory report for samples received on 11/23/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2134782-02	K207-01	11/02/21	WATER	PERCHLORATE BY IC
2134782-03	K207-02	11/02/21	WATER	PERCHLORATE BY IC
2134782-04	K207-03	11/02/21	WATER	PERCHLORATE BY IC
2134782-05	K207-04	11/02/21	WATER	PERCHLORATE BY IC
2134782-06	K207-05	11/02/21	WATER	PERCHLORATE BY IC
2134782-07	K207-06	11/02/21	WATER	PERCHLORATE BY IC
2134782-08	K207-07	11/02/21	WATER	PERCHLORATE BY IC
2134782-09	K207-08	11/02/21	WATER	PERCHLORATE BY IC
2134782-10	K207-09	11/02/21	WATER	PERCHLORATE BY IC
2134782-11	K207-10	11/02/21	WATER	PERCHLORATE BY IC
2134782-12	K207-11	11/02/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

REPORT ID: 21K207 Page 1 of 57

21K207

SUBCONTRACT ORDER

BC Laboratories

2134782

BTST

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory $EMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

EDF / CLP III DOD

	Analysis	Due	Expires	Laboratory ID	Comments
1	**Sample ID: 2134782-02**	**Water**	**Sampled: 11/02/21 09:50**		**MW-20-5**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 09:50		Global ID #0000009000, Company ID BTST
	Containers Supplied:				
2	**Sample ID: 2134782-03**	**Water**	**Sampled: 11/02/21 10:30**		**MW-20-4**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 10:30		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
3	**Sample ID: 2134782-04**	**Water**	**Sampled: 11/02/21 11:00**		**MW-20-3**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 11:00		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
4	**Sample ID: 2134782-05**	**Water**	**Sampled: 11/02/21 11:20**		**DUP-5-4Q21**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 11:20		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
5	**Sample ID: 2134782-06**	**Water**	**Sampled: 11/02/21 11:45**		**MW-20-2**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 11:45		Global ID #0000000000, Company ID BTST
	Containers Supplied:				

Released By	Date	Received By	Date
	11-22-21		
Released By	Date	Received By	Date
			11/23/21 10:19

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SUBCONTRACT ORDER

21K207

BC Laboratories

2134782

	Analysis	Due	Expires	Laboratory ID	Comments
6	**Sample ID: 2134782-07**	**Water**	**Sampled: 11/02/21 12:30**		**MW-18-5**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 12:30		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
7	**Sample ID: 2134782-08**	**Water**	**Sampled: 11/02/21 13:10**		**MW-18-4**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 13:10		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
8	**Sample ID: 2134782-09**	**Water**	**Sampled: 11/02/21 13:30**		**DUP-6-4Q21**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 13:30		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
9	**Sample ID: 2134782-10**	**Water**	**Sampled: 11/02/21 14:15**		**MW-18-3**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 14:15		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
10	**Sample ID: 2134782-11**	**Water**	**Sampled: 11/02/21 14:45**		**MW-18-2**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 14:45		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
11	**Sample ID: 2134782-12**	**Water**	**Sampled: 11/02/21 15:00**		**EB-6-110221**
	i314.0w Perchlorate (ug/L)	11/16/21 17:00	11/30/21 15:00		Global ID #0000000000, Company ID BTST
	Containers Supplied:				

Released By — Date: 11-22-21 — Received By — Date

Released By — Date — Received By: Martin Min — Date: 11/23/21 10:19

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SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K207
☐ Fedex ☐ UPS ☒ GSO ☐ Others	470571222137181377447	Recipient Maria Rivera
☐ EMAX Courier ☐ Client Delivery		Date 11/23/21 Time 10:19

COC INSPECTION

☒ Client Name	☒ Client PM/TC	☐ Sampler Name	☒ Sampling Date/Time	☒ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☐ Preservative (if any)	☒ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☒ Cooler	☐ Box	☐ Other		
Condition *Correction Factor: -.2	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☒ bag
Temperatures (Cool, ≤6 °C but not frozen)	☒ Cooler 1 10/10.8 °C	☐ Cooler 2 ____ °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	(1) S/N 210191046	B - S/N 210271396	C - S/N ____	D - S/N ____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-I	1-II	D1		PI
1-II	1-II	D3	All labels ID'S end with "E"	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

☐ Continue to next page.

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
(D1)	Analysis is not indicated in label	D13	Out of Holding Time	(R1)	Proceed as indicated in ☒ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
(D3)	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in ____	D16	Preservation not indicated in ____	R4	Use vial with smallest bubble first
D5	Container -(improper) [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in ____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	____
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	____
D10	No initial/date on corrections in COC/label	D22	____	R10	____
D11	Container count mismatch COC vs received	D23	____	R11	____
D12	Container size mismatch COC vs received	D24	____	R12	____

REVIEWS:

Sample Labeling Maria Rivera Date 11/23/21 11/23/21

SRF Date 11/23/21

PM Date 11/24/21

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

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LABORATORY REPORT FOR

PACE ANALYTICAL

2134782

METHOD E314.0
PERCHLORATE

SDG#: 21K207

REPORT ID: 21K207 Page 6 of 57

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2134782

SDG : 21K207

METHOD E314.0
PERCHLORATE

A total of eleven(11) water samples were received on 11/23/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Perchlorate was not detected in PCK006WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. PCK006WL/PCK006WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2134782
Batch No. : 21K207

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	PCK006MB	ND	1	NA	2.00	0.500	1.00	11/23/2114:10	NA	21JK23005	21JK23004	PCK006W	NA	NA
LCS1W	PCK006WL	25.7	1	NA	2.00	0.500	1.00	11/23/2114:53	NA	21JK23007	21JK23004	PCK006W	NA	NA
LCD1W	PCK006WC	25.4	1	NA	2.00	0.500	1.00	11/23/2115:14	NA	21JK23008	21JK23004	PCK006W	NA	NA
2134782-02	K207-01	ND	1	NA	2.00	0.500	1.00	11/23/2116:14	NA	21JK23010	21JK23009	PCK006W	11/02/2109:50	11/23/21
2134782-03	K207-02	ND	1	NA	2.00	0.500	1.00	11/23/2116:51	NA	21JK23011	21JK23009	PCK006W	11/02/2110:30	11/23/21
2134782-04	K207-03	ND	1	NA	2.00	0.500	1.00	11/23/2117:57	NA	21JK23012	21JK23009	PCK006W	11/02/2111:00	11/23/21
2134782-05	K207-04	ND	1	NA	2.00	0.500	1.00	11/23/2118:25	NA	21JK23013	21JK23009	PCK006W	11/02/2111:20	11/23/21
2134782-06	K207-05	ND	1	NA	2.00	0.500	1.00	11/23/2119:02	NA	21JK23014	21JK23009	PCK006W	11/02/2111:45	11/23/21
2134782-07	K207-06	ND	1	NA	2.00	0.500	1.00	11/23/2119:23	NA	21JK23015	21JK23009	PCK006W	11/02/2112:30	11/23/21
2134782-08	K207-07	15.0	1	NA	2.00	0.500	1.00	11/23/2119:44	NA	21JK23016	21JK23009	PCK006W	11/02/2113:10	11/23/21
2134782-09	K207-08	15.8	1	NA	2.00	0.500	1.00	11/23/2120:05	NA	21JK23017	21JK23009	PCK006W	11/02/2113:30	11/23/21
2134782-10	K207-09	1.05J	1	NA	2.00	0.500	1.00	11/23/2120:26	NA	21JK23018	21JK23009	PCK006W	11/02/2114:15	11/23/21
2134782-11	K207-10	ND	1	NA	2.00	0.500	1.00	11/23/2120:47	NA	21JK23019	21JK23009	PCK006W	11/02/2114:45	11/23/21
2134782-12	K207-11	ND	1	NA	2.00	0.500	1.00	11/23/2121:29	NA	21JK23021	21JK23020	PCK006W	11/02/2115:00	11/23/21

Note: Detection limits are reported relative to sample result significant figures.

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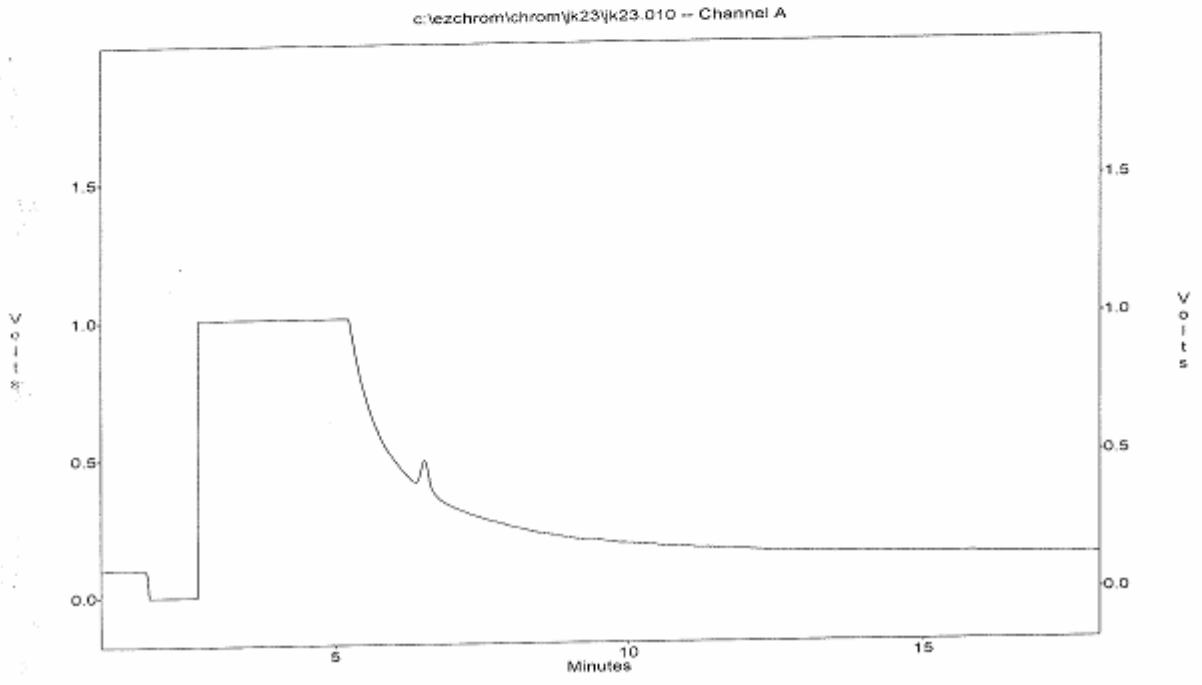
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.010
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-01
Acquired : Nov 23, 2021 16:14:58
Printed : Nov 24, 2021 07:58:23
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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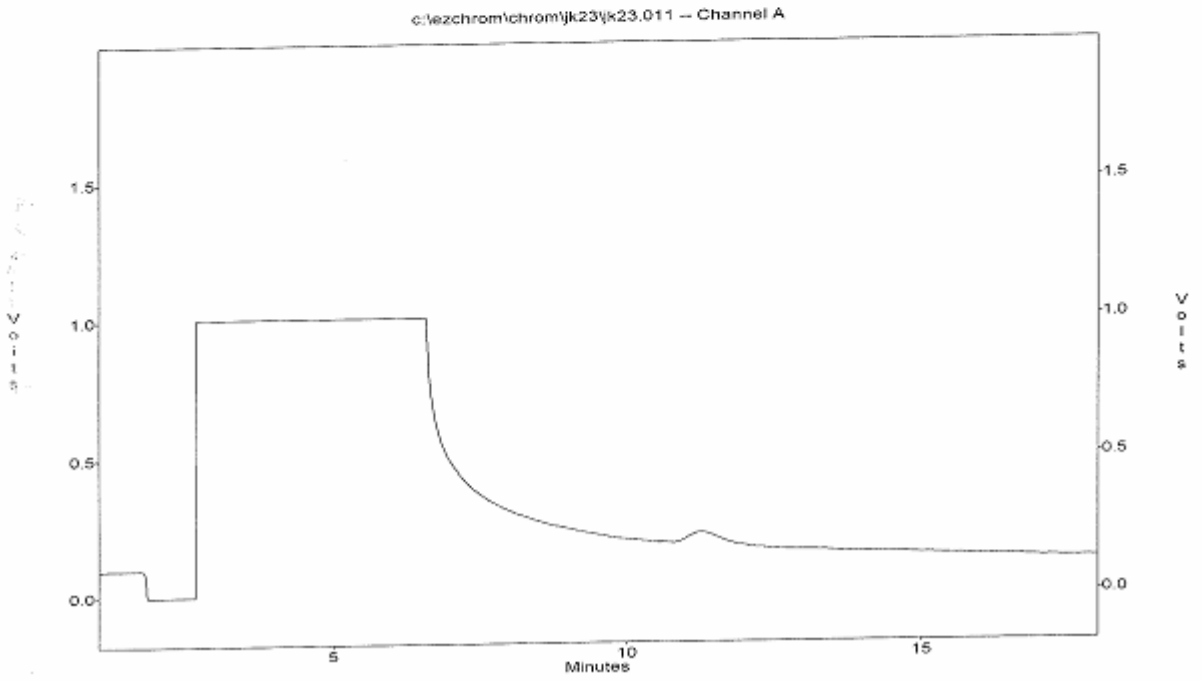
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.011
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-02
Acquired : Nov 23, 2021 16:51:48
Printed : Nov 24, 2021 07:58:43
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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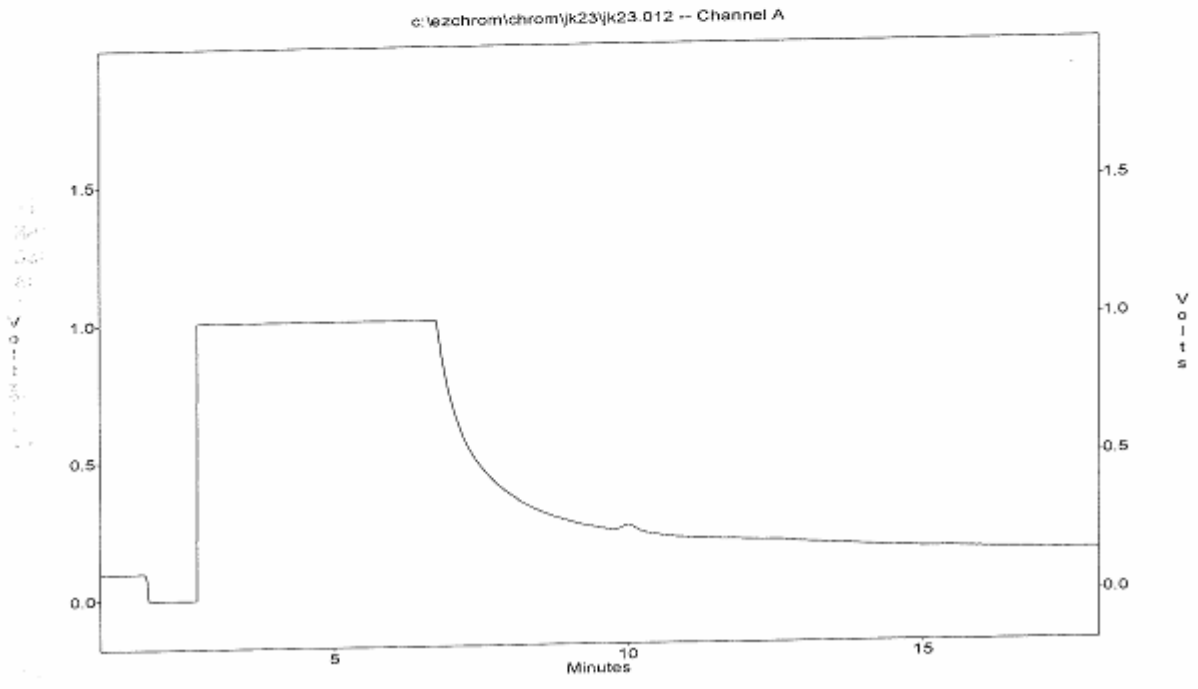
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.012
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-03
Acquired : Nov 23, 2021 17:57:04
Printed : Nov 24, 2021 07:59:02
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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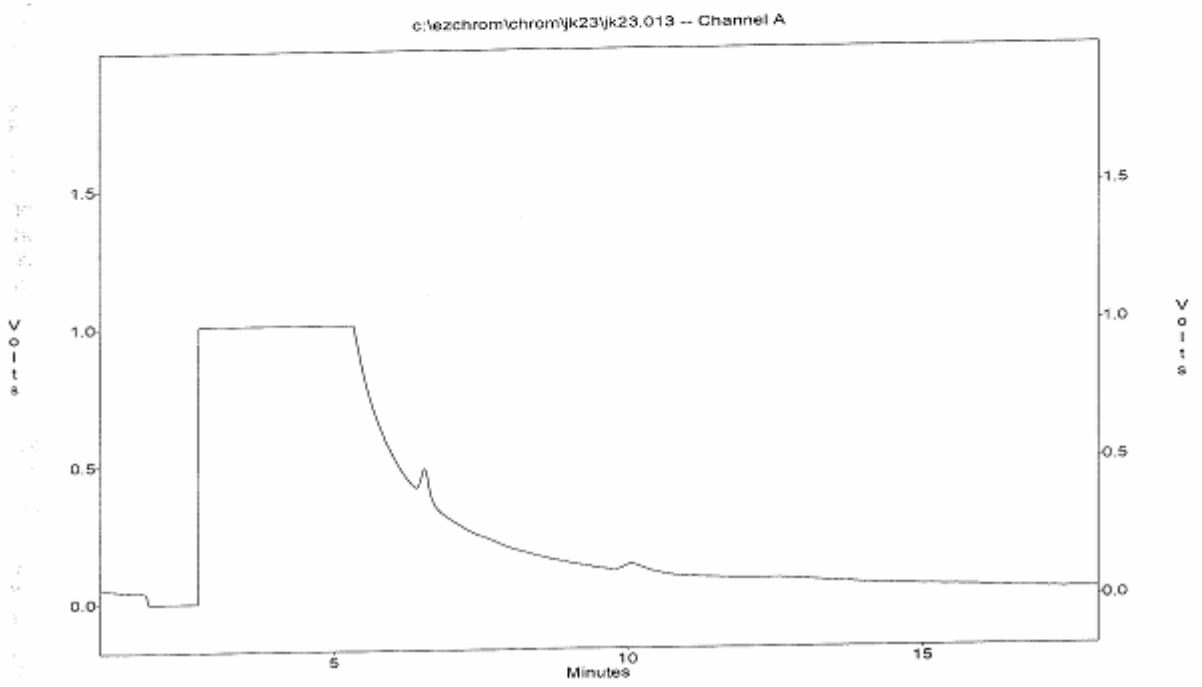
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.013
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-04
Acquired : Nov 23, 2021 18:25:54
Printed : Nov 24, 2021 07:59:19
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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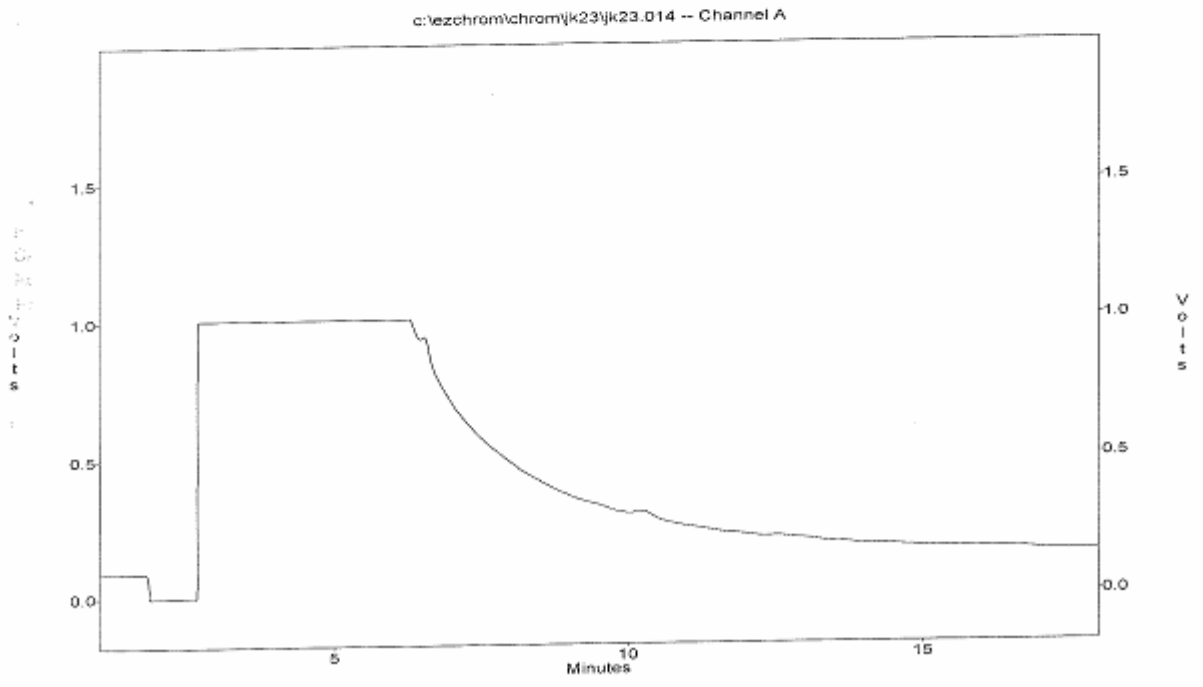
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.014
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-05
Acquired : Nov 23, 2021 19:02:44
Printed : Nov 24, 2021 07:59:30
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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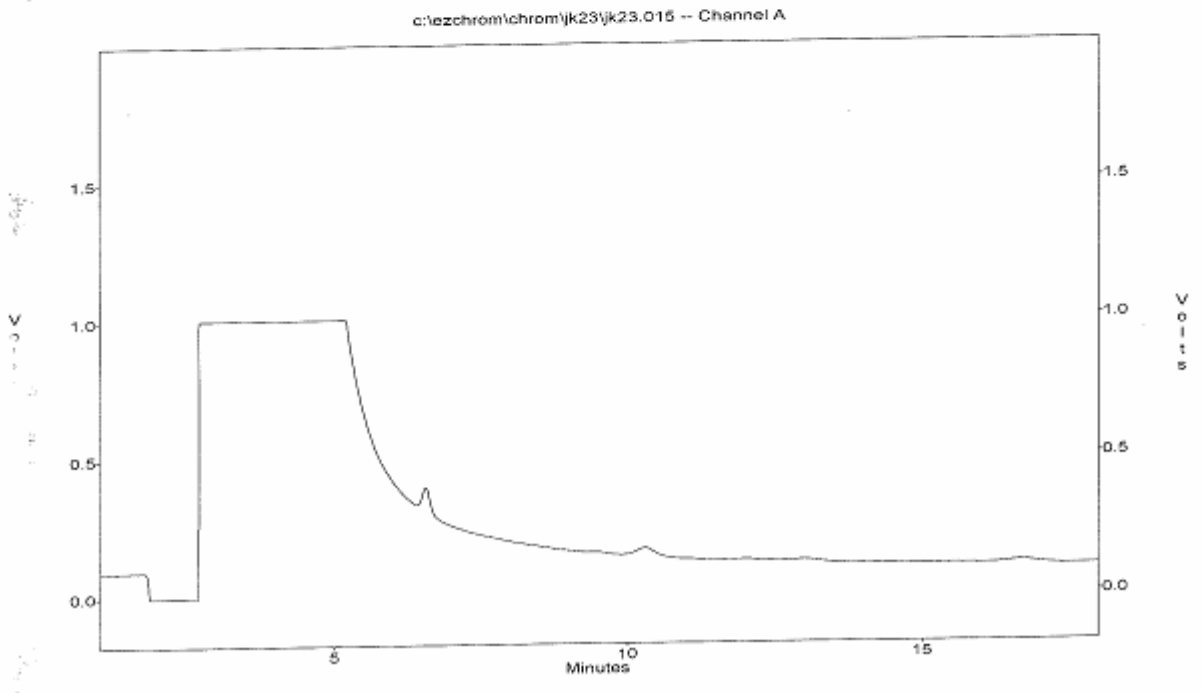
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.015
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-06
Acquired : Nov 23, 2021 19:23:45
Printed : Nov 24, 2021 07:59:45
User : YCabal

Channel A Results

	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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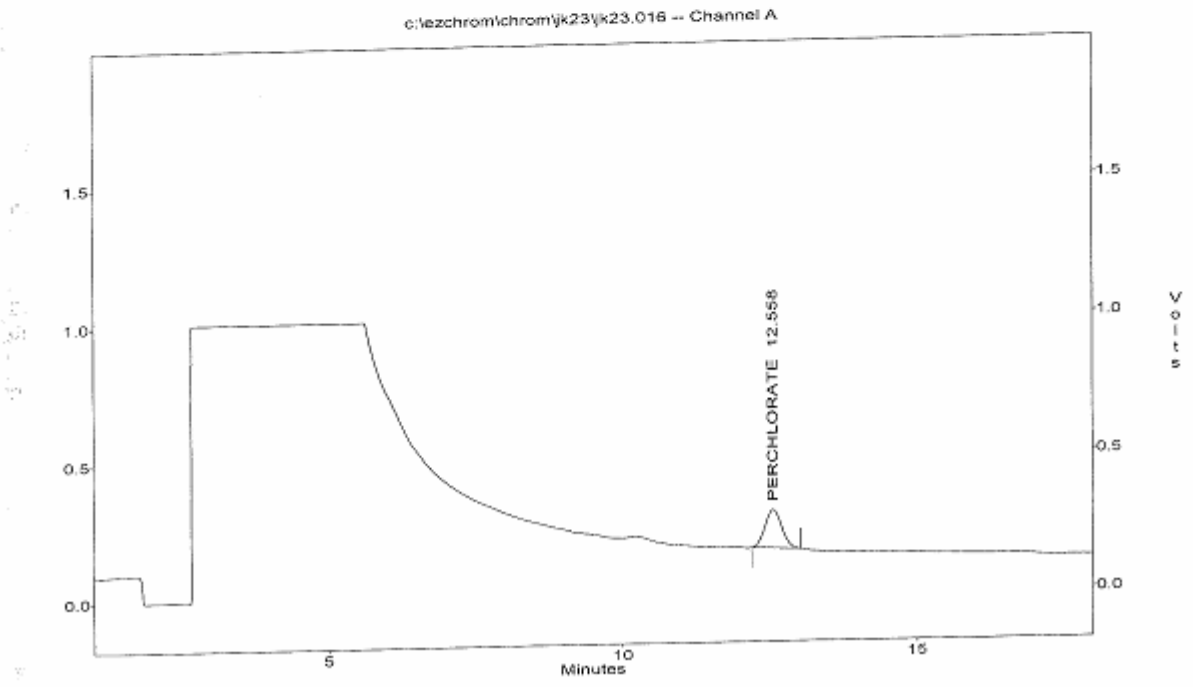
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.016
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-07
Acquired : Nov 23, 2021 19:44:47
Printed : Nov 24, 2021 08:00:34
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	2757819	139139	180791.531	15.045



REPORT ID: 21K207

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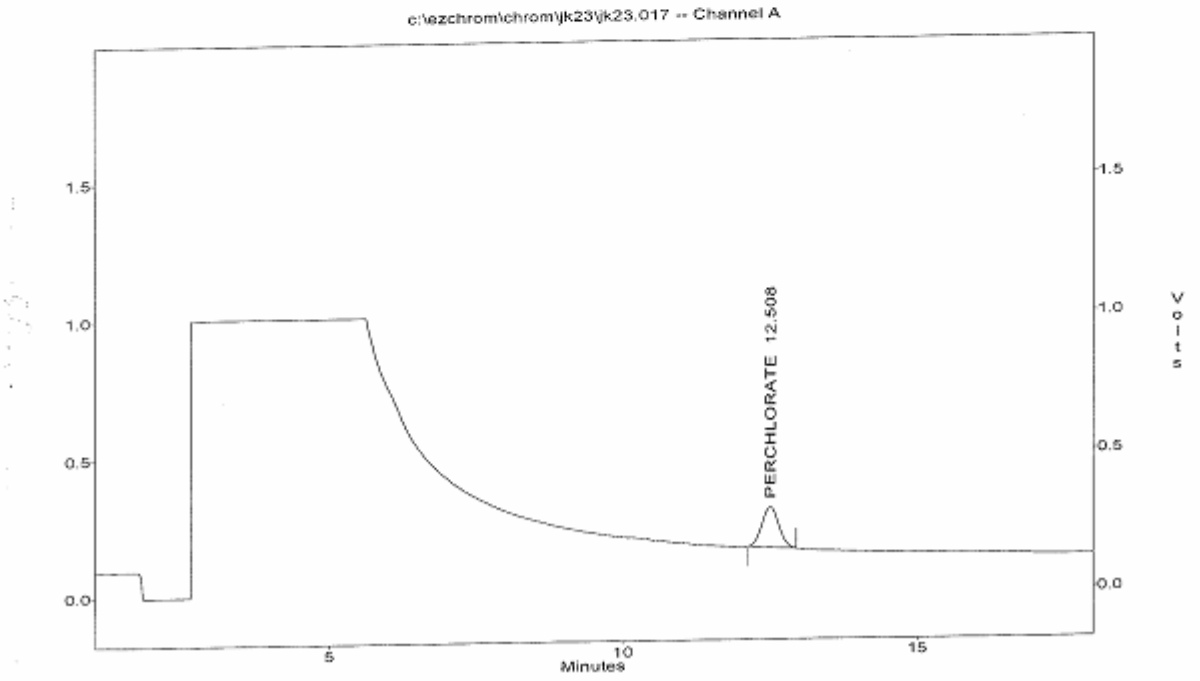
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.017
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-08
Acquired : Nov 23, 2021 20:05:48
Printed : Nov 24, 2021 08:00:51
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.51	2906854	146660	180791.531	15.845



REPORT ID: 21K207

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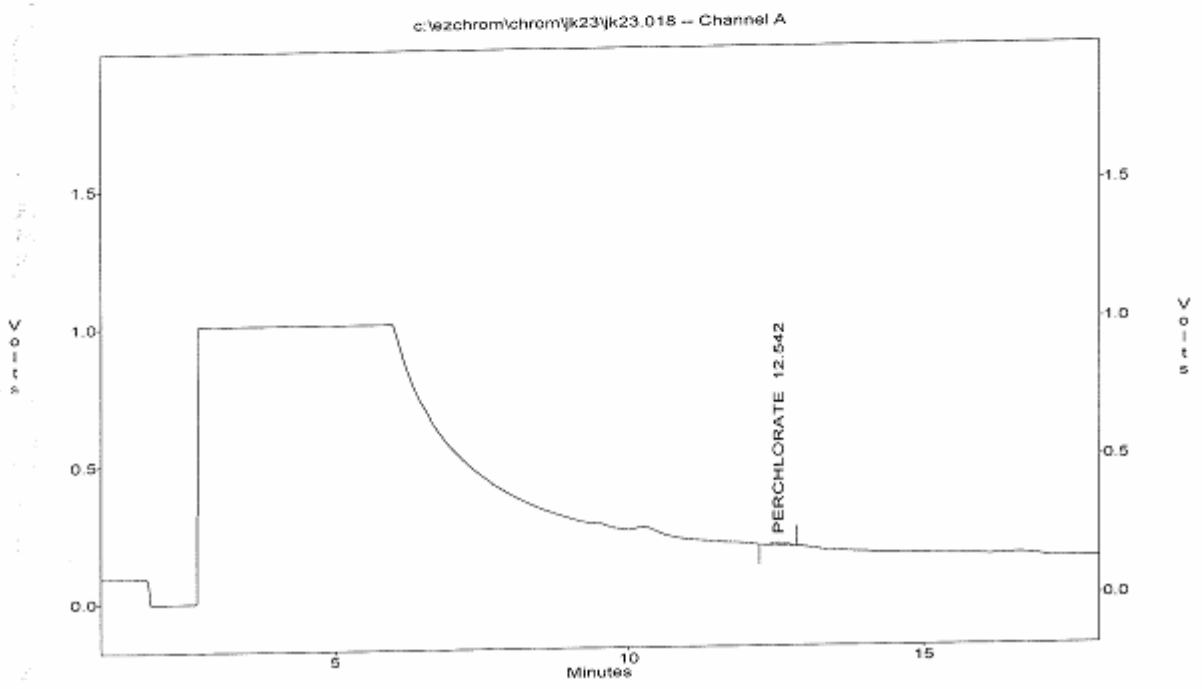
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.018
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-09
Acquired : Nov 23, 2021 20:26:50
Printed : Nov 24, 2021 08:03:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	147558	8089	180791.531	1.047



REPORT ID: 21K207

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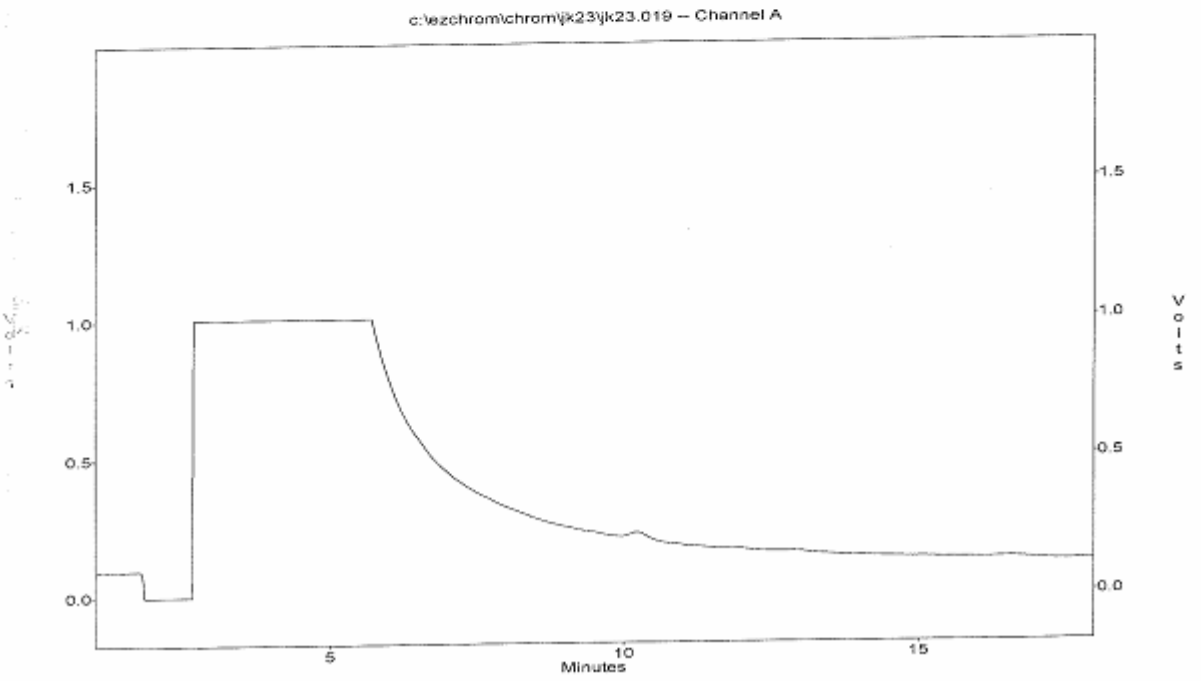
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.019
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-10
Acquired : Nov 23, 2021 20:47:51
Printed : Nov 24, 2021 08:04:20
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



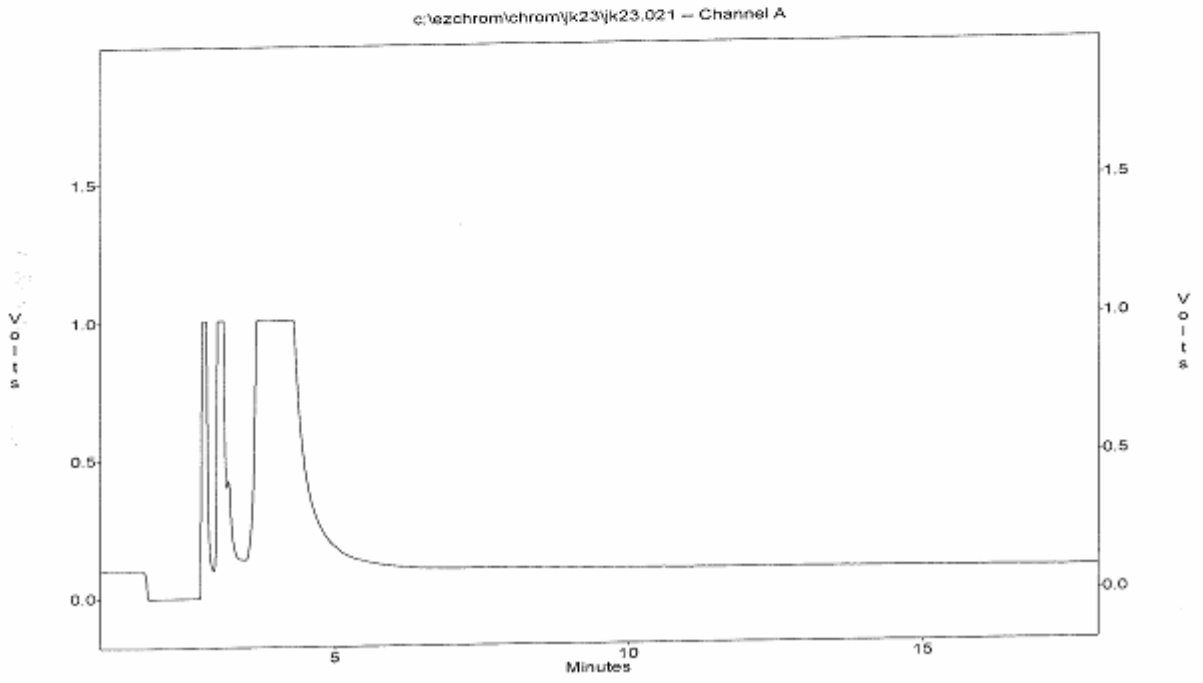
REPORT ID: 21K207

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.021
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K207-11
Acquired : Nov 23, 2021 21:29:53
Printed : Nov 24, 2021 08:23:28
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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QC SUMMARIES

REPORT ID: 21K207 Page 21 of 57

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134782
BATCH NO. : 21K207
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK006WB	PCK006WL	PCK006WC
LAB FILE ID :	21JK23005	21JK23007	21JK23008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/23/2114:10	11/23/2114:53	11/23/2115:14
PREP BATCH :	PCK006W	PCK006W	PCK006W
CALIBRATION REF:	21JK23004	21JK23004	21JK23004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	25.7	103	25	25.4	102	1	85-115	15

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QC DATA

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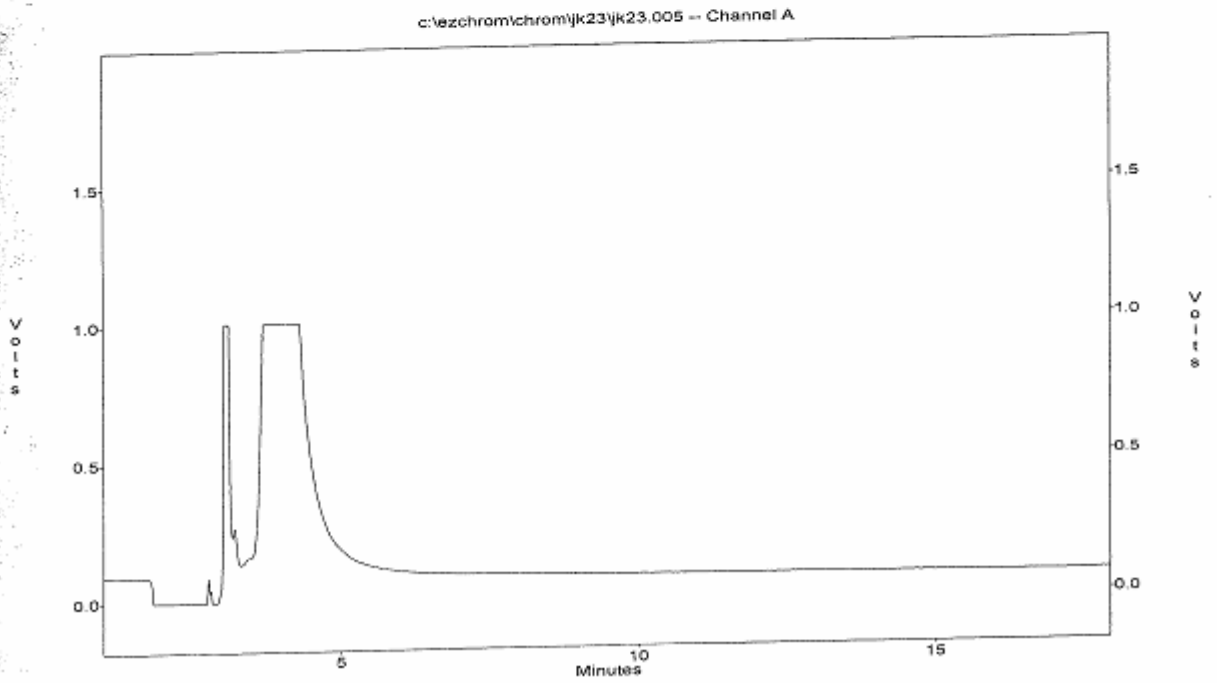
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WB
Acquired : Nov 23, 2021 14:10:02
Printed : Nov 24, 2021 07:56:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K207

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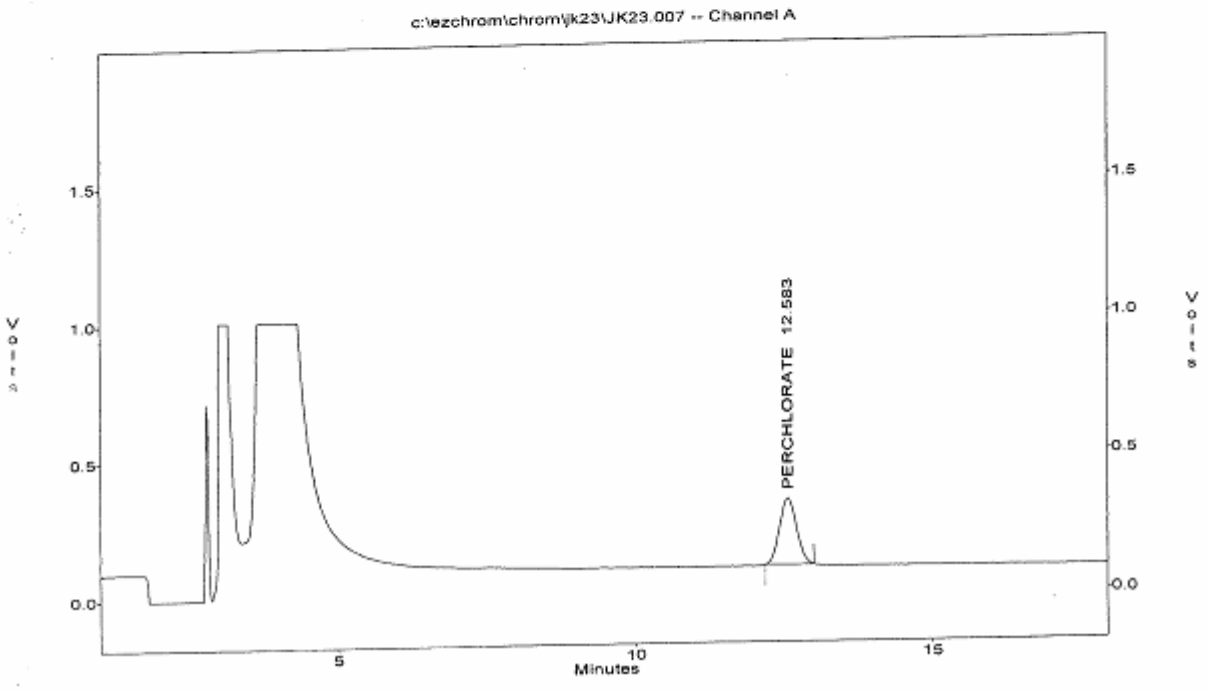
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\JK23.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WL
Acquired : Nov 23, 2021 14:53:02
Printed : Nov 24, 2021 09:39:20
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)	A/H
1	PERCHLORATE	12.58	4747131	238532	180791.531	25.714	19.901

$$PD_{A/H} = \frac{|21.860 - 19.901|}{19.901} \times 100 = 10\%$$

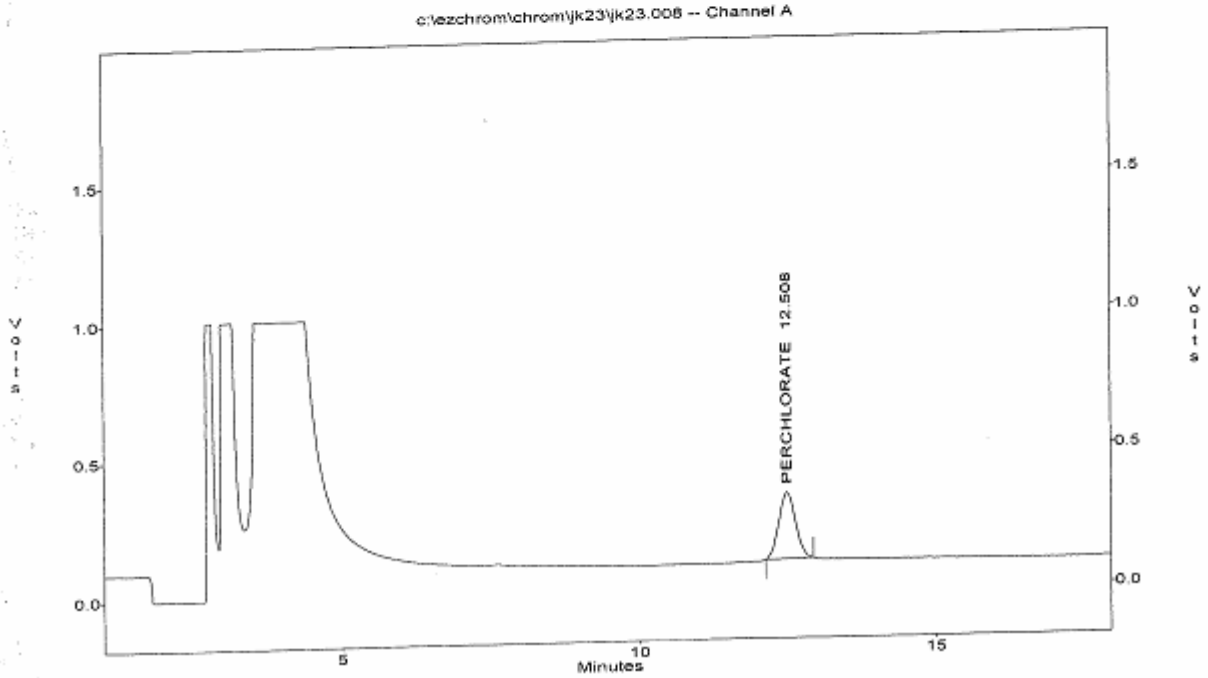


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WC
Acquired : Nov 23, 2021 15:14:31
Printed : Nov 24, 2021 07:57:33
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.51	4688636	238645	180791.531	25.400



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INITIAL CALIBRATION

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IC AREA FORM CalVersion: PCHLO314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	ND	11/08/2115:49	1
JK09002	S0	P	ND	11/08/2116:11	1
JK09003	S1	P	359317	11/08/2116:33	1
JK09004	S2	P	714637	11/08/2116:54	1
JK09005	S3	P	1765407	11/08/2117:16	1
JK09006	S4	P	4556696	11/08/2117:39	1
JK09007	S5	P	5604943	11/08/2118:00	1
JK09008	ICV	P	2587922	11/08/2118:21	1
JK09009	ICB	P	ND	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K207

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K207

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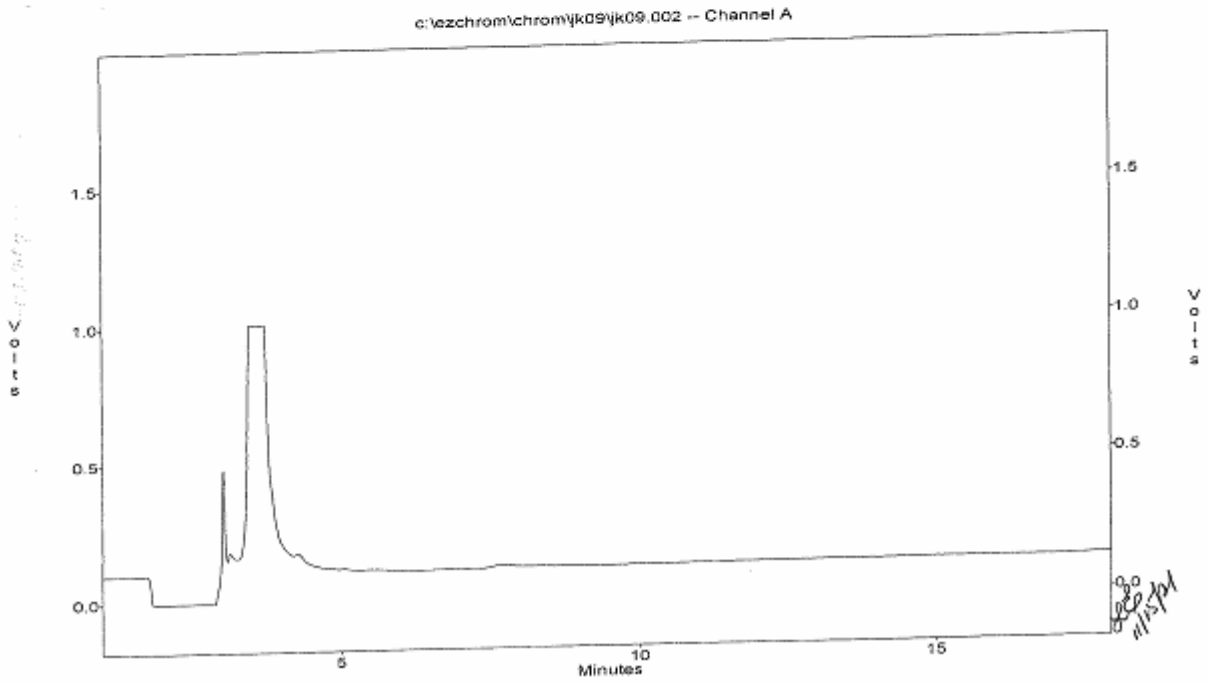
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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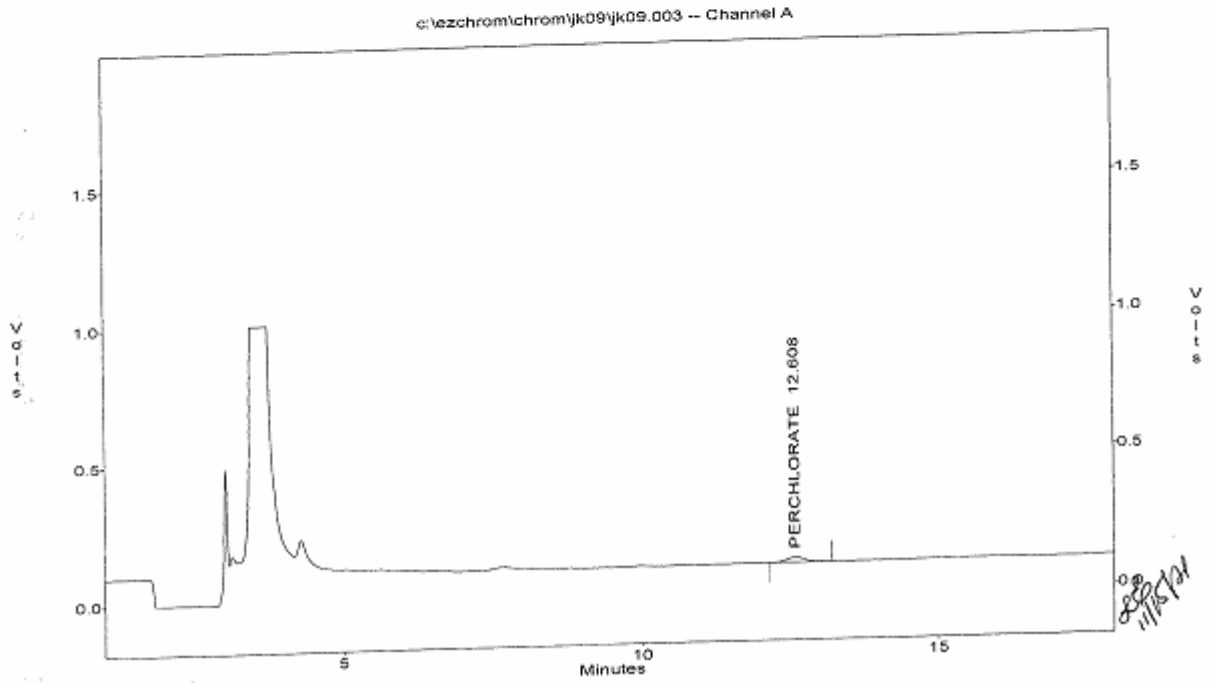
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



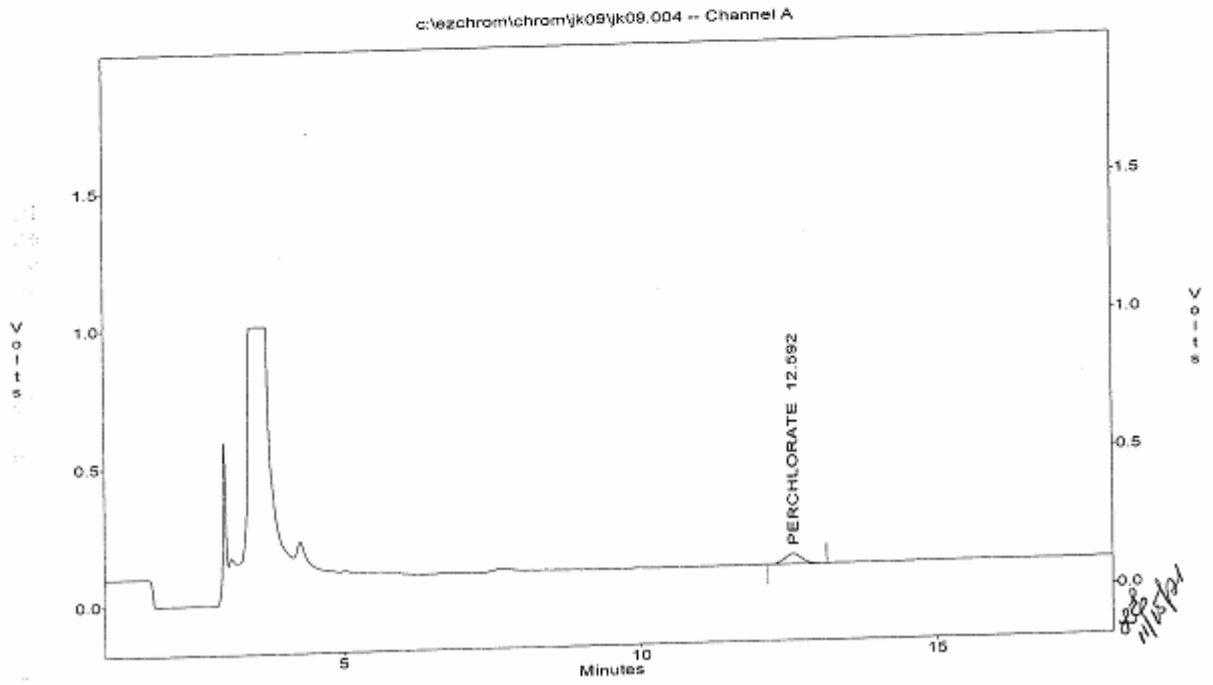
REPORT ID: 21K207

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



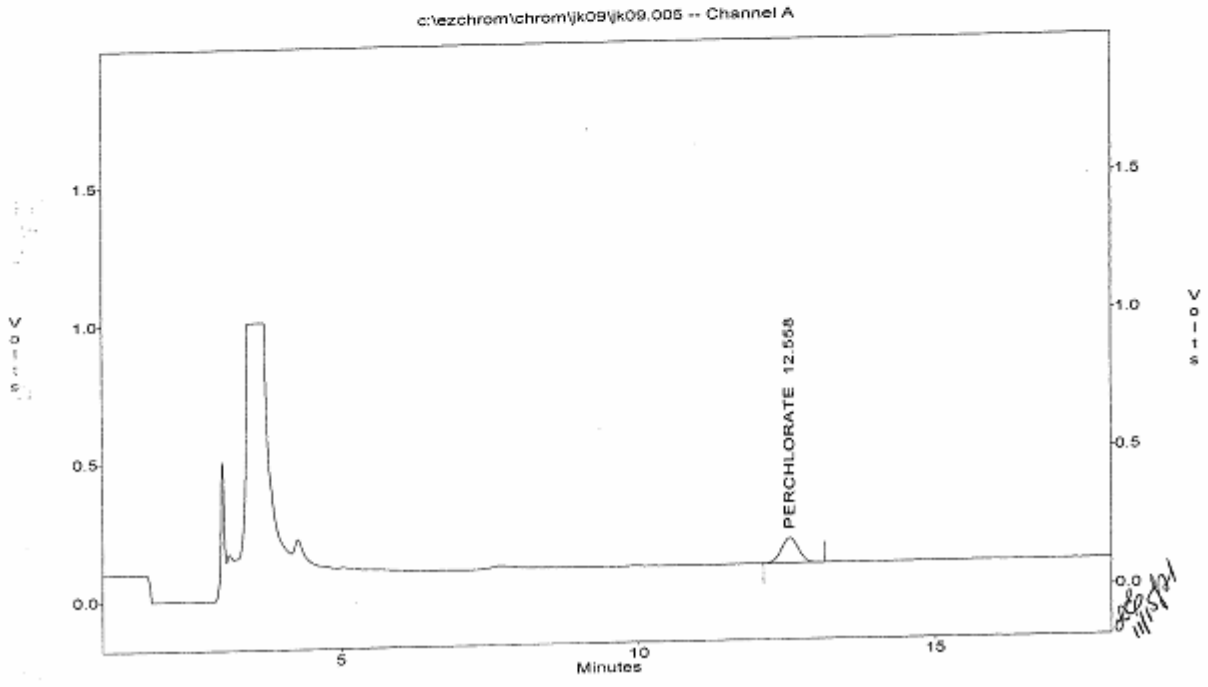
REPORT ID: 21K207

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



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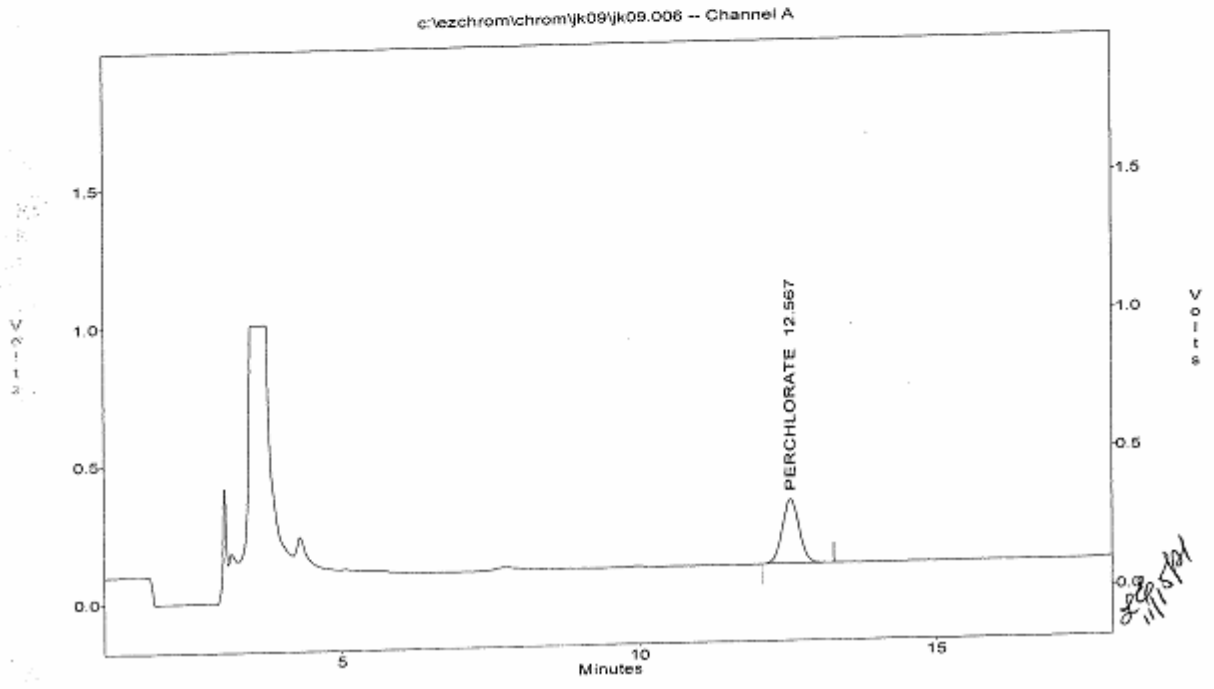
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



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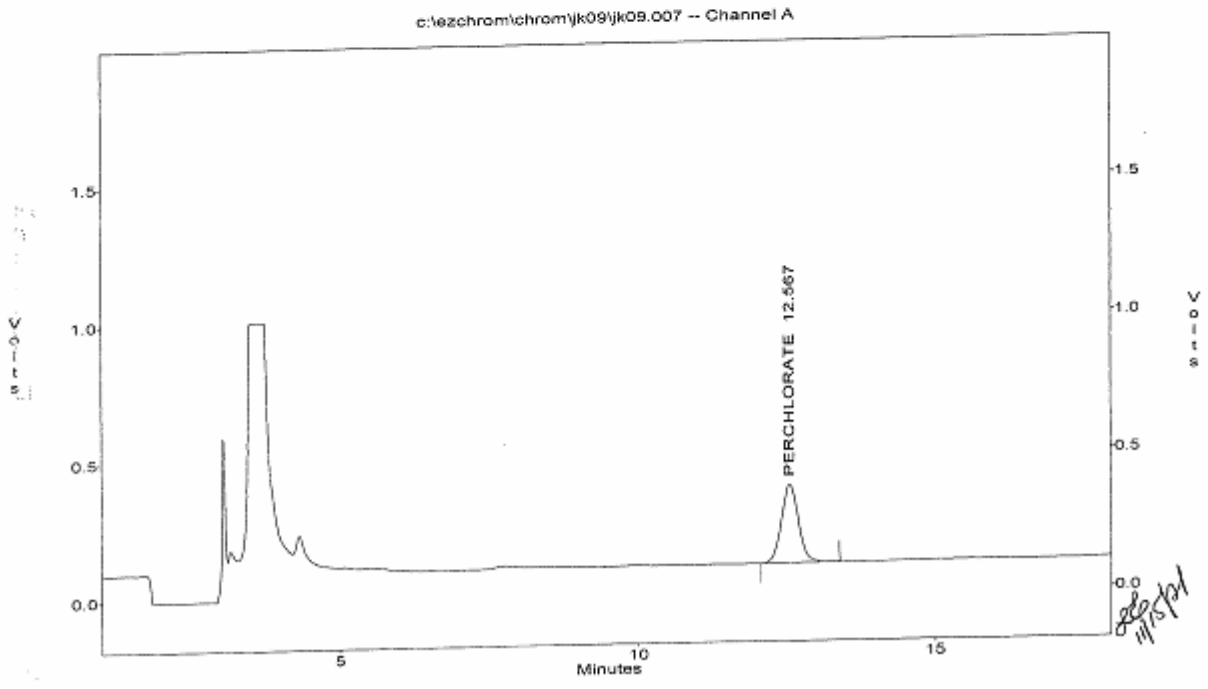
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



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* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

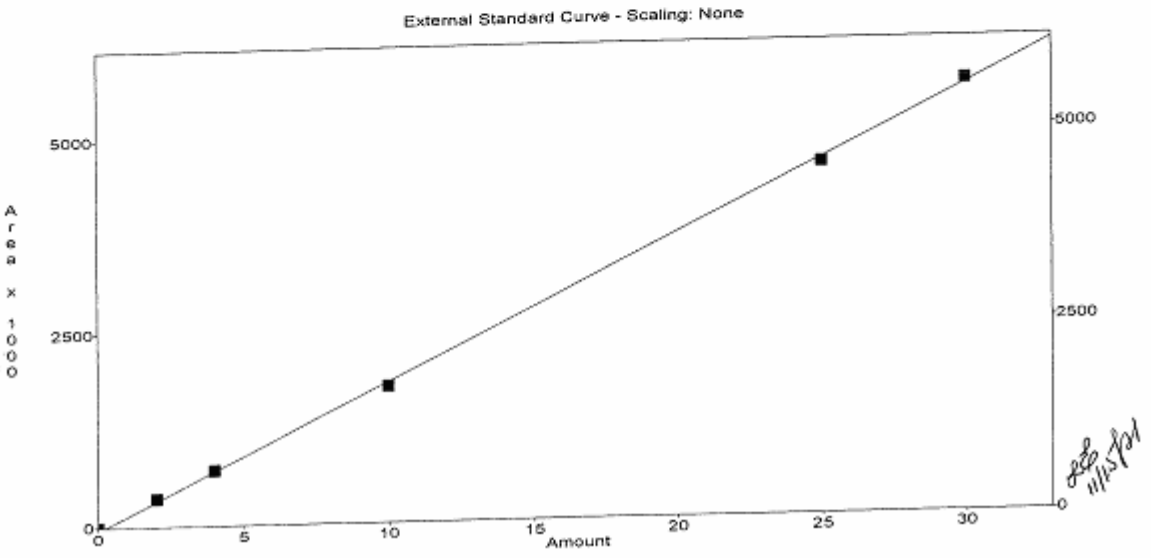
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36295e-006 x Area + 0.255269
R^2 = 0.999512



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SECOND SOURCE VERIFICATION

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IC RESULT FORM CalVersion: PCHLO314.KOB/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

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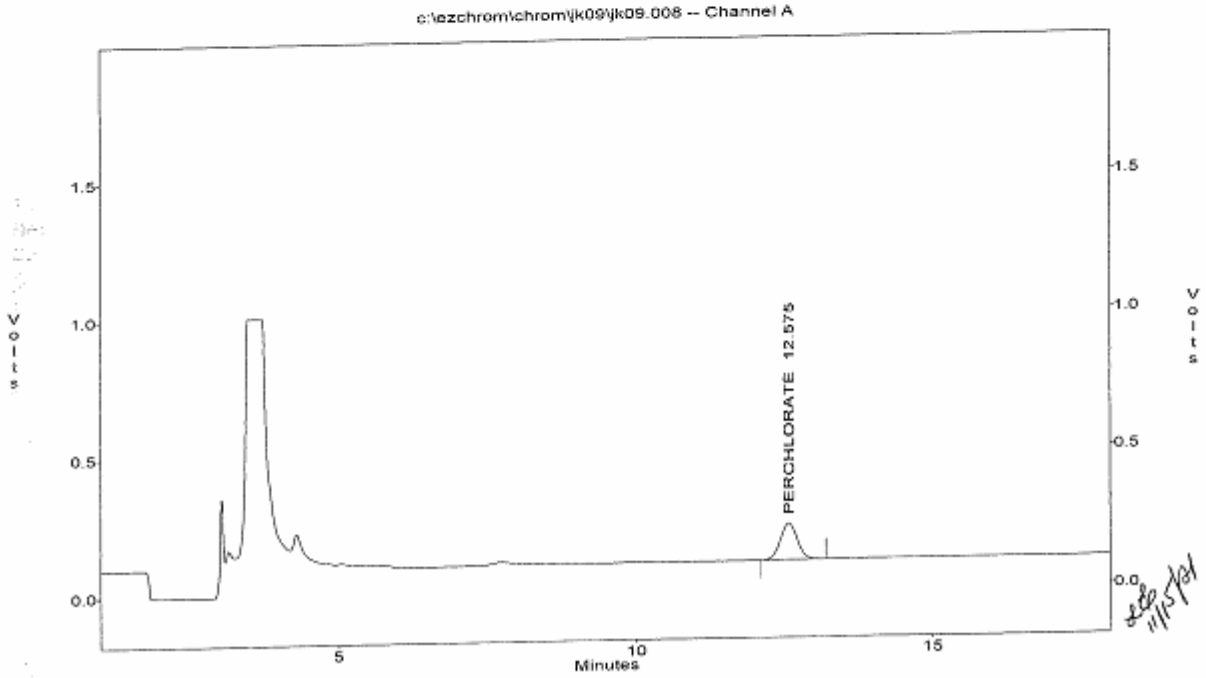
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



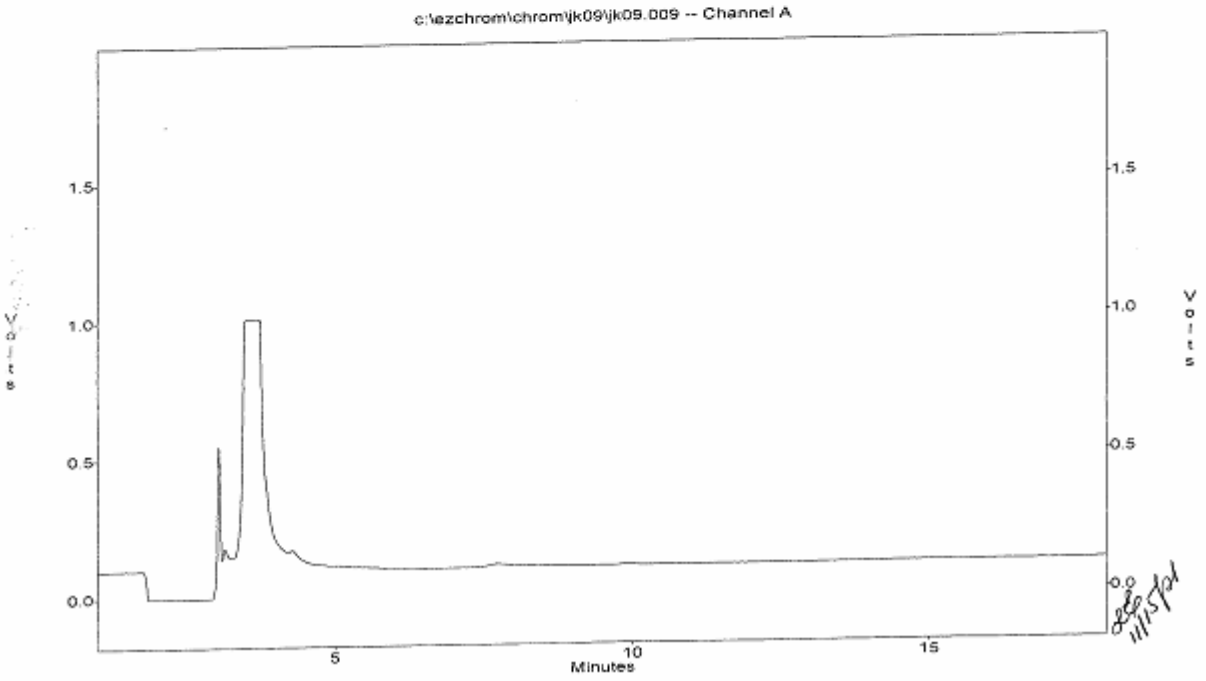
REPORT ID: 21K207

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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DAILY CALIBRATIONS

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Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2134782
SDG : 21K207
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK23009	CCV68-15	100	11/23/2115:42
21JK23020	CCV69-30	106	11/23/2121:08
21JK23031	CCV70-15	107	11/24/2101:00

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK23001	RINSE	P	IC57K08	11/23/2112:47	1
JK23002	RINSE	P	IC57K08	11/23/2113:08	1
JK23003	RINSE	P	IC57K08	11/23/2113:26	1
JK23004	IPCS	P	IC57K08	11/23/2113:48	1
JK23005	PCK006WB	P	IC57K08	11/23/2114:10	1
JK23006	MRLK2301	P	IC57K08	11/23/2114:31	1
JK23007	PCK006WL	P	IC57K08	11/23/2114:53	1
JK23008	PCK006WC	P	IC57K08	11/23/2115:14	1
JK23009	CCV68-15	P	IC57K08	11/23/2115:42	1
JK23010	K207-01	P	IC57K08	11/23/2116:14	1
JK23011	K207-02	P	IC57K08	11/23/2116:51	1
JK23012	K207-03	P	IC57K08	11/23/2117:57	1
JK23013	K207-04	P	IC57K08	11/23/2118:25	1
JK23014	K207-05	P	IC57K08	11/23/2119:02	1
JK23015	K207-06	P	IC57K08	11/23/2119:23	1
JK23016	K207-07	P	IC57K08	11/23/2119:44	1
JK23017	K207-08	P	IC57K08	11/23/2120:05	1
JK23018	K207-09	P	IC57K08	11/23/2120:26	1
JK23019	K207-10	P	IC57K08	11/23/2120:47	1
JK23020	CCV69-30	P	IC57K08	11/23/2121:08	1
JK23021	K207-11	P	IC57K08	11/23/2121:29	1
JK23022	K208-01	P	IC57K08	11/23/2121:50	1
JK23023	K208-02	P	IC57K08	11/23/2122:11	1
JK23024	K208-03	P	IC57K08	11/23/2122:32	1
JK23025	K208-03M	P	IC57K08	11/23/2122:53	1
JK23026	K208-03S	P	IC57K08	11/23/2123:15	1
JK23027	K208-04	P	IC57K08	11/23/2123:36	1
JK23028	K208-10	P	IC57K08	11/23/2123:57	1
JK23029	K208-10M	P	IC57K08	11/24/2100:18	1
JK23030	K208-10S	P	IC57K08	11/24/2100:39	1
JK23031	CCV70-15	P	IC57K08	11/24/2101:00	1
JK23032	K208-05	P	IC57K08	11/24/2101:21	1
JK23033	K208-06	P	IC57K08	11/24/2101:42	1
JK23034	K208-07	P	IC57K08	11/24/2102:03	1
JK23035	K209-01	P	IC57K08	11/24/2102:24	1
JK23036	CCV71-30	P	IC57K08	11/24/2102:45	1
JK23037	PCK007WB	P	IC57K08	11/24/2103:06	1
JK23038	MRLK2302	P	IC57K08	11/24/2103:27	1
JK23039	PCK007WL	P	IC57K08	11/24/2103:48	1
JK23040	PCK007WC	P	IC57K08	11/24/2104:09	1
JK23041	CCV72-15	P	IC57K08	11/24/2104:30	1
JK23042	K209-02	P	IC57K08	11/24/2104:51	1
JK23043	K209-03	P	IC57K08	11/24/2105:12	1
JK23044	K209-04	P	IC57K08	11/24/2105:33	1
JK23045	K209-05	P	IC57K08	11/24/2105:54	1
JK23046	K209-06	P	IC57K08	11/24/2106:15	1
JK23047	K209-07	P	IC57K08	11/24/2106:36	1
JK23048	K209-08	P	IC57K08	11/24/2106:57	1
JK23049	K209-09	P	IC57K08	11/24/2107:18	1
JK23050	K209-10	P	IC57K08	11/24/2107:39	1
JK23051	K209-11	P	IC57K08	11/24/2108:00	1
JK23052	CCV73-30	P	IC57K08	11/24/2108:21	1
JK23053	K208-08	P	IC57K08	11/24/2108:42	1
JK23054	K208-08M	P	IC57K08	11/24/2109:03	1
JK23055	K208-08S	P	IC57K08	11/24/2109:24	1
JK23056	K208-09	P	IC57K08	11/24/2109:45	1
JK23057	K208-09M	P	IC57K08	11/24/2110:06	1
JK23058	K208-09S	P	IC57K08	11/24/2110:27	1
JK23059	K217-01	P	IC57K08	11/24/2110:48	1
JK23060	K217-02	P	IC57K08	11/24/2111:09	1
JK23061	K217-03	P	IC57K08	11/24/2111:30	1
JK23062	K212-01	*	IC57K08	11/24/2111:51	1
JK23063	CCV74-15	P	IC57K08	11/24/2112:12	1
JK23064	K212-02	*	IC57K08	11/24/2112:33	1
JK23065	K212-03	P	IC57K08	11/24/2112:54	1
JK23066	K212-04	*	IC57K08	11/24/2113:15	1
JK23067	K212-05	P	IC57K08	11/24/2113:36	1
JK23068	K212-011	P	IC57K08	11/24/2113:57	5
JK23069	K212-021	P	IC57K08	11/24/2114:30	20
JK23070	K212-041	P	IC57K08	11/24/2114:51	20
JK23071	CCV75-30	P	IC57K08	11/24/2115:12	1

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK23001	RINSE	P	.000	11/23/2112:47	1
JK23002	RINSE	P	.000	11/23/2113:08	1
JK23003	RINSE	P	.000	11/23/2113:26	1
JK23004	IPCS	P	100%	11/23/2113:48	1
JK23005	PCK006WB	P	.000	11/23/2114:10	1
JK23006	MRLK2301	P	106%	11/23/2114:31	1
JK23007	PCK006WL	P	25.7	11/23/2114:53	1
JK23008	PCK006WC	P	25.4	11/23/2115:14	1
JK23009	CCV68-15	P	100%	11/23/2115:42	1
JK23010	K207-01	P	.000	11/23/2116:14	1
JK23011	K207-02	P	.000	11/23/2116:51	1
JK23012	K207-03	P	.000	11/23/2117:57	1
JK23013	K207-04	P	.000	11/23/2118:25	1
JK23014	K207-05	P	.000	11/23/2119:02	1
JK23015	K207-06	P	.000	11/23/2119:23	1
JK23016	K207-07	P	15	11/23/2119:44	1
JK23017	K207-08	P	15.8	11/23/2120:05	1
JK23018	K207-09	P	1.05	11/23/2120:26	1
JK23019	K207-10	P	.000	11/23/2120:47	1
JK23020	CCV69-30	P	106%	11/23/2121:08	1
JK23021	K207-11	P	.000	11/23/2121:29	1
JK23022	K208-01	P	3.48	11/23/2121:50	1
JK23023	K208-02	P	3.7	11/23/2122:11	1
JK23024	K208-03	P	3.98	11/23/2122:32	1
JK23025	K208-03M	P	19	11/23/2122:53	1
JK23026	K208-03S	P	19.1	11/23/2123:15	1
JK23027	K208-04	P	3.6	11/23/2123:36	1
JK23028	K208-10	P	.000	11/23/2123:57	1
JK23029	K208-10M	P	15.2	11/24/2100:18	1
JK23030	K208-10S	P	15.2	11/24/2100:39	1
JK23031	CCV70-15	P	107%	11/24/2101:00	1
JK23032	K208-05	P	3.49	11/24/2101:21	1
JK23033	K208-06	P	.000	11/24/2101:42	1
JK23034	K208-07	P	.000	11/24/2102:03	1
JK23035	K209-01	P	.000	11/24/2102:24	1
JK23036	CCV71-30	P	106%	11/24/2102:45	1
JK23037	PCK007WB	P	.000	11/24/2103:06	1
JK23038	MRLK2302	P	94.9%	11/24/2103:27	1
JK23039	PCK007WL	P	25.6	11/24/2103:48	1
JK23040	PCK007WC	P	25.8	11/24/2104:09	1
JK23041	CCV72-15	P	104%	11/24/2104:30	1
JK23042	K209-02	P	.000	11/24/2104:51	1
JK23043	K209-03	P	.000	11/24/2105:12	1
JK23044	K209-04	P	.000	11/24/2105:33	1
JK23045	K209-05	P	.000	11/24/2105:54	1
JK23046	K209-06	P	.000	11/24/2106:15	1
JK23047	K209-07	P	2.93	11/24/2106:36	1
JK23048	K209-08	P	2.91	11/24/2106:57	1
JK23049	K209-09	P	3.78	11/24/2107:18	1
JK23050	K209-10	P	2.57	11/24/2107:39	1
JK23051	K209-11	P	.000	11/24/2108:00	1
JK23052	CCV73-30	P	110%	11/24/2108:21	1
JK23053	K208-08	P	.000	11/24/2108:42	1
JK23054	K208-08M	P	15.3	11/24/2109:03	1
JK23055	K208-08S	P	15.2	11/24/2109:24	1
JK23056	K208-09	P	.000	11/24/2109:45	1
JK23057	K208-09M	P	15.2	11/24/2110:06	1
JK23058	K208-09S	P	14.9	11/24/2110:27	1
JK23059	K217-01	P	.000	11/24/2110:48	1
JK23060	K217-02	P	.000	11/24/2111:09	1
JK23061	K217-03	P	.000	11/24/2111:30	1
JK23062	K212-01	*	51.9E	11/24/2111:51	1
JK23063	CCV74-15	P	108%	11/24/2112:12	1
JK23064	K212-02	*	149E	11/24/2112:33	1
JK23065	K212-03	P	.000	11/24/2112:54	1
JK23066	K212-04	*	120E	11/24/2113:15	1
JK23067	K212-05	P	.000	11/24/2113:36	1
JK23068	K212-01I	P	50.7	11/24/2113:57	5
JK23069	K212-02I	P	395	11/24/2114:30	20
JK23070	K212-04I	P	198	11/24/2114:51	20
JK23071	CCV75-30	P	109%	11/24/2115:12	1

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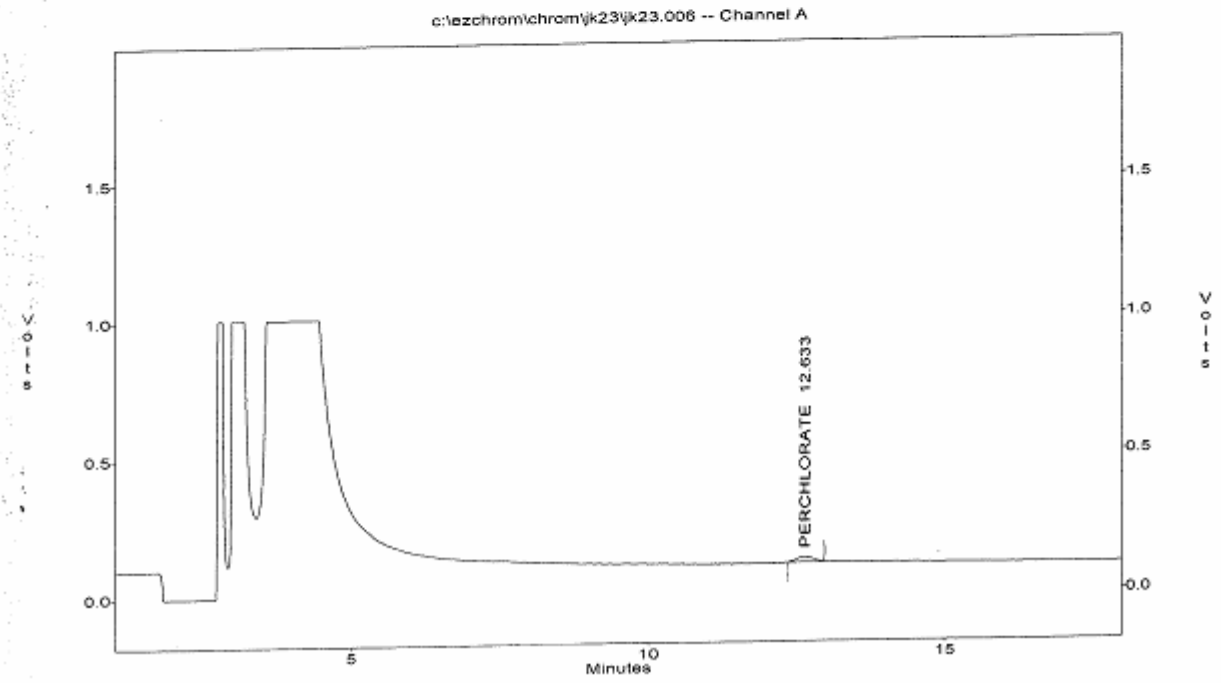
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2301
Acquired : Nov 23, 2021 14:31:23
Printed : Nov 24, 2021 07:57:02
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	346434	18782	180791.531	2.113



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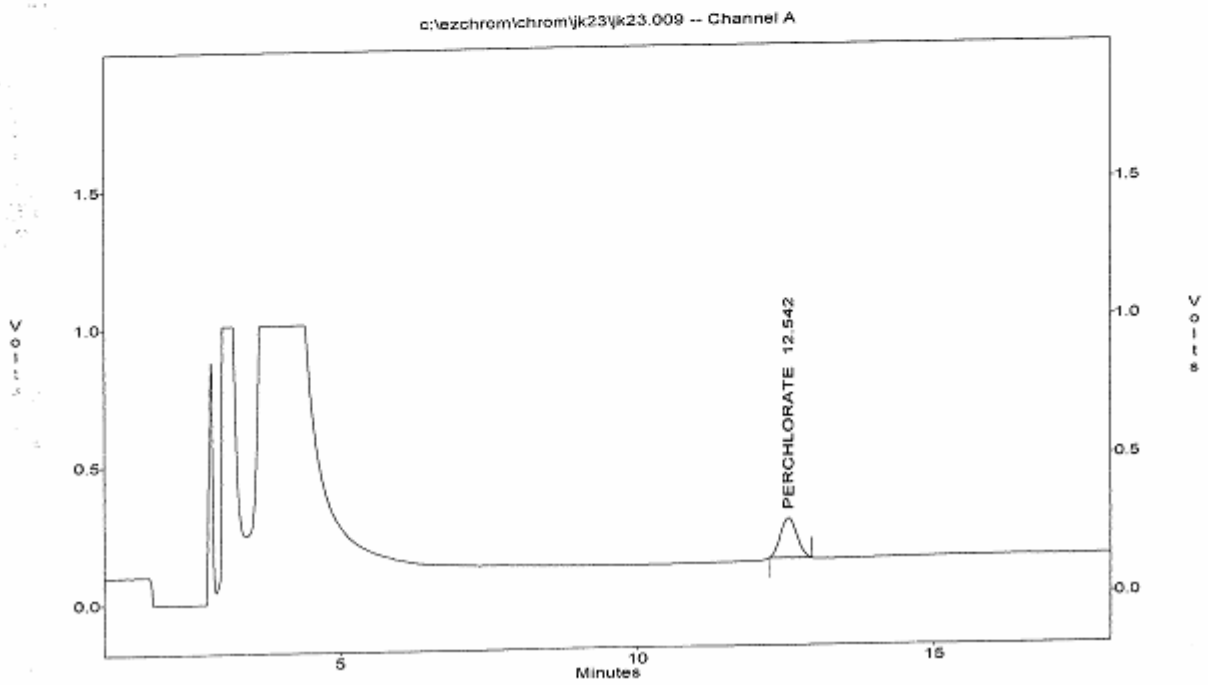
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV68-15
Acquired : Nov 23, 2021 15:42:13
Printed : Nov 24, 2021 07:58:16
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	2762225	144116	180791.531	15.069



REPORT ID: 21K207

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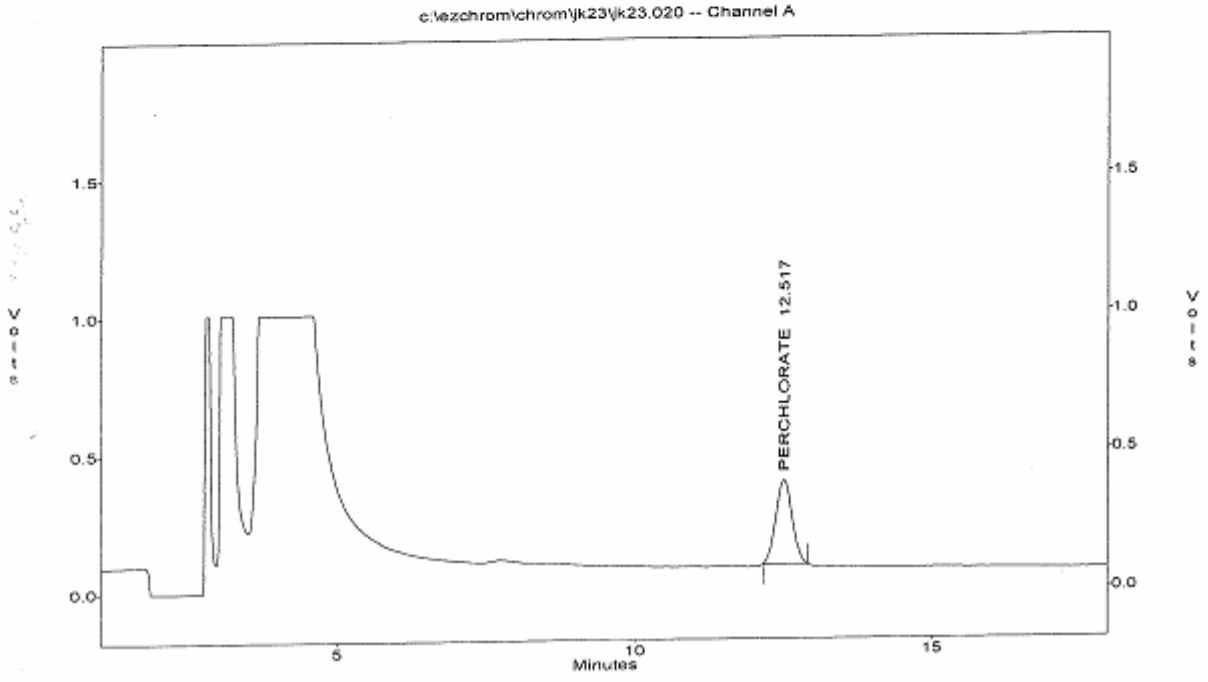
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.020
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV69-30
Acquired : Nov 23, 2021 21:08:52
Printed : Nov 24, 2021 08:23:15
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.52	5898038	304157	180791.531	31.886



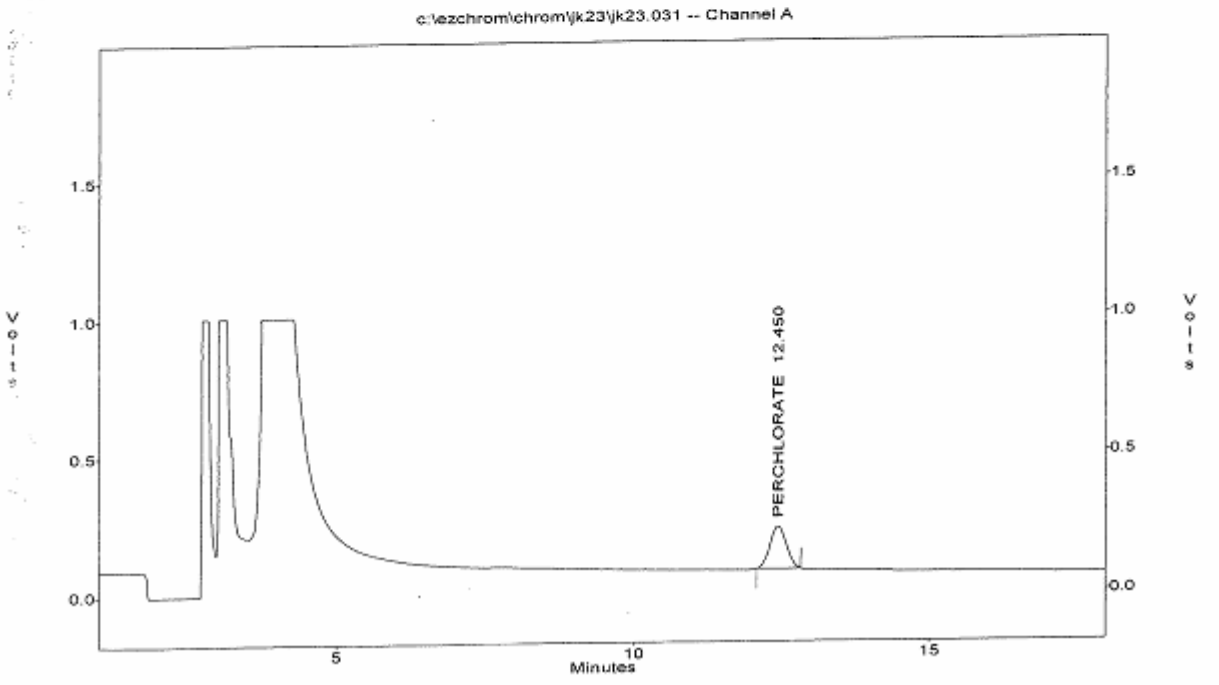
REPORT ID: 21K207

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.031
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV70-15
Acquired : Nov 24, 2021 01:00:07
Printed : Nov 24, 2021 08:29:23
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.45	2932552	151139	180791.531	15.982



REPORT ID: 21K207

ANALYTICAL LOG(S)

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

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Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwRI-02-18-04

Reagent Water ID #: SwIA-611-03-01

Guard II	ID	NA
Ba		v
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SwI-02-09-17	999	999
SwI-02-09-19	99,927	100,800
CMC Reading (Acceptance criteria: ± 30)		
SwI-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 17011014
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 18101121
Flow: 1.50mL/min Sample Loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 17011085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #; 35520012
0.2 µm filter lot #:	1.5 oz; lot #;

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	SW48-008-04-01
ICV	SW48-008-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/8/21

REPORT ID: 21K207

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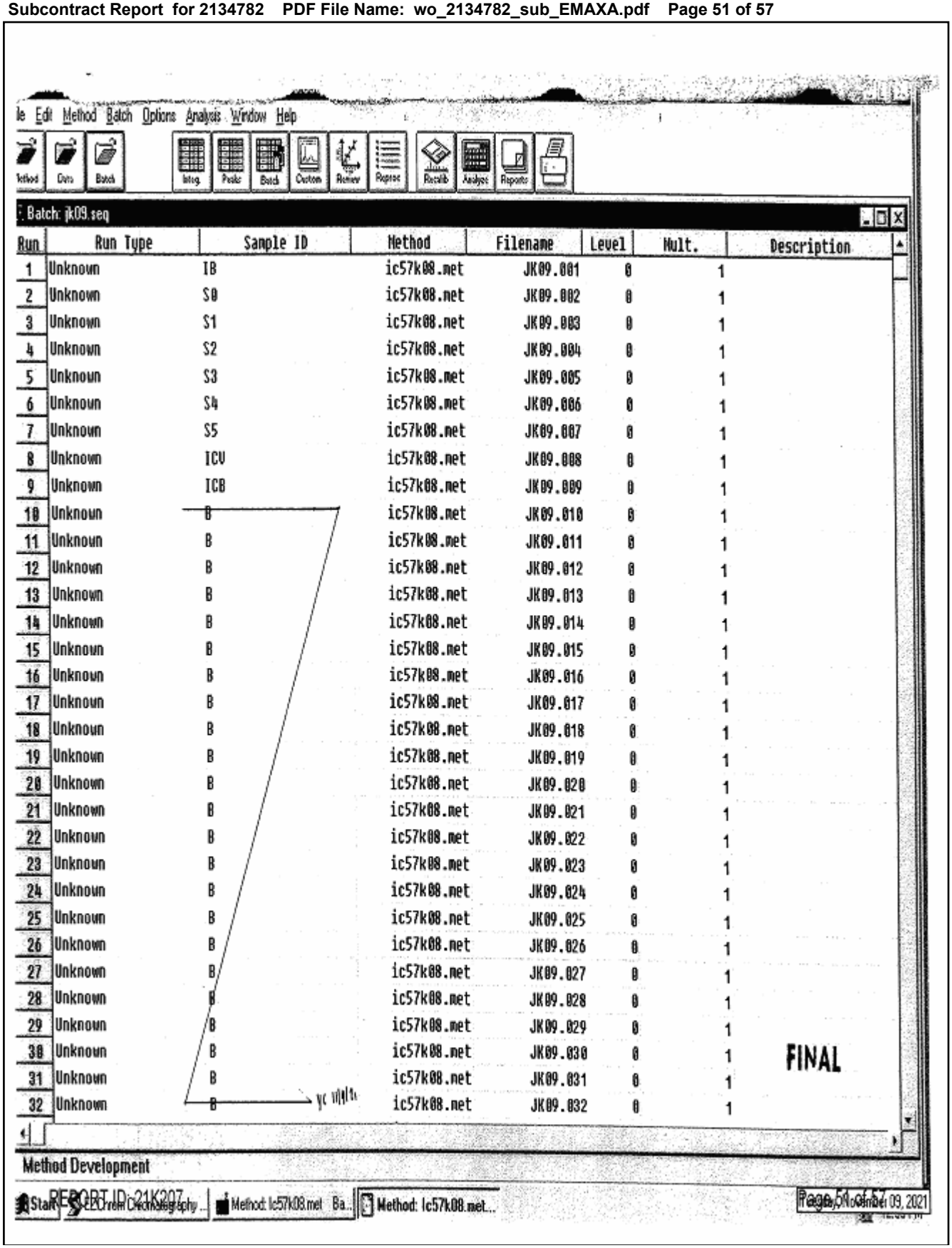

le Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

REPORT ID: 21K207

Method: ic57k08.met...

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwR1-02-18-04

Reagent Water ID #: RWI-21-004

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1411

Temperature: 25 °C Thermometer ID:

Comments:

PCK006W: K207; K208; ~~K209~~ K209 VG111231B1
- MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-29 to a volume of 10mL of sample.

PCK007W: K209; K208; K217; K212
- MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

Snapseal container

0.45 µm filter lot #: 210890103 4 oz; lot #; 35590012

0.2 µm filter lot #: - 1.5 oz; lot #; 20890004

Book #: A57-038
Instrument No.: 57
CMC Instrument No.: 29
Pipette ID: SW9A-04-17
A42762405
SW9A-04-052
Balance ID: 10601202
Analytical Sequence: JK23
Method File: ICS7K08
Analytical Batch: PCK006W/PCK007W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID		
ICAL	-	
ICV	-	
CCV-15	SW4B-003-04-11	
CCV-30		-08
LCS		-12
IPC		-06
MRL	↓	-10
MS	SW4B-003-03-27	

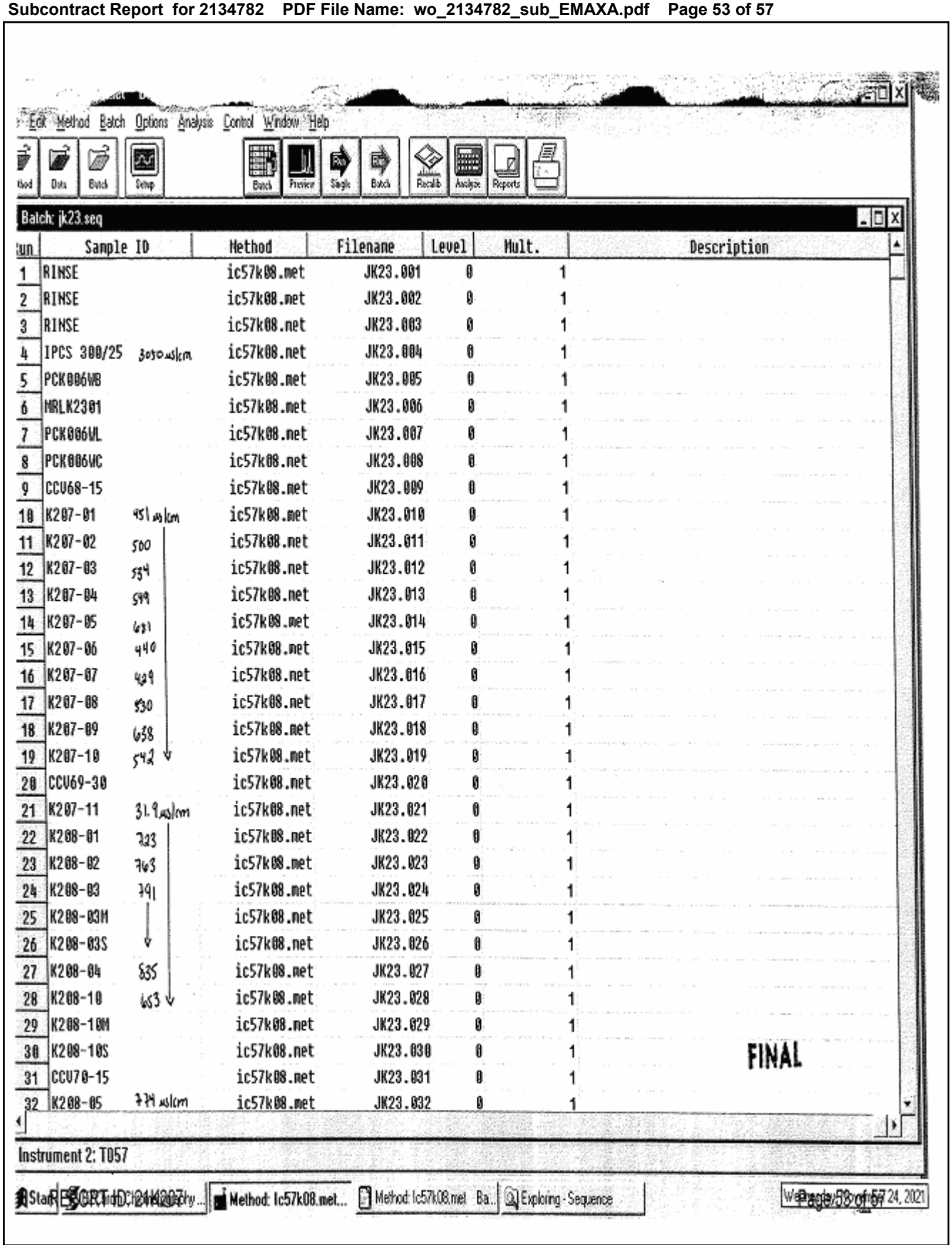
MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/23/21

REPORT ID: 21K207



File Edit Method Batch Options Analysis Control Window Help

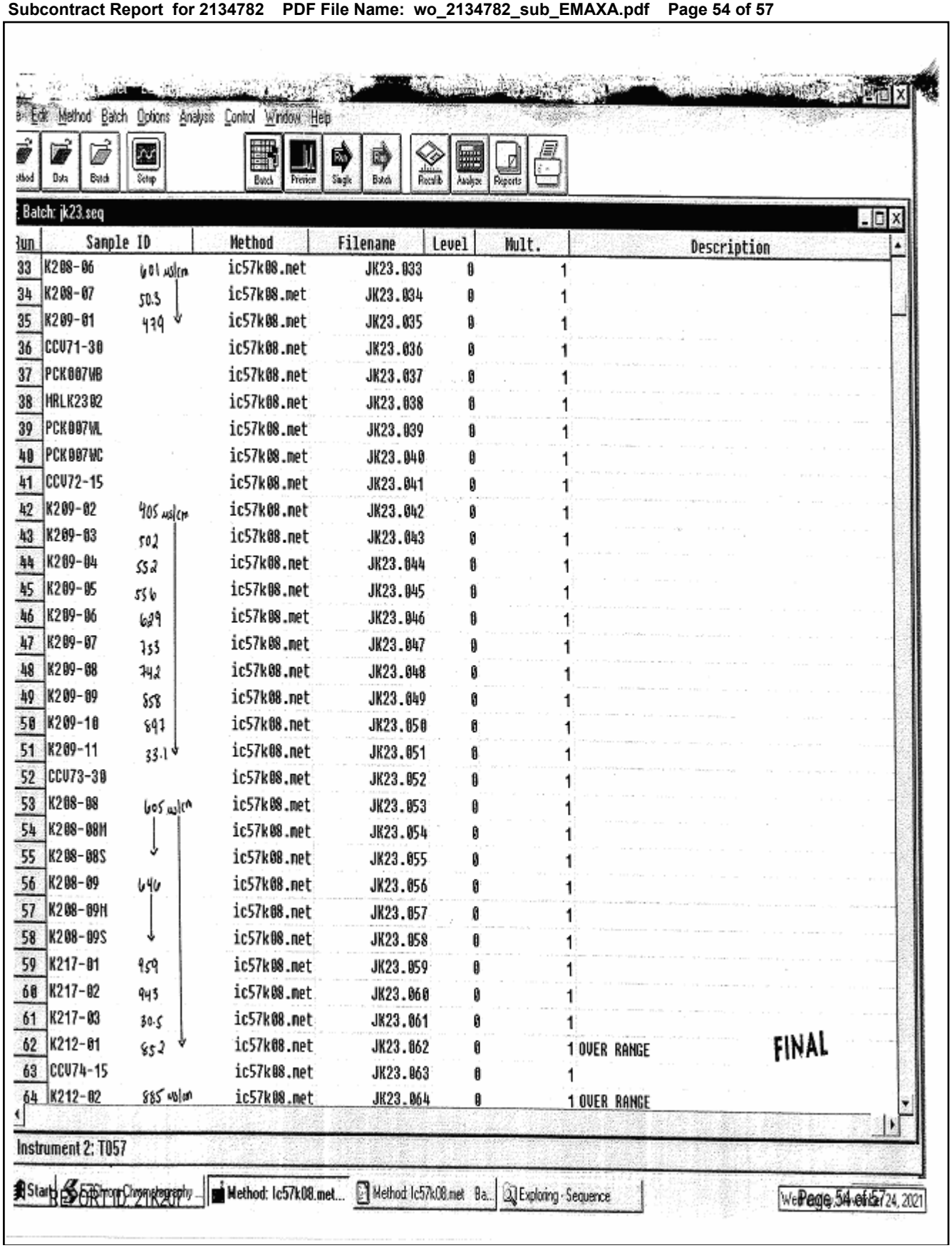
Batch: jk23.seq

Run	Sample ID		Method	Filename	Level	Mult.	Description
1	RINSE		ic57k08.met	JK23.001	0	1	
2	RINSE		ic57k08.met	JK23.002	0	1	
3	RINSE		ic57k08.met	JK23.003	0	1	
4	IPCS 300/25	3030 µs/cm	ic57k08.met	JK23.004	0	1	
5	PCK0086WB		ic57k08.met	JK23.005	0	1	
6	MRLK2301		ic57k08.met	JK23.006	0	1	
7	PCK086WL		ic57k08.met	JK23.007	0	1	
8	PCK086WC		ic57k08.met	JK23.008	0	1	
9	CCV68-15		ic57k08.met	JK23.009	0	1	
10	K207-01	451 µs/cm	ic57k08.met	JK23.010	0	1	
11	K207-02	500	ic57k08.met	JK23.011	0	1	
12	K207-03	534	ic57k08.met	JK23.012	0	1	
13	K207-04	599	ic57k08.met	JK23.013	0	1	
14	K207-05	631	ic57k08.met	JK23.014	0	1	
15	K207-06	440	ic57k08.met	JK23.015	0	1	
16	K207-07	489	ic57k08.met	JK23.016	0	1	
17	K207-08	530	ic57k08.met	JK23.017	0	1	
18	K207-09	658	ic57k08.met	JK23.018	0	1	
19	K207-10	542	ic57k08.met	JK23.019	0	1	
20	CCV69-30		ic57k08.met	JK23.020	0	1	
21	K207-11	31.9 µs/cm	ic57k08.met	JK23.021	0	1	
22	K208-01	783	ic57k08.met	JK23.022	0	1	
23	K208-02	763	ic57k08.met	JK23.023	0	1	
24	K208-03	791	ic57k08.met	JK23.024	0	1	
25	K208-03M		ic57k08.met	JK23.025	0	1	
26	K208-03S		ic57k08.met	JK23.026	0	1	
27	K208-04	835	ic57k08.met	JK23.027	0	1	
28	K208-10	663	ic57k08.met	JK23.028	0	1	
29	K208-10M		ic57k08.met	JK23.029	0	1	
30	K208-10S		ic57k08.met	JK23.030	0	1	
31	CCV70-15		ic57k08.met	JK23.031	0	1	
32	K208-05	729 µs/cm	ic57k08.met	JK23.032	0	1	

FINAL

Instrument 2: T057

Method: ic57k08.met... Method: ic57k08.met Ba... Exploring - Sequence



Edit Method Batch Options Analysis Control Window Help

Batch: jk23.seq

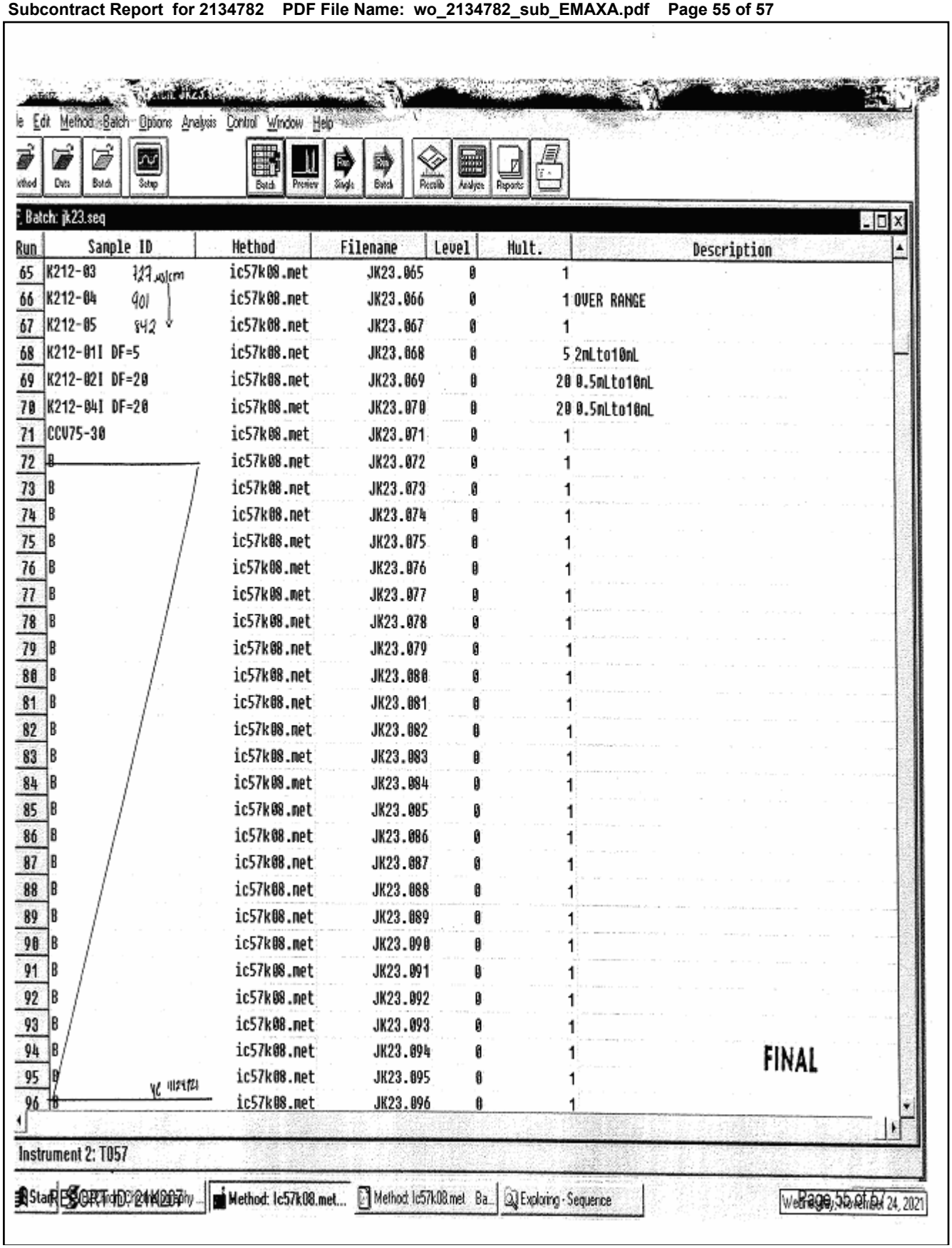
Run	Sample ID		Method	Filename	Level	Mult.	Description
33	K208-06	601 ug/cm	ic57k08.met	JK23.033	0	1	
34	K208-07	50.3	ic57k08.met	JK23.034	0	1	
35	K209-01	439	ic57k08.met	JK23.035	0	1	
36	CCV71-30		ic57k08.met	JK23.036	0	1	
37	PCK007MB		ic57k08.met	JK23.037	0	1	
38	HRLK2302		ic57k08.met	JK23.038	0	1	
39	PCK007ML		ic57k08.met	JK23.039	0	1	
40	PCK007MC		ic57k08.met	JK23.040	0	1	
41	CCV72-15		ic57k08.met	JK23.041	0	1	
42	K209-02	405 ug/cm	ic57k08.met	JK23.042	0	1	
43	K209-03	502	ic57k08.met	JK23.043	0	1	
44	K209-04	552	ic57k08.met	JK23.044	0	1	
45	K209-05	556	ic57k08.met	JK23.045	0	1	
46	K209-06	689	ic57k08.met	JK23.046	0	1	
47	K209-07	753	ic57k08.met	JK23.047	0	1	
48	K209-08	742	ic57k08.met	JK23.048	0	1	
49	K209-09	858	ic57k08.met	JK23.049	0	1	
50	K209-10	891	ic57k08.met	JK23.050	0	1	
51	K209-11	33.1	ic57k08.met	JK23.051	0	1	
52	CCV73-30		ic57k08.met	JK23.052	0	1	
53	K208-08	605 ug/cm	ic57k08.met	JK23.053	0	1	
54	K208-08M		ic57k08.met	JK23.054	0	1	
55	K208-08S		ic57k08.met	JK23.055	0	1	
56	K208-09	640	ic57k08.met	JK23.056	0	1	
57	K208-09M		ic57k08.met	JK23.057	0	1	
58	K208-09S		ic57k08.met	JK23.058	0	1	
59	K217-01	959	ic57k08.met	JK23.059	0	1	
60	K217-02	945	ic57k08.met	JK23.060	0	1	
61	K217-03	30.5	ic57k08.met	JK23.061	0	1	
62	K212-01	852	ic57k08.met	JK23.062	0	1 OVER RANGE	
63	CCV74-15		ic57k08.met	JK23.063	0	1	
64	K212-02	885 ug/cm	ic57k08.met	JK23.064	0	1 OVER RANGE	

FINAL

Instrument 2: T057

Start | Method: ic57k08.met... | Method: ic57k08.met Ba... | Exploring - Sequence

REPORT ID: 21K207 Page 54 of 57 24, 2021



Batch: jk23.seq

Run	Sample ID	Method	Filename	Level	Mult.	Description
65	K212-03 127 µs/cm	ic57k08.met	JK23.065	0	1	
66	K212-04 901	ic57k08.met	JK23.066	0	1	OVER RANGE
67	K212-05 842	ic57k08.met	JK23.067	0	1	
68	K212-01I DF=5	ic57k08.met	JK23.068	0	5	2mLto10mL
69	K212-02I DF=20	ic57k08.met	JK23.069	0	20	0.5mLto10mL
70	K212-04I DF=20	ic57k08.met	JK23.070	0	20	0.5mLto10mL
71	CCV75-30	ic57k08.met	JK23.071	0	1	
72	B	ic57k08.met	JK23.072	0	1	
73	B	ic57k08.met	JK23.073	0	1	
74	B	ic57k08.met	JK23.074	0	1	
75	B	ic57k08.met	JK23.075	0	1	
76	B	ic57k08.met	JK23.076	0	1	
77	B	ic57k08.met	JK23.077	0	1	
78	B	ic57k08.met	JK23.078	0	1	
79	B	ic57k08.met	JK23.079	0	1	
80	B	ic57k08.met	JK23.080	0	1	
81	B	ic57k08.met	JK23.081	0	1	
82	B	ic57k08.met	JK23.082	0	1	
83	B	ic57k08.met	JK23.083	0	1	
84	B	ic57k08.met	JK23.084	0	1	
85	B	ic57k08.met	JK23.085	0	1	
86	B	ic57k08.met	JK23.086	0	1	
87	B	ic57k08.met	JK23.087	0	1	
88	B	ic57k08.met	JK23.088	0	1	
89	B	ic57k08.met	JK23.089	0	1	
90	B	ic57k08.met	JK23.090	0	1	
91	B	ic57k08.met	JK23.091	0	1	
92	B	ic57k08.met	JK23.092	0	1	
93	B	ic57k08.met	JK23.093	0	1	
94	B	ic57k08.met	JK23.094	0	1	
95	B	ic57k08.met	JK23.095	0	1	
96	B	ic57k08.met	JK23.096	0	1	

FINAL

Instrument 2: T057

RETENTION TIME WINDOW

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RETENTION TIME WINDOW
METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K207

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11/15/13

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 16:26
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	Project Manager: David Conner

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project: 4Q21
BCL Project: JPL- GW Monitoring Wells-CLP
BCL Work Order: 2134813
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 11/3/2021. 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

Table of Contents

Table of Contents

BC Laboratories, Inc.

Chain of Custody Form

*Required Fields 21-34813

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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 #:

Project Description:* JPL-GW Monitoring
Project Code:* 4Q21
Sampler (s):* Blaine Tech
L. Hermosa

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4		Orthophosphate 365.1			
-1	TB-7-110321	11/3/21	0830	W	X									
-2	MW-11-5		1050		X	X	X	X						
-3	MW-11-4		1070		X	X	X	X						
-4	MW-11-3		1215		X	X	X	X						
-5	MW-11-2		1245		X	X	X	X						
-6	DUP-7-4021		1300		X	X	X	X						
-7	MW-11-1		1130		X	X	X	X	X		X			
-8	MW-21-5		1350		X	X	X	X						
-9	MW-21-4		1415		X	X	X	X						
-10	MW-21-3		1430		X	X	X	X						
-11	MW-21-2		1450		X	X	X	X						

Analysis Requested

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

Notes

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)

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

Cost Center: _____ Global ID: _____

	Relinquished By:	Date	Time	Received By:	Date	Time
1.		11/3/21	1530		11-3-21	1930
2.		11-3-21	50		11/3/21	1700
3.		11-3-21	1900		11/3/21	1900

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

Chain of Custody and Cooler Receipt Form for 2134813 Page 2 of 5

BC Laboratories, Inc. 21-34813

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 #:

Project Description:* JPL-GW Monitoring
Project Code:* 4Q21
Sampler (s):* Blaine Tech

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

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4	Orthophosphate 365.1	Notes
-12	EB-7-110321	11/3/21	1515	W	X	X	X	X			

CHK BY DISTRIBUTION
PAE INITIAL
SUB-OUT ☐

SHORT HOLDING TIME
NO_3 NO_2 OP SS
DO Cl 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)

☐ MBU Site
☐ CVX RCRA
☐ Geotracker $ File (CA Default)
☐ Geotracker Z File
☐ Other (Specify) _____

Cost Center: _____ Global ID: _____

	Relinquished By:	Date	Time	Received By:	Date	Time
1.		11/3/21	1836	1. Received By:	11-3-21	1530
2.	Relinquished By:	11-3-21	5p	2. Received By:	Date	Time
3.	Relinquished By:	11-3-21	1900	3. Received By:	11-3-21	Time 1900

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Chain of Custody and Cooler Receipt Form for 2134813 Page 3 of 5

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 3

Submission #: 21-34813

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 0.3 °C / (C) 0.3 °C

Date/Time 11/3/21

Analyst Init FE 1900

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES									D	D
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}									E	E
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz									F	F
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL		A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C	A-C
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: FE Date/Time: 11/3/21 1900

A = Actual / C = Corrected

Rev 22 04/13/21

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 3

Submission #: 21-3481B

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 0.3 °C / (C) 0.3 °C

Date/Time 11/3/21

Analyst Init FE 1900

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	D	D								
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6	E	E								
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz	F	F								
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-C	A-C								
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: FE Date/Time: 11/3/21 1800
A = Actual / C = Corrected

Rev 22 04/13/21
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Chain of Custody and Cooler Receipt Form for 2134813 Page 5 of 5

BC LABORATORIES INC. COOLER RECEIPT FORM Page 3 Of 3

Submission #: 21-34813

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
BC Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ 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: PE Thermometer ID: 208

Temperature: (A) 0.6 °C / (C) 0.6 °C

Date/Time 11/3/21

Analyst Init FE 1900

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+6		E	E	E	E	E	E	E		
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz (16oz)		F	F	F	F	F	F	F		
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: FE Date/Time: 11/3/21 2020

A = Actual / C = Corrected

Rev 22 04/13/21

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134813-01	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 08:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-7-110321	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Trip Blank
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-7-110321	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-02	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 10:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-11-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-11-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-03	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 10:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-11-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-11-4	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134813-04	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 12:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-11-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-11-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-05	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 12:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-11-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-11-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-06	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 13:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-7-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-7-4Q21	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134813-07	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 11:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-11-1	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-11-1	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-08	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 13:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-21-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-21-5	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-09	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 14:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-21-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2134813-10	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 14:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-21-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-21-3	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-11	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 14:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-21-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-21-2	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2134813-12	**COC Number:**	---	**Receive Date:**	11/03/2021 19:00
	Project Number:	NASA/JPL	**Sampling Date:**	11/03/2021 15:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-7-110321	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Water
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): EB-7-110321	
			Matrix: W	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-01 | **Client Sample Name:** NASA/JPL, TB-7-110321, 11/3/2021 8:30:00AM

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	V11	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

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-01 | **Client Sample Name:** NASA/JPL, TB-7-110321, 11/3/2021 8:30:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-01 | **Client Sample Name:** NASA/JPL, TB-7-110321, 11/3/2021 8:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	86.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 09:36	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-01 | **Client Sample Name:** NASA/JPL, TB-7-110321, 11/3/2021 8:30:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 09:36	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-02 | **Client Sample Name:** NASA/JPL, MW-11-5, 11/3/2021 10:50:00AM

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	V11	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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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-02 | **Client Sample Name:** NASA/JPL, MW-11-5, 11/3/2021 10:50:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-02 | **Client Sample Name:** NASA/JPL, MW-11-5, 11/3/2021 10:50:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	93.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 10:01	MGC	MS-V5	1	B124220	EPA 524.2

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3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-02 | **Client Sample Name:** NASA/JPL, MW-11-5, 11/3/2021 10:50:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 10:01	MGC	MS-V5	1	B124220	EPA 524.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-02 | **Client Sample Name:** NASA/JPL, MW-11-5, 11/3/2021 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00026**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035		1
Total Recoverable Chromium	**3.4**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 17:24	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:35	ARD	PE-EL2	1	B124893	EPA 200.2

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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-03 | **Client Sample Name:** NASA/JPL, MW-11-4, 11/3/2021 10:20:00AM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-03 | **Client Sample Name:** NASA/JPL, MW-11-4, 11/3/2021 10:20:00AM

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	**0.74**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-03 | **Client Sample Name:** NASA/JPL, MW-11-4, 11/3/2021 10:20:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	91.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 10:25	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-03 | **Client Sample Name:** NASA/JPL, MW-11-4, 11/3/2021 10:20:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 10:25	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-03 | **Client Sample Name:** NASA/JPL, MW-11-4, 11/3/2021 10:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00011**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 18:02	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:16	ARD	PE-EL4	1	B124894	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-04 | **Client Sample Name:** NASA/JPL, MW-11-3, 11/3/2021 12:15:00PM

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	**0.14**	**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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-04 | **Client Sample Name:** NASA/JPL, MW-11-3, 11/3/2021 12:15:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-04 | **Client Sample Name:** NASA/JPL, MW-11-3, 11/3/2021 12:15:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	100	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 10:49	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-04 | **Client Sample Name:** NASA/JPL, MW-11-3, 11/3/2021 12:15:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 10:49	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-04 | **Client Sample Name:** NASA/JPL, MW-11-3, 11/3/2021 12:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000071**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035	**J**	1
Total Recoverable Chromium	**1.4**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 18:12	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:38	ARD	PE-EL4	1	B124894	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-05 | **Client Sample Name:** NASA/JPL, MW-11-2, 11/3/2021 12:45:00PM

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	V11	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-05 | **Client Sample Name:** NASA/JPL, MW-11-2, 11/3/2021 12:45:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-05 | **Client Sample Name:** NASA/JPL, MW-11-2, 11/3/2021 12:45:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 11:13	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-05 | **Client Sample Name:** NASA/JPL, MW-11-2, 11/3/2021 12:45:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 11:13	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-05 | **Client Sample Name:** NASA/JPL, MW-11-2, 11/3/2021 12:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.000079**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 18:21	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:40	ARD	PE-EL4	1	B124894	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-06 | **Client Sample Name:** NASA/JPL, DUP-7-4Q21, 11/3/2021 1:00:00PM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-06 | **Client Sample Name:** NASA/JPL, DUP-7-4Q21, 11/3/2021 1:00:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-06 | **Client Sample Name:** NASA/JPL, DUP-7-4Q21, 11/3/2021 1:00:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	94.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 11:38	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-06 | **Client Sample Name:** NASA/JPL, DUP-7-4Q21, 11/3/2021 1:00:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 11:38	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-06 | **Client Sample Name:** NASA/JPL, DUP-7-4Q21, 11/3/2021 1:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00012**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 18:31	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:42	ARD	PE-EL4	1	B124894	EPA 200.2

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-07 | **Client Sample Name:** NASA/JPL, MW-11-1, 11/3/2021 11:30:00AM

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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-07 | **Client Sample Name:** NASA/JPL, MW-11-1, 11/3/2021 11:30:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-07 | **Client Sample Name:** NASA/JPL, MW-11-1, 11/3/2021 11:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	90.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 12:02	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-07 | **Client Sample Name:** NASA/JPL, MW-11-1, 11/3/2021 11:30:00AM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 12:02	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Water Analysis (General Chemistry)

BCL Sample ID: 2134813-07 | **Client Sample Name:** NASA/JPL, MW-11-1, 11/3/2021 11:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Chloride	**23**	**mg/L**	**0.50**	**0.13**	**EPA-300.0**	0.14		1
Nitrate as N	**0.49**	**mg/L**	**0.10**	**0.024**	**EPA-300.0**	ND		1
Sulfate	**50**	**mg/L**	**1.0**	**0.14**	**EPA-300.0**	0.24		1
Nitrite as N	ND	mg/L	0.050	0.010	EPA-353.2	ND		2
ortho-Phosphate as P	**0.019**	**mg/L**	**0.050**	**0.017**	**EPA-365.1**	ND	**J**	3

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-300.0	11/03/21 23:00	11/04/21 07:52	SAV	IC8	1	B124265	No Prep
2	EPA-353.2	11/04/21 09:05	11/04/21 09:09	MC1	KONE-1	1	B125190	No Prep
3	EPA-365.1	11/04/21 07:39	11/04/21 07:51	MC1	SC-1	1	B125195	No Prep

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-07 | **Client Sample Name:** NASA/JPL, MW-11-1, 11/3/2021 11:30:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00016**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 19:00	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:44	ARD	PE-EL4	1	B124894	EPA 200.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-08 | **Client Sample Name:** NASA/JPL, MW-21-5, 11/3/2021 1:50:00PM

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	**3.8**	**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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-08 | **Client Sample Name:** NASA/JPL, MW-21-5, 11/3/2021 1:50:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-08 | **Client Sample Name:** NASA/JPL, MW-21-5, 11/3/2021 1:50:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	90.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 12:26	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-08 | **Client Sample Name:** NASA/JPL, MW-21-5, 11/3/2021 1:50:00PM

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	Prep Method
1	EPA-524.2	11/04/21 12:00	11/05/21 12:26	MGC	MS-V5	1	B124220	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-08 | **Client Sample Name:** NASA/JPL, MW-21-5, 11/3/2021 1:50:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0012**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035		1
Total Recoverable Chromium	**1.5**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 19:09	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:46	ARD	PE-EL4	1	B124894	EPA 200.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-09 | **Client Sample Name:** NASA/JPL, MW-21-4, 11/3/2021 2:15:00PM

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	**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	V11	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: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-09 | **Client Sample Name:** NASA/JPL, MW-21-4, 11/3/2021 2:15:00PM

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	**0.56**	**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	**0.32**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-09 | **Client Sample Name:** NASA/JPL, MW-21-4, 11/3/2021 2:15:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 13:40	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-09 | **Client Sample Name:** NASA/JPL, MW-21-4, 11/3/2021 2:15:00PM

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	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 13:40	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-09 | **Client Sample Name:** NASA/JPL, MW-21-4, 11/3/2021 2:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0011**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035		1
Total Recoverable Chromium	**1.6**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 19:19	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:48	ARD	PE-EL4	1	B124894	EPA 200.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-10 | **Client Sample Name:** NASA/JPL, MW-21-3, 11/3/2021 2:30:00PM

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	**0.38**	**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	V11	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: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-10 | **Client Sample Name:** NASA/JPL, MW-21-3, 11/3/2021 2:30:00PM

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	**0.62**	**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	**0.70**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-10 | **Client Sample Name:** NASA/JPL, MW-21-3, 11/3/2021 2:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	99.0	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 14:04	MGC	MS-V5	1	B124404	EPA 524.2

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3761 Attucks Drive
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-10 | **Client Sample Name:** NASA/JPL, MW-21-3, 11/3/2021 2:30:00PM

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	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 14:04	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-10 | **Client Sample Name:** NASA/JPL, MW-21-3, 11/3/2021 2:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00052**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035		1
Total Recoverable Chromium	**0.56**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 19:29	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:49	ARD	PE-EL4	1	B124894	EPA 200.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-11 | **Client Sample Name:** NASA/JPL, MW-21-2, 11/3/2021 2:50:00PM

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	**0.24**	**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	V11	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. - Powell
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-11 | **Client Sample Name:** NASA/JPL, MW-21-2, 11/3/2021 2:50:00PM

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	**0.31**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-11 | **Client Sample Name:** NASA/JPL, MW-21-2, 11/3/2021 2:50:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 14:29	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-11 | **Client Sample Name:** NASA/JPL, MW-21-2, 11/3/2021 2:50:00PM

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	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 14:29	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-11 | **Client Sample Name:** NASA/JPL, MW-21-2, 11/3/2021 2:50:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00026**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000035		1
Total Recoverable Chromium	**0.51**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 19:38	KB1	IC-4	1	B125152	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:51	ARD	PE-EL4	1	B124894	EPA 200.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-12 | **Client Sample Name:** NASA/JPL, EB-7-110321, 11/3/2021 3:15:00PM

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	V11	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. - Powell
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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-12 | **Client Sample Name:** NASA/JPL, EB-7-110321, 11/3/2021 3:15:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2134813-12 | **Client Sample Name:** NASA/JPL, EB-7-110321, 11/3/2021 3:15:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	86.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 14:53	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2134813-12 | **Client Sample Name:** NASA/JPL, EB-7-110321, 11/3/2021 3:15:00PM

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	Prep Method
1	EPA-524.2	11/05/21 04:22	11/05/21 14:53	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2134813-12 | **Client Sample Name:** NASA/JPL, EB-7-110321, 11/3/2021 3:15:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00012**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000028	**J**	1
Total Recoverable Chromium	**0.50**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/11/21 13:00	11/12/21 20:07	KB1	IC-4	1	B125153	No Prep
2	EPA-200.8	11/11/21 07:45	11/12/21 10:53	ARD	PE-EL4	1	B124894	EPA 200.2

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Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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: B124220						
Benzene	B124220-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124220-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124220-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124220-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124220-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124220-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124220-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124220-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124220-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124220-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124220-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124220-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124220-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B124220-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124220-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124220-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124220-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124220-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124220-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124220-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124220-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124220-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124220-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124220-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124220-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124220-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124220-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124220-BLK1	ND	ug/L	0.50	0.14	

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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: B124220						
trans-1,3-Dichloropropene	B124220-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124220-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124220-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124220-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124220-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124220-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124220-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124220-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124220-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124220-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124220-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124220-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124220-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124220-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B124220-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124220-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124220-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124220-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124220-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124220-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124220-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124220-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124220-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124220-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124220-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124220-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124220-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124220-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124220-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124220-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124220-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124220-BLK1	ND	ug/L	4.0	1.3	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B124220						
Ethyl t-butyl ether	B124220-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124220-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124220-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124220-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124220-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124220-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124220-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124220-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124220-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124220-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124220-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124220-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124220-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124220-BLK1**	**107**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124220-BLK1**	**101**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124220-BLK1**	**97.3**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: B124404						
Benzene	B124404-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124404-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124404-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124404-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124404-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124404-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124404-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124404-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124404-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124404-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124404-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124404-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124404-BLK1	ND	ug/L	0.50	0.093	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B124404						
Dibromochloromethane	B124404-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124404-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124404-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124404-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124404-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124404-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124404-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124404-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124404-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124404-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124404-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124404-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124404-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124404-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124404-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B124404-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124404-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124404-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124404-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124404-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124404-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124404-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124404-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124404-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124404-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124404-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124404-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124404-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.15	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B124404						
1,1,1-Trichloroethane	B124404-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124404-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124404-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124404-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124404-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124404-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124404-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124404-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124404-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124404-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124404-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124404-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124404-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124404-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124404-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124404-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124404-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124404-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B124404-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124404-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124404-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124404-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124404-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124404-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124404-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124404-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124404-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124404-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124404-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124404-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124404-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124404-BLK1**	**106**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124404-BLK1**	**102**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124404-BLK1**	**95.4**	%	**80 - 120 (LCL - UCL)**		

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124220										
Benzene	B124220-BS1	LCS	25.380	25.000	ug/L	102		70 - 130		
Bromodichloromethane	B124220-BS1	LCS	29.310	25.000	ug/L	117		70 - 130		
Chlorobenzene	B124220-BS1	LCS	25.960	25.000	ug/L	104		70 - 130		
Chloroethane	B124220-BS1	LCS	27.290	25.000	ug/L	109		70 - 130		
1,4-Dichlorobenzene	B124220-BS1	LCS	26.110	25.000	ug/L	104		70 - 130		
1,1-Dichloroethane	B124220-BS1	LCS	27.160	25.000	ug/L	109		70 - 130		
1,1-Dichloroethene	B124220-BS1	LCS	26.720	25.000	ug/L	107		70 - 130		
Toluene	B124220-BS1	LCS	26.280	25.000	ug/L	105		70 - 130		
Trichloroethene	B124220-BS1	LCS	29.650	25.000	ug/L	119		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124220-BS1	LCS	10.550	10.000	ug/L	106		75 - 125		
Toluene-d8 (Surrogate)	B124220-BS1	LCS	10.600	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124220-BS1	LCS	9.9300	10.000	ug/L	99.3		80 - 120		
QC Batch ID: B124404										
Benzene	B124404-BS1	LCS	23.320	25.000	ug/L	93.3		70 - 130		
Bromodichloromethane	B124404-BS1	LCS	28.530	25.000	ug/L	114		70 - 130		
Chlorobenzene	B124404-BS1	LCS	26.270	25.000	ug/L	105		70 - 130		
Chloroethane	B124404-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
1,4-Dichlorobenzene	B124404-BS1	LCS	26.460	25.000	ug/L	106		70 - 130		
1,1-Dichloroethane	B124404-BS1	LCS	25.240	25.000	ug/L	101		70 - 130		
1,1-Dichloroethene	B124404-BS1	LCS	26.410	25.000	ug/L	106		70 - 130		
Toluene	B124404-BS1	LCS	25.870	25.000	ug/L	103		70 - 130		
Trichloroethene	B124404-BS1	LCS	26.020	25.000	ug/L	104		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124404-BS1	LCS	10.450	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	B124404-BS1	LCS	10.600	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124404-BS1	LCS	10.180	10.000	ug/L	102		80 - 120		

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Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124220	Used client sample: N										
Benzene	MS	2134782-02	ND	25.280	25.000	ug/L		101		70 - 130	
	MSD	2134782-02	ND	25.950	25.000	ug/L	2.6	104	20	70 - 130	
Bromodichloromethane	MS	2134782-02	ND	29.990	25.000	ug/L		120		70 - 130	
	MSD	2134782-02	ND	28.910	25.000	ug/L	3.7	116	20	70 - 130	
Chlorobenzene	MS	2134782-02	ND	25.810	25.000	ug/L		103		70 - 130	
	MSD	2134782-02	ND	25.360	25.000	ug/L	1.8	101	20	70 - 130	
Chloroethane	MS	2134782-02	ND	26.610	25.000	ug/L		106		70 - 130	
	MSD	2134782-02	ND	27.790	25.000	ug/L	4.3	111	20	70 - 130	
1,4-Dichlorobenzene	MS	2134782-02	ND	26.310	25.000	ug/L		105		70 - 130	
	MSD	2134782-02	ND	25.320	25.000	ug/L	3.8	101	20	70 - 130	
1,1-Dichloroethane	MS	2134782-02	ND	26.660	25.000	ug/L		107		70 - 130	
	MSD	2134782-02	ND	27.980	25.000	ug/L	4.8	112	20	70 - 130	
1,1-Dichloroethene	MS	2134782-02	ND	26.690	25.000	ug/L		107		70 - 130	
	MSD	2134782-02	ND	27.860	25.000	ug/L	4.3	111	20	70 - 130	
Toluene	MS	2134782-02	ND	26.850	25.000	ug/L		107		70 - 130	
	MSD	2134782-02	ND	26.200	25.000	ug/L	2.5	105	20	70 - 130	
Trichloroethene	MS	2134782-02	ND	27.270	25.000	ug/L		109		70 - 130	
	MSD	2134782-02	ND	26.040	25.000	ug/L	4.6	104	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2134782-02	ND	10.560	10.000	ug/L		106		75 - 125	
	MSD	2134782-02	ND	10.840	10.000	ug/L	2.6	108		75 - 125	
Toluene-d8 (Surrogate)	MS	2134782-02	ND	10.760	10.000	ug/L		108		80 - 120	
	MSD	2134782-02	ND	10.460	10.000	ug/L	2.8	105		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2134782-02	ND	9.6900	10.000	ug/L		96.9		80 - 120	
	MSD	2134782-02	ND	9.6300	10.000	ug/L	0.6	96.3		80 - 120	
QC Batch ID: B124404	Used client sample: N										
Benzene	MS	2135051-04	ND	24.120	25.000	ug/L		96.5		70 - 130	
	MSD	2135051-04	ND	23.430	25.000	ug/L	2.9	93.7	20	70 - 130	
Bromodichloromethane	MS	2135051-04	ND	29.260	25.000	ug/L		117		70 - 130	
	MSD	2135051-04	ND	29.080	25.000	ug/L	0.6	116	20	70 - 130	
Chlorobenzene	MS	2135051-04	ND	26.320	25.000	ug/L		105		70 - 130	
	MSD	2135051-04	ND	25.500	25.000	ug/L	3.2	102	20	70 - 130	
Chloroethane	MS	2135051-04	ND	25.350	25.000	ug/L		101		70 - 130	
	MSD	2135051-04	ND	25.620	25.000	ug/L	1.1	102	20	70 - 130	
1,4-Dichlorobenzene	MS	2135051-04	ND	25.920	25.000	ug/L		104		70 - 130	
	MSD	2135051-04	ND	25.500	25.000	ug/L	1.6	102	20	70 - 130	
1,1-Dichloroethane	MS	2135051-04	0.28000	26.310	25.000	ug/L		104		70 - 130	
	MSD	2135051-04	0.28000	25.710	25.000	ug/L	2.3	102	20	70 - 130	

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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 15:06
Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124404	Used client sample: N										
1,1-Dichloroethene	MS	2135051-04	ND	27.220	25.000	ug/L		109		70 - 130	
	MSD	2135051-04	ND	26.820	25.000	ug/L	1.5	107	20	70 - 130	
Toluene	MS	2135051-04	ND	26.070	25.000	ug/L		104		70 - 130	
	MSD	2135051-04	ND	25.100	25.000	ug/L	3.8	100	20	70 - 130	
Trichloroethene	MS	2135051-04	1.1300	27.350	25.000	ug/L		105		70 - 130	
	MSD	2135051-04	1.1300	26.610	25.000	ug/L	2.7	102	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2135051-04	ND	10.060	10.000	ug/L		101		75 - 125	
	MSD	2135051-04	ND	10.060	10.000	ug/L	0	101		75 - 125	
Toluene-d8 (Surrogate)	MS	2135051-04	ND	10.180	10.000	ug/L		102		80 - 120	
	MSD	2135051-04	ND	10.120	10.000	ug/L	0.6	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2135051-04	ND	9.7800	10.000	ug/L		97.8		80 - 120	
	MSD	2135051-04	ND	9.6900	10.000	ug/L	0.9	96.9		80 - 120	

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Reported: 12/15/2021 15:06
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Project Number: 4Q21
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: B124220						
Chloroacetonitrile	B124220-BLK1	0	ug/L			
1-Chlorobutane	B124220-BLK1	0	ug/L			
1,1-Dichloropropanone	B124220-BLK1	0	ug/L			
Methyl acrylate	B124220-BLK1	0	ug/L			
Nitrobenzene	B124220-BLK1	0	ug/L			
2-Nitropropane	B124220-BLK1	0	ug/L			
QC Batch ID: B124404						
Chloroacetonitrile	B124404-BLK1	0	ug/L			
1-Chlorobutane	B124404-BLK1	0	ug/L			
1,1-Dichloropropanone	B124404-BLK1	0	ug/L			
Methyl acrylate	B124404-BLK1	0	ug/L			
Nitrobenzene	B124404-BLK1	0	ug/L			
2-Nitropropane	B124404-BLK1	0	ug/L			

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Project Number: 4Q21
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: B124265						
Chloride	**B124265-BLK1**	**0.14400**	**mg/L**	**0.50**	**0.13**	**J**
Nitrate as N	B124265-BLK1	ND	mg/L	0.10	0.024	
Sulfate	**B124265-BLK1**	**0.24100**	**mg/L**	**1.0**	**0.14**	**J**
QC Batch ID: B125190						
Nitrite as N	B125190-BLK1	ND	mg/L	0.050	0.010	
QC Batch ID: B125195						
ortho-Phosphate as P	B125195-BLK1	ND	mg/L	0.050	0.017	

Pace Analytical
ENVIRONMENTAL SCIENCES

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Project: JPL- GW Monitoring Wells-CLP
Project Number: 4Q21
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124265										
Chloride	B124265-BS1	LCS	50.716	50.000	mg/L	101		90 - 110		
	B124265-BSD1	LCSD	50.620	50.000	mg/L	101	0.2	90 - 110	10	
Nitrate as N	B124265-BS1	LCS	4.9910	5.0000	mg/L	99.8		90 - 110		
	B124265-BSD1	LCSD	4.9920	5.0000	mg/L	99.8	0.0	90 - 110	10	
Sulfate	B124265-BS1	LCS	100.86	100.00	mg/L	101		90 - 110		
	B124265-BSD1	LCSD	100.61	100.00	mg/L	101	0.2	90 - 110	10	
QC Batch ID: B125190										
Nitrite as N	B125190-BS1	LCS	0.49554	0.50000	mg/L	99.1		90 - 110		
QC Batch ID: B125195										
ortho-Phosphate as P	B125195-BS1	LCS	0.48400	0.50000	mg/L	96.8		90 - 110		

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ENVIRONMENTAL SCIENCES

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Project Number: 4Q21
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	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124265	Used client sample: Y - Description: MW-11-1, 11/03/2021 11:30										
Chloride	DUP	2134813-07	23.417	23.394		mg/L	0.1		10		
	MS	2134813-07	23.417	77.121	50.505	mg/L		106		80 - 120	
	MSD	2134813-07	23.417	77.456	50.505	mg/L	0.4	107	10	80 - 120	
Nitrate as N	DUP	2134813-07	0.48700	0.47900		mg/L	1.7		10		
	MS	2134813-07	0.48700	5.5596	5.0505	mg/L		100		80 - 120	
	MSD	2134813-07	0.48700	5.5616	5.0505	mg/L	0.0	100	10	80 - 120	
Sulfate	DUP	2134813-07	50.402	50.336		mg/L	0.1		10		
	MS	2134813-07	50.402	157.86	101.01	mg/L		106		80 - 120	
	MSD	2134813-07	50.402	157.87	101.01	mg/L	0.0	106	10	80 - 120	
QC Batch ID: B125190	Used client sample: N										
Nitrite as N	DUP	2134647-01	ND	ND		mg/L			10		
	MS	2134647-01	ND	0.51495	0.52632	mg/L		97.8		90 - 110	
	MSD	2134647-01	ND	0.51857	0.52632	mg/L	0.7	98.5	10	90 - 110	
QC Batch ID: B125195	Used client sample: N										
ortho-Phosphate as P	DUP	2134647-01	0.74860	0.75720		mg/L	1.1		10		
	MS	2134647-01	0.74860	1.2634	0.52632	mg/L		97.8		90 - 110	
	MSD	2134647-01	0.74860	1.2686	0.52632	mg/L	0.4	98.8	10	90 - 110	

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ENVIRONMENTAL SCIENCES

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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: B124893						
Total Recoverable Chromium	B124893-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124894						
Total Recoverable Chromium	B124894-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B125152						
Hexavalent Chromium	**B125152-BLK1**	**0.000035000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B125153						
Hexavalent Chromium	**B125153-BLK1**	**0.000028000**	**mg/L**	**0.00020**	**0.000020**	**J**

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ENVIRONMENTAL SCIENCES

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Project Manager: David Conner

Metals Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124893										
Total Recoverable Chromium	B124893-BS1	LCS	40.869	40.000	ug/L	102		85 - 115		
QC Batch ID: B124894										
Total Recoverable Chromium	B124894-BS1	LCS	42.804	40.000	ug/L	107		85 - 115		
QC Batch ID: B125152										
Hexavalent Chromium	B125152-BS1	LCS	0.019168	0.020000	mg/L	95.8		90 - 110		
QC Batch ID: B125153										
Hexavalent Chromium	B125153-BS1	LCS	0.018513	0.020000	mg/L	92.6		90 - 110		

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ENVIRONMENTAL SCIENCES

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Metals Analysis

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124893	Used client sample: N										
Total Recoverable Chromium	DUP	2134782-10	1.2900	1.3070		ug/L	1.3		20		J
	MS	2134782-10	1.2900	41.526	40.000	ug/L		101		70 - 130	
	MSD	2134782-10	1.2900	43.385	40.000	ug/L	4.4	105	20	70 - 130	
QC Batch ID: B124894	Used client sample: Y - Description: MW-11-4, 11/03/2021 10:20										
Total Recoverable Chromium	DUP	2134813-03	ND	ND		ug/L			20		
	MS	2134813-03	ND	43.114	40.000	ug/L		108		70 - 130	
	MSD	2134813-03	ND	42.318	40.000	ug/L	1.9	106	20	70 - 130	
QC Batch ID: B125152	Used client sample: Y - Description: MW-11-5, 11/03/2021 10:50										
Hexavalent Chromium	DUP	2134813-02	0.00026300	0.00025800		mg/L	1.9		10		
	MS	2134813-02	0.00026300	0.019391	0.020202	mg/L		94.7		90 - 110	
	MSD	2134813-02	0.00026300	0.019631	0.020202	mg/L	1.2	95.9	10	90 - 110	
QC Batch ID: B125153	Used client sample: N										
Hexavalent Chromium	DUP	**2135269-03**	**0.000067000**	**0.000078000**		**mg/L**	**15.2**		**10**		**J,A02**
	MS	**2135269-03**	**0.000067000**	**0.018439**	**0.020202**	**mg/L**		**90.9**		**90 - 110**	
	MSD	**2135269-03**	**0.000067000**	**0.018776**	**0.020202**	**mg/L**	**1.8**	**92.6**	**10**	**90 - 110**	

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-09-2021
EMAX Batch No.: 21K209

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2134813

Enclosed is the Laboratory report for samples received on 11/23/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2134813-02	K209-01	11/03/21	WATER	PERCHLORATE BY IC
2134813-03	K209-02	11/03/21	WATER	PERCHLORATE BY IC
2134813-04	K209-03	11/03/21	WATER	PERCHLORATE BY IC
2134813-05	K209-04	11/03/21	WATER	PERCHLORATE BY IC
2134813-06	K209-05	11/03/21	WATER	PERCHLORATE BY IC
2134813-07	K209-06	11/03/21	WATER	PERCHLORATE BY IC
2134813-08	K209-07	11/03/21	WATER	PERCHLORATE BY IC
2134813-09	K209-08	11/03/21	WATER	PERCHLORATE BY IC
2134813-10	K209-09	11/03/21	WATER	PERCHLORATE BY IC
2134813-11	K209-10	11/03/21	WATER	PERCHLORATE BY IC
2134813-12	K209-11	11/03/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Jaspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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SUBCONTRACT ORDER

21K209

BC Laboratories

2134813

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory $EMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

11/22/21 9:20

EDF | CLP | DOD

Analysis	Due	Expires	Laboratory ID	Comments
1 **Sample ID: 2134813-02**	**Water**	**Sampled: 11/03/21 10:50**		**MW-11-5 (CLP III ON ALL)**
i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 10:50		Global ID #0000000000, Company ID BTST
Containers Supplied:				
2 **Sample ID: 2134813-03**	**Water**	**Sampled: 11/03/21 10:20**		**MW-11-4**
i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 10:20		Global ID #0000000000, Company ID BTST
Containers Supplied:				
3 **Sample ID: 2134813-04**	**Water**	**Sampled: 11/03/21 12:15**		**MW-11-3**
i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 12:15		Global ID #0000000000, Company ID BTST
Containers Supplied:				
4 **Sample ID: 2134813-05**	**Water**	**Sampled: 11/03/21 12:45**		**MW-11-2**
i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 12:45		Global ID #0000000000, Company ID BTST
Containers Supplied:				
5 **Sample ID: 2134813-06**	**Water**	**Sampled: 11/03/21 13:00**		**DUP-7-4Q21**
i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 13:00		Global ID #0000000000, Company ID BTST
Containers Supplied:				

Released By	Date	Received By	Date
	11-22-21		
Released By	Date	Received By	Date
			11/23/21 10:19

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SUBCONTRACT ORDER

BC Laboratories

2134813

	Analysis	Due	Expires	Laboratory ID	Comments
6	**Sample ID: 2134813-07**	**Water**	**Sampled:11/03/21 11:30**		**MW-11-1**
	i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 11:30		Global ID #0000C00000, Company ID BTST
	Containers Supplied:				
7	**Sample ID: 2134813-08**	**Water**	**Sampled:11/03/21 13:50**		**MW-21-5**
	i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 13:50		Global ID #0009000000, Company ID BTST
	Containers Supplied:				
8	**Sample ID: 2134813-09**	**Water**	**Sampled:11/03/21 14:15**		**MW-21-4**
	i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 14:15		Global ID #0000009000, Company ID BTST
	Containers Supplied:				
9	**Sample ID: 2134813-10**	**Water**	**Sampled:11/03/21 14:30**		**MW-21-3**
	i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 14:30		Global ID #0000030000, Company ID BTST
	Containers Supplied:				
10	**Sample ID: 2134813-11**	**Water**	**Sampled:11/03/21 14:50**		**MW-21-2**
	i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 14:50		Global ID #0000020000, Company ID BTST
	Containers Supplied:				
11	**Sample ID: 2134813-12**	**Water**	**Sampled:11/03/21 15:15**		~~EB-7-110321~~ ok to send
	i314.0w Perchlorate (ug/L)	11/17/21 17:00	12/01/21 15:15		Global ID #0000000000, Company ID BTST
	Containers Supplied:				
	0.5 PE				

Released By — Date 11-22-21 — Received By — Date

Released By — Date — Received By — Date 11/23/21 10:19

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SAMPLE RECEIPT FORM 1

Reference: Addendum SM02.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K209
☐ Fedex ☐ UPS ☒ GSO ☐ Others	470571122213718377 29	Recipient Maria Rivera
☐ EMAX Courier ☐ Client Delivery		Date 11/23/21 Time 10:19

COC INSPECTION

☒ Client Name	☒ Client PM/TC	☐ Sampler Name	☒ Sampling Date/Time	☒ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☐ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☒ Cooler	☐ Box	☐ Other		
Condition # correction	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging Factor.	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☒ Wet
Temperatures -.2	☐ Cooler 1 ____ °C	☒ Cooler 2 4/2.2 °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
(Cool: 0< °C but not frozen)	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	A - S/N 210191060	B - S/N 210271390	C - S/N ____	D - S/N ____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-11	1-11	D1		R1
1-11	1-11	D3	All Label ID's end with a "D" COC ID's do not	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: Sample # 11 is crossed out w/ COC, but a note read "ok to run".

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
D1	Analysis is not indicated in label
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in ____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in ____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in ____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	____
D23	____
D24	____

Code	Description-Sample Management
R1	Proceed as indicated in ☒ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	____
R9	____
R10	____
R11	____
R12	____

REVIEWS:
Sample Labeling Maria Rivera Date 11/25/21
SRF Date 11/23/21
PM Date 11/29/21

REPORT ID: 21K209 — EMAX Laboratories, Inc. 5051 Fujita St., Torrance, CA 90505 — Page 4 of 65

10.19

FROM
MOLLY MEYERS-BC LABORATORIES, INC
4100 ATLAS CT
BAKERSFIELD CA 93308

Package 1 Of 1
47057

GLS
PDS
S90505C

SHIP TO

EMAX LABORATORY
3051 FUJITA STREET

TORRANCE CA 90505

53846467

LAX CA902-C10

C.O.D. : 0.00 Wgt: 49
Ref. # :

GLS TRACKING NUMBER
470571122213718377 47

Sig. Type: STANDARD
GLS TRACKING NUMBER : 470571122213718377 47

11/22/21 16:06 PM CSL-39/R

1 10/0.8 AT

FROM
MOLLY MEYERS-BC LABORATORIES, INC
4100 ATLAS CT
BAKERSFIELD CA 93308

Package 1 Of 1
47057

GLS
PDS
S90505C

SHIP TO

EMAX LABORATORY
3051 FUJITA STREET

TORRANCE CA 90505

53835245

LAX CA902-C10

C.O.D. : 0.00 Wgt: 42
Ref. # :

GLS TRACKING NUMBER
470571122213718377 29

Sig. Type: STANDARD
GLS TRACKING NUMBER : 470571122213718377 29

11/22/21 16:06 PM CSL-39/R

2 2.4/2.2

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3 1.1/0.9

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

PACE ANALYTICAL

2134813

METHOD E314.0
PERCHLORATE

SDG#: 21K209

REPORT ID: 21K209 Page 8 of 65

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2134813

SDG : 21K209

METHOD E314.0
PERCHLORATE

A total of eleven(11) water samples were received on 11/23/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. PCK006WB and PCK007WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. PCK006WL/PCK006WC and PCK007WL/PCK007WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

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METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2134813
Batch No. : 21K209

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	PCX009MB	ND	1	NA	2.00	0.500	1.00	11/23/2114:10	NA	21JN23005	21JN23004	PCX009W	NA	NA
LCS1W	PCX009WL	25.7	1	NA	2.00	0.500	1.00	11/23/2114:53	NA	21JN23007	21JN23004	PCX009W	NA	NA
LCD1W	PCX009WC	25.4	1	NA	2.00	0.500	1.00	11/23/2115:14	NA	21JN23008	21JN23004	PCX009W	NA	NA
2134813-02	K209-01	ND	1	NA	2.00	0.500	1.00	11/24/2102:24	NA	21JN23035	21JN23031	PCX009W	11/03/2110:50	11/23/21
MBLK2W	PCX017MB	ND	1	NA	2.00	0.500	1.00	11/24/2103:06	NA	21JN23037	21JN23036	PCX017W	NA	NA
LCS2W	PCX017WL	25.6	1	NA	2.00	0.500	1.00	11/24/2103:48	NA	21JN23039	21JN23036	PCX017W	NA	NA
LCD2W	PCX017WC	25.8	1	NA	2.00	0.500	1.00	11/24/2104:09	NA	21JN23040	21JN23036	PCX017W	NA	NA
2134813-03	K209-02	ND	1	NA	2.00	0.500	1.00	11/24/2104:51	NA	21JN23042	21JN23041	PCX017W	11/03/2110:20	11/23/21
2134813-04	K209-03	ND	1	NA	2.00	0.500	1.00	11/24/2105:12	NA	21JN23043	21JN23041	PCX017W	11/03/2112:15	11/23/21
2134813-05	K209-04	ND	1	NA	2.00	0.500	1.00	11/24/2105:33	NA	21JN23044	21JN23041	PCX017W	11/03/2112:45	11/23/21
2134813-06	K209-05	ND	1	NA	2.00	0.500	1.00	11/24/2105:54	NA	21JN23045	21JN23041	PCX017W	11/03/2113:00	11/23/21
2134813-07	K209-06	ND	1	NA	2.00	0.500	1.00	11/24/2106:15	NA	21JN23046	21JN23041	PCX017W	11/03/2111:30	11/23/21
2134813-08	K209-07	2.93	1	NA	2.00	0.500	1.00	11/24/2106:36	NA	21JN23047	21JN23041	PCX017W	11/03/2113:50	11/23/21
2134813-09	K209-08	2.91	1	NA	2.00	0.500	1.00	11/24/2106:57	NA	21JN23048	21JN23041	PCX017W	11/03/2114:15	11/23/21
2134813-10	K209-09	3.78	1	NA	2.00	0.500	1.00	11/24/2107:18	NA	21JN23049	21JN23041	PCX017W	11/03/2114:30	11/23/21
2134813-11	K209-10	2.57	1	NA	2.00	0.500	1.00	11/24/2107:39	NA	21JN23050	21JN23041	PCX017W	11/03/2114:50	11/23/21
2134813-12	K209-11	ND	1	NA	2.00	0.500	1.00	11/24/2108:00	NA	21JN23051	21JN23041	PCX017W	11/03/2115:15	11/23/21

Note: Detection limits are reported relative to sample result significant figures.

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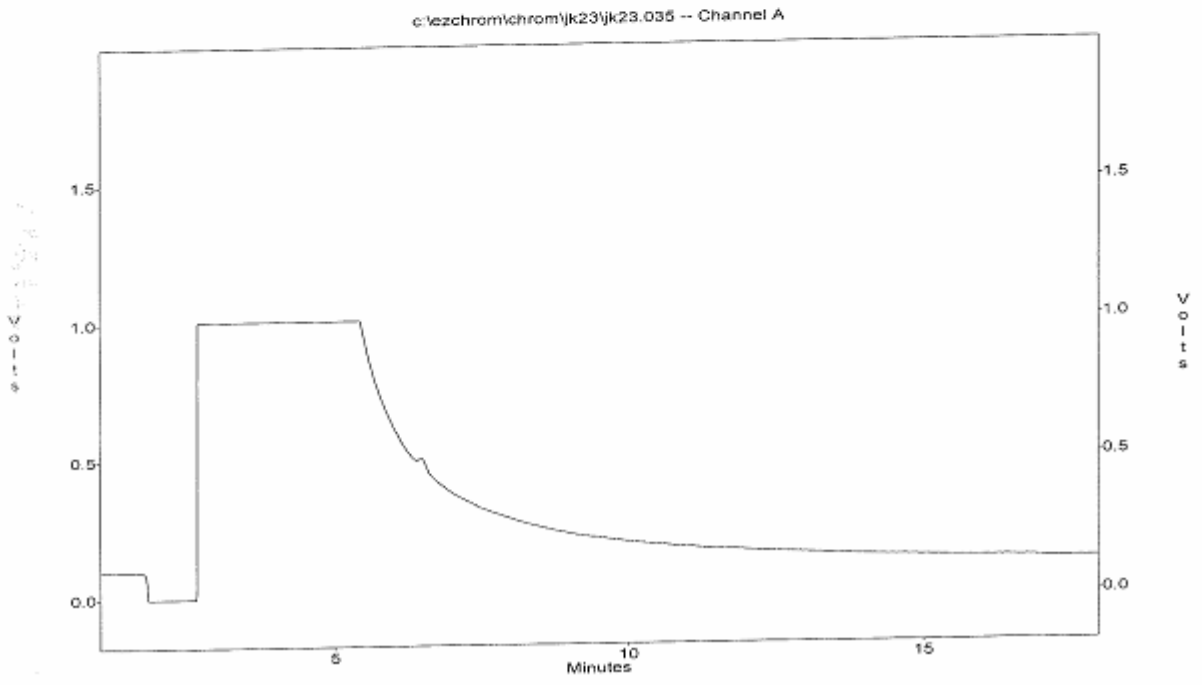
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.035
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-01
Acquired : Nov 24, 2021 02:24:12
Printed : Nov 24, 2021 08:30:13
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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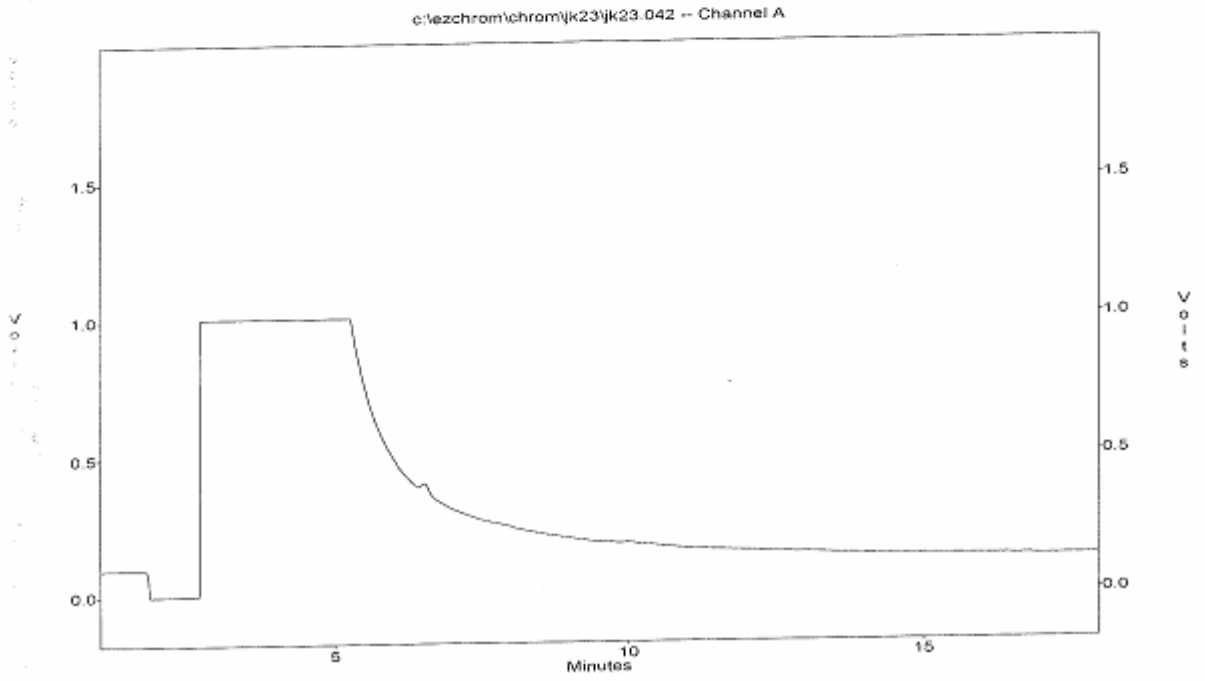
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.042
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-02
Acquired : Nov 24, 2021 04:51:20
Printed : Nov 24, 2021 08:35:14
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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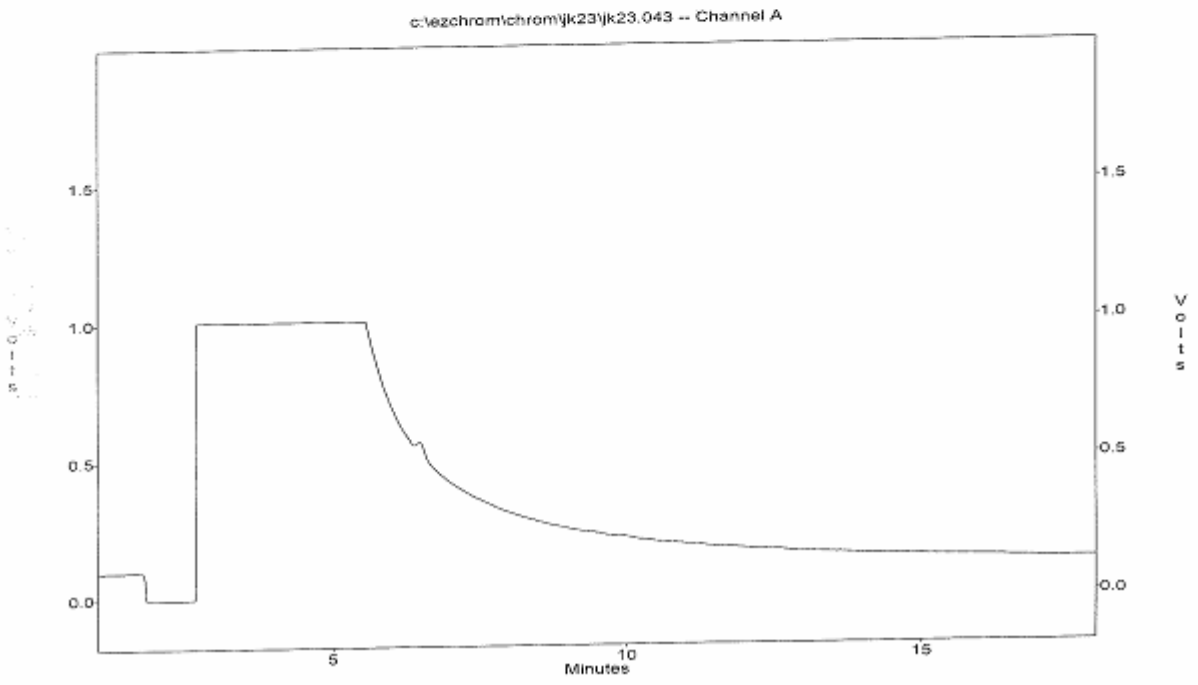
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.043
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-03
Acquired : Nov 24, 2021 05:12:22
Printed : Nov 24, 2021 08:35:21
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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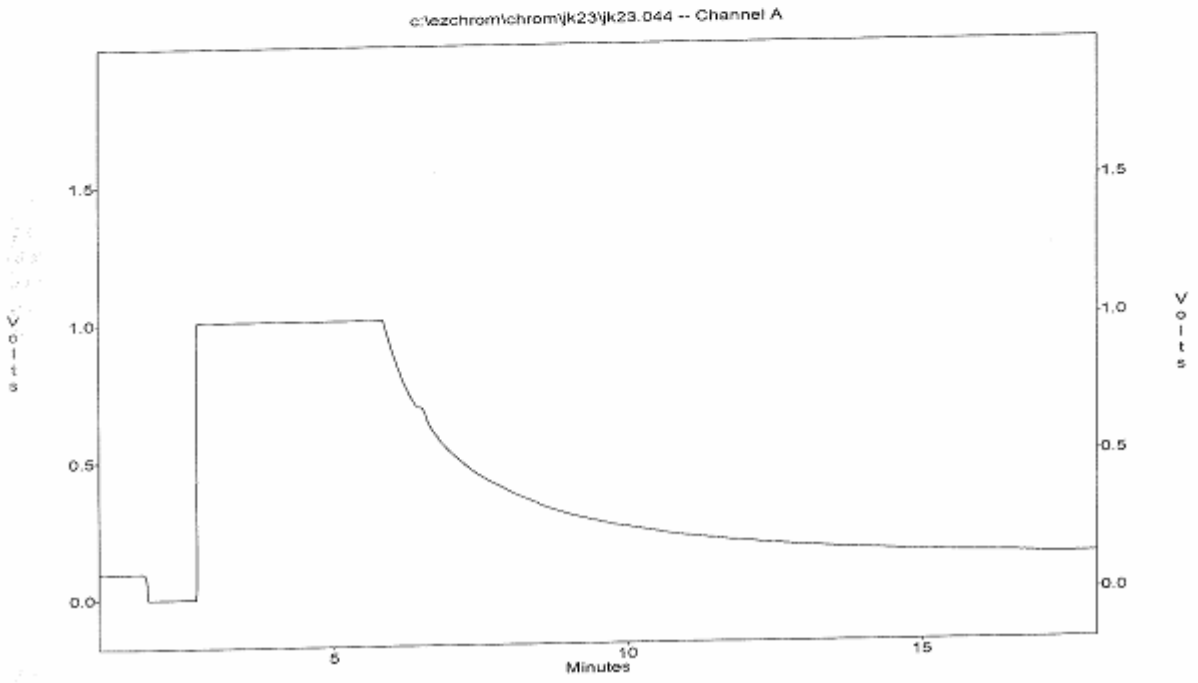
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.044
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-04
Acquired : Nov 24, 2021 05:33:23
Printed : Nov 24, 2021 08:35:36
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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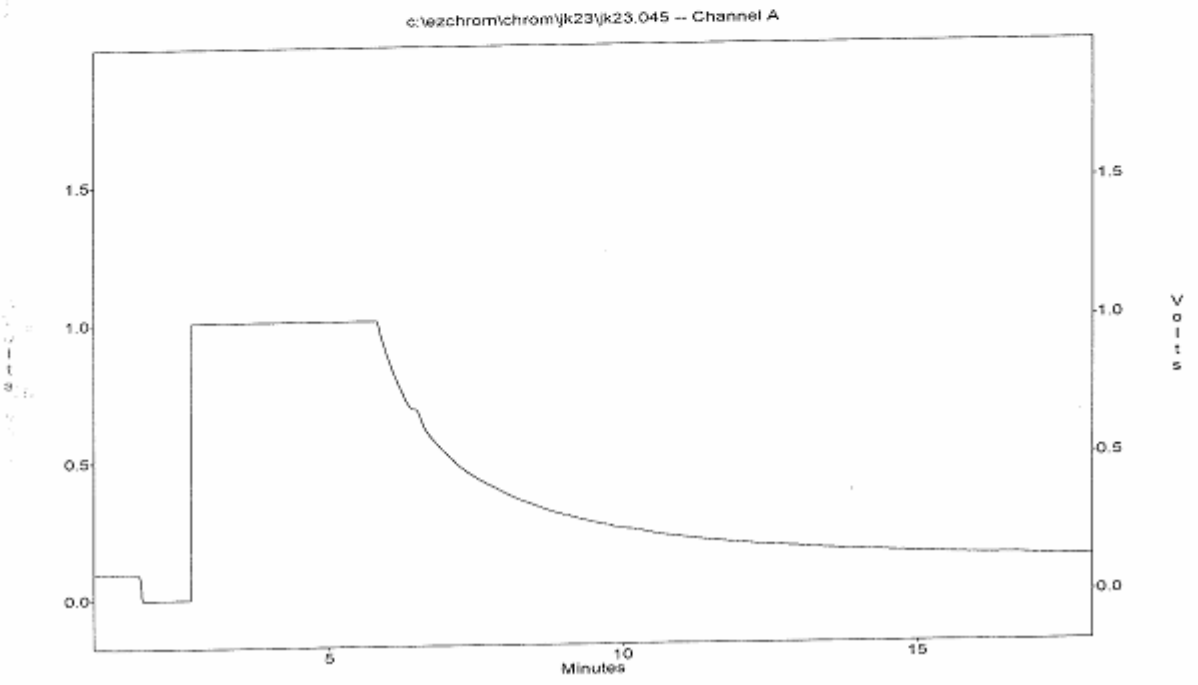
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.045
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-05
Acquired : Nov 24, 2021 05:54:24
Printed : Nov 24, 2021 08:35:44
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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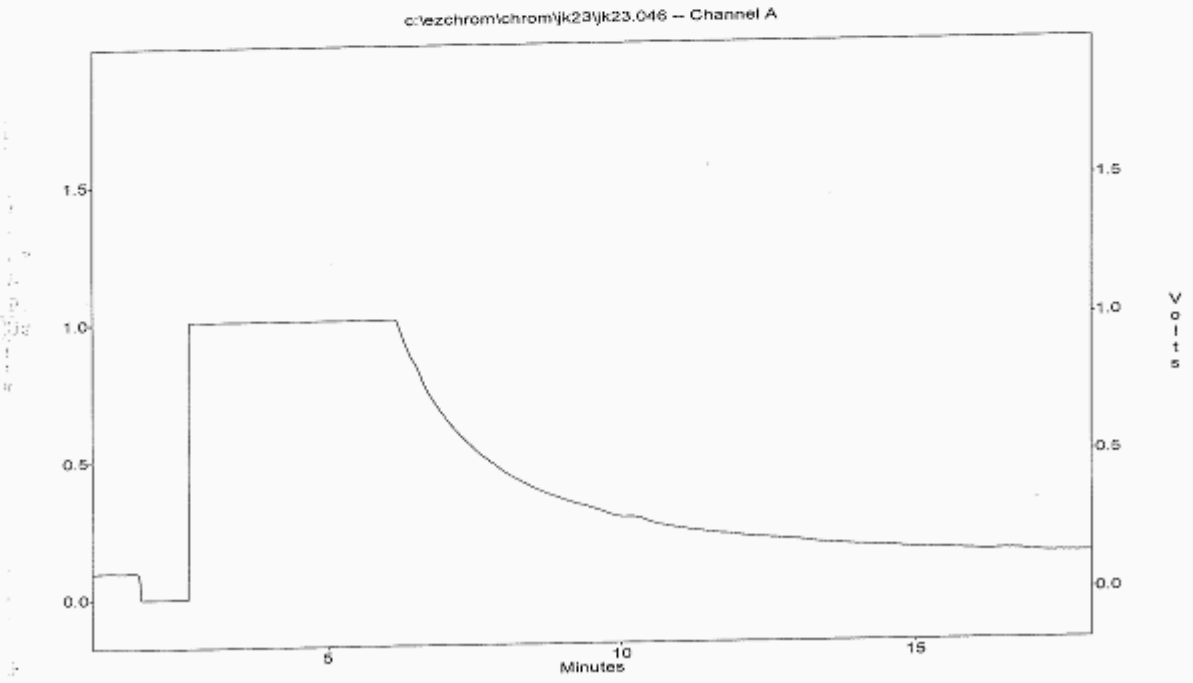
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.046
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-06
Acquired : Nov 24, 2021 06:15:26
Printed : Nov 24, 2021 08:35:52
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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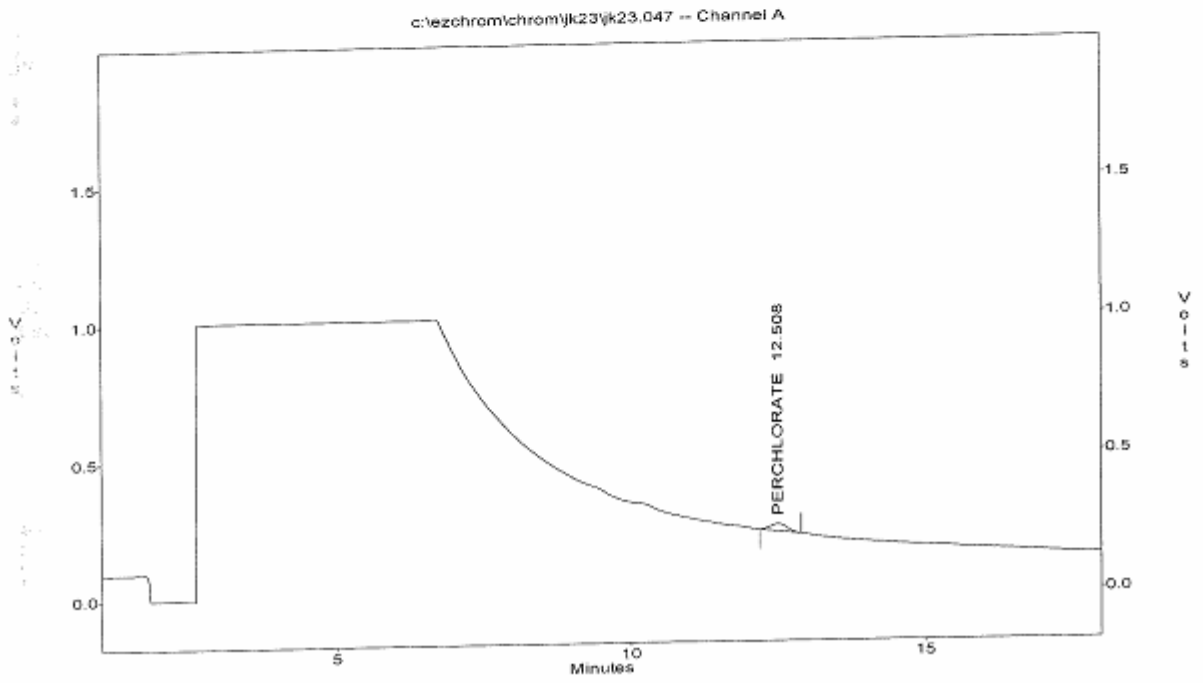
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.047
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-07
Acquired : Nov 24, 2021 06:36:27
Printed : Nov 24, 2021 08:36:13
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.51	499321	25846	180791.531	2.933



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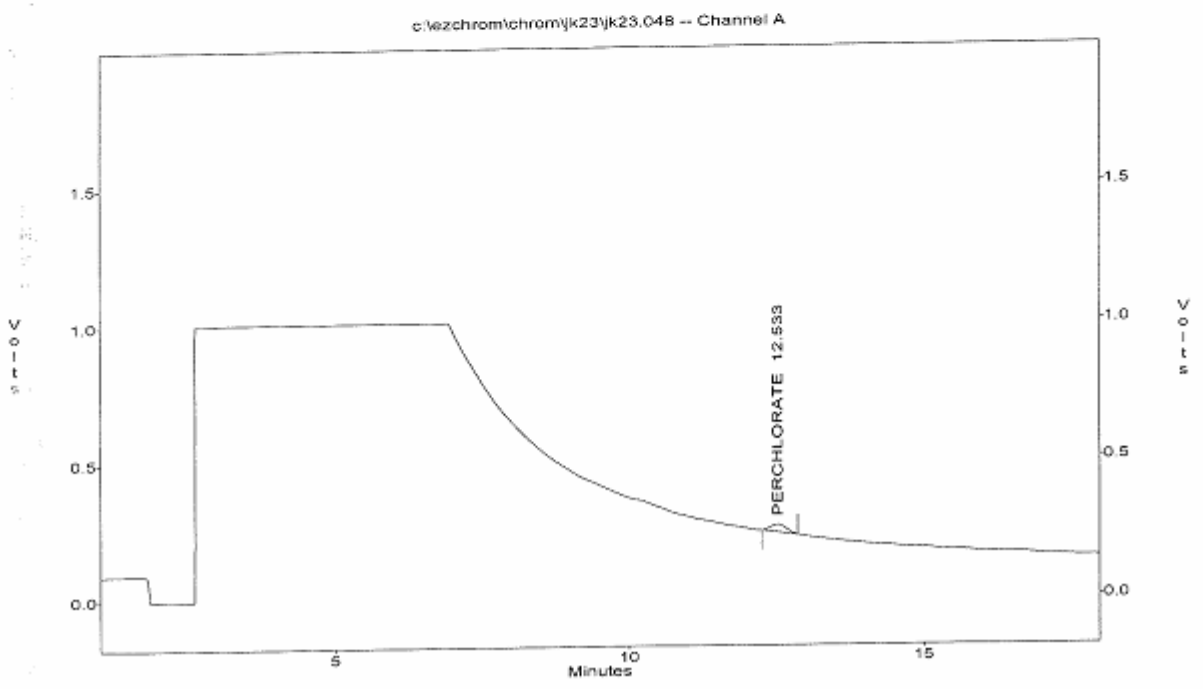
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.048
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-08
Acquired : Nov 24, 2021 06:57:29
Printed : Nov 24, 2021 08:36:48
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.53	495454	27406	180791.531	2.912



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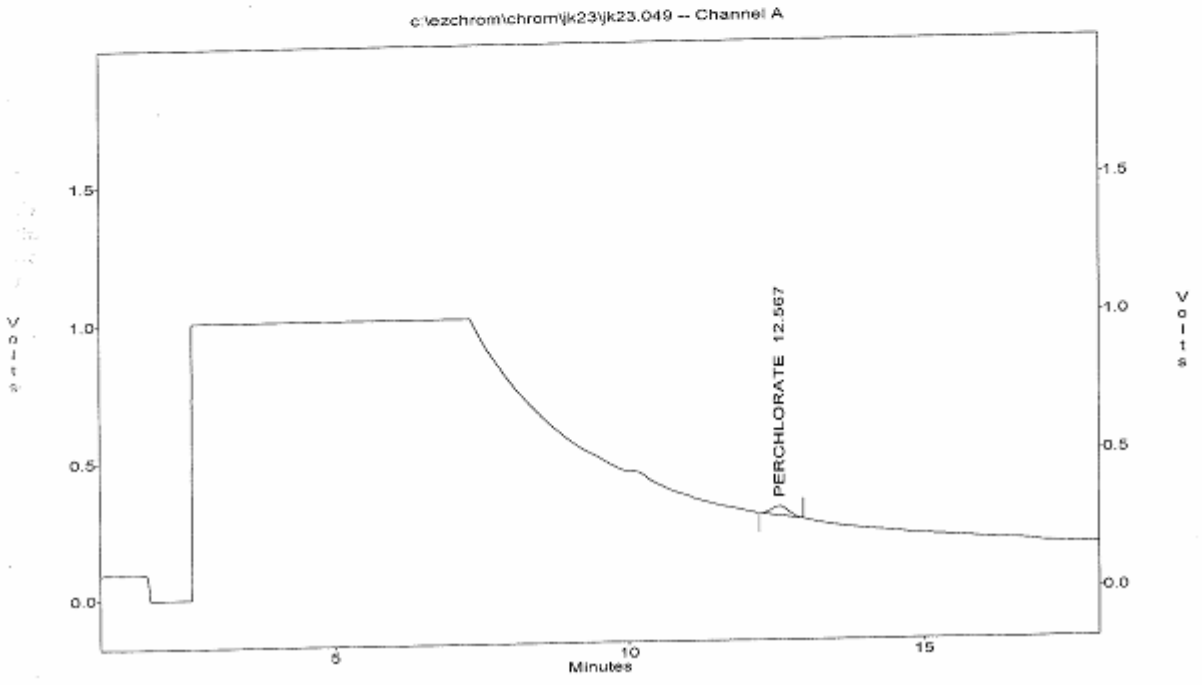
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.049
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-09
Acquired : Nov 24, 2021 07:18:30
Printed : Nov 24, 2021 08:37:06
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	657267	33598	180791.531	3.780



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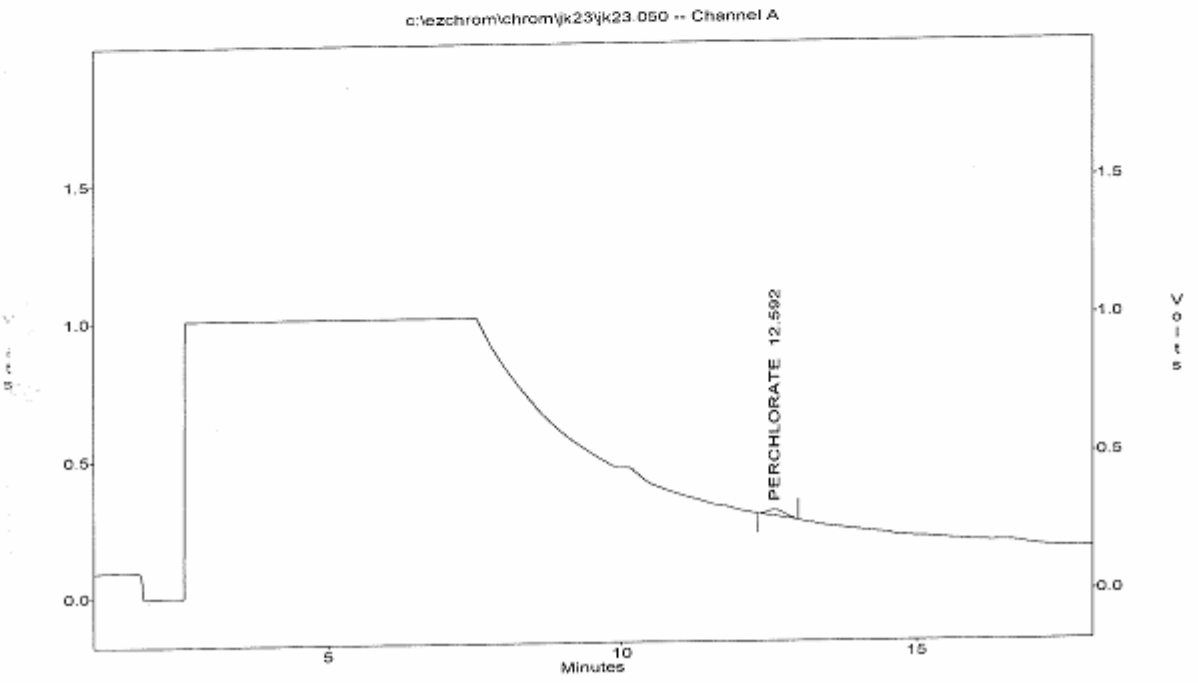
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.050
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-10
Acquired : Nov 24, 2021 07:39:31
Printed : Nov 24, 2021 08:37:22
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	431214	21338	180791.531	2.568



REPORT ID: 21K209

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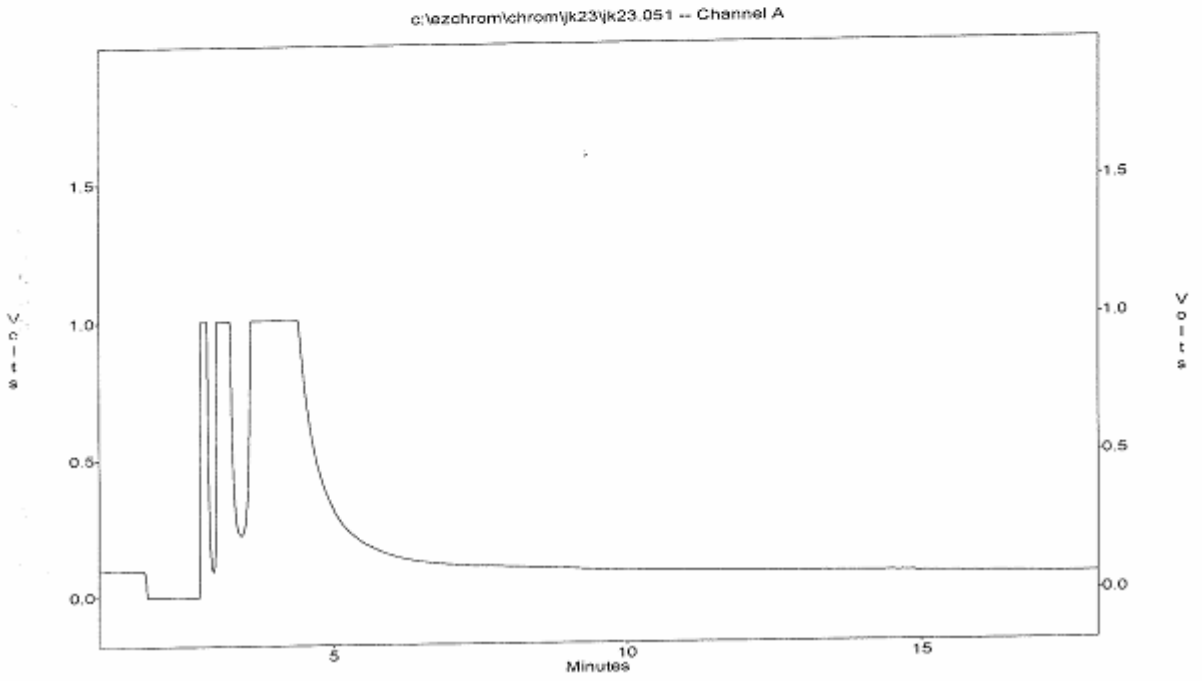
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.051
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K209-11
Acquired : Nov 24, 2021 08:00:32
Printed : Nov 24, 2021 08:37:30
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K209

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QC SUMMARIES

REPORT ID: 21K209 Page 23 of 65

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134813
BATCH NO. : 21K209
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK006WB	PCK006WL	PCK006WC
LAB FILE ID :	21JK23005	21JK23007	21JK23008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/23/2114:10	11/23/2114:53	11/23/2115:14
PREP BATCH :	PCK006W	PCK006W	PCK006W
CALIBRATION REF:	21JK23004	21JK23004	21JK23004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	25.7	103	25	25.4	102	1	85-115	15

REPORT ID: 21K209 Page 24 of 65

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2134813
BATCH NO. : 21K209
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	PCK007WB	PCK007WL	PCK007WC
LAB FILE ID :	21JK23037	21JK23039	21JK23040
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/24/2103:06	11/24/2103:48	11/24/2104:09
PREP BATCH :	PCK007W	PCK007W	PCK007W
CALIBRATION REF:	21JK23036	21JK23036	21JK23036

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	25.6	102	25	25.8	103	1	85-115	15

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QC DATA

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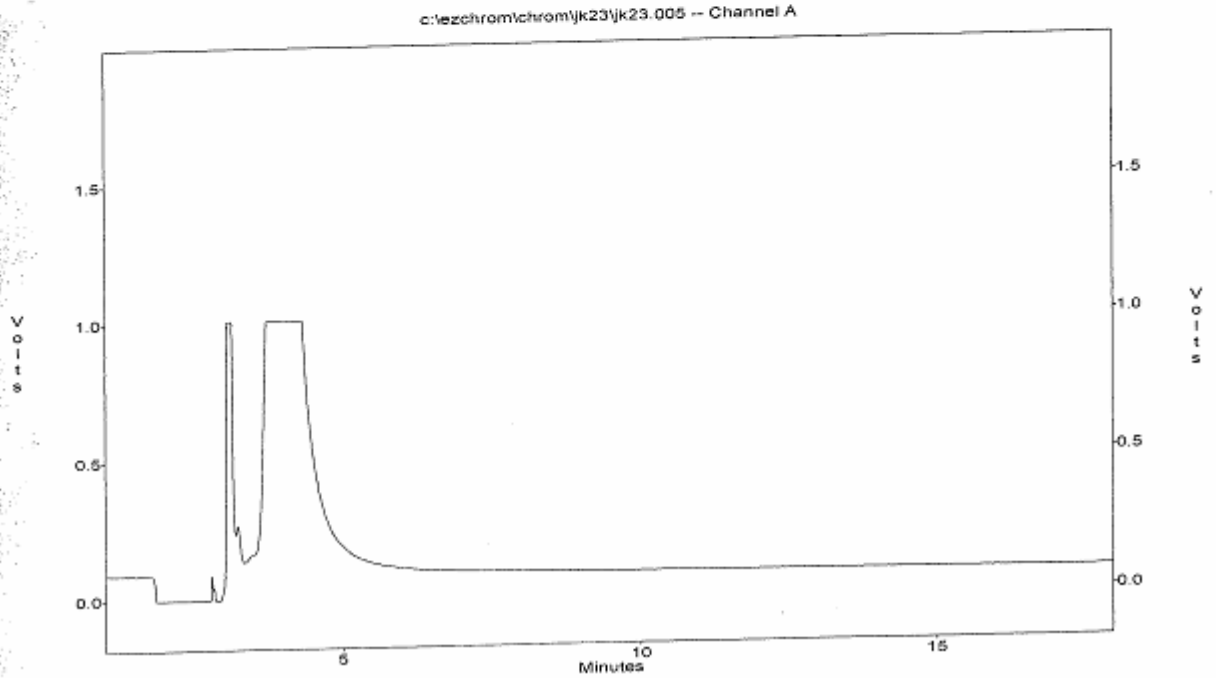
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WB
Acquired : Nov 23, 2021 14:10:02
Printed : Nov 24, 2021 07:56:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K209

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EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

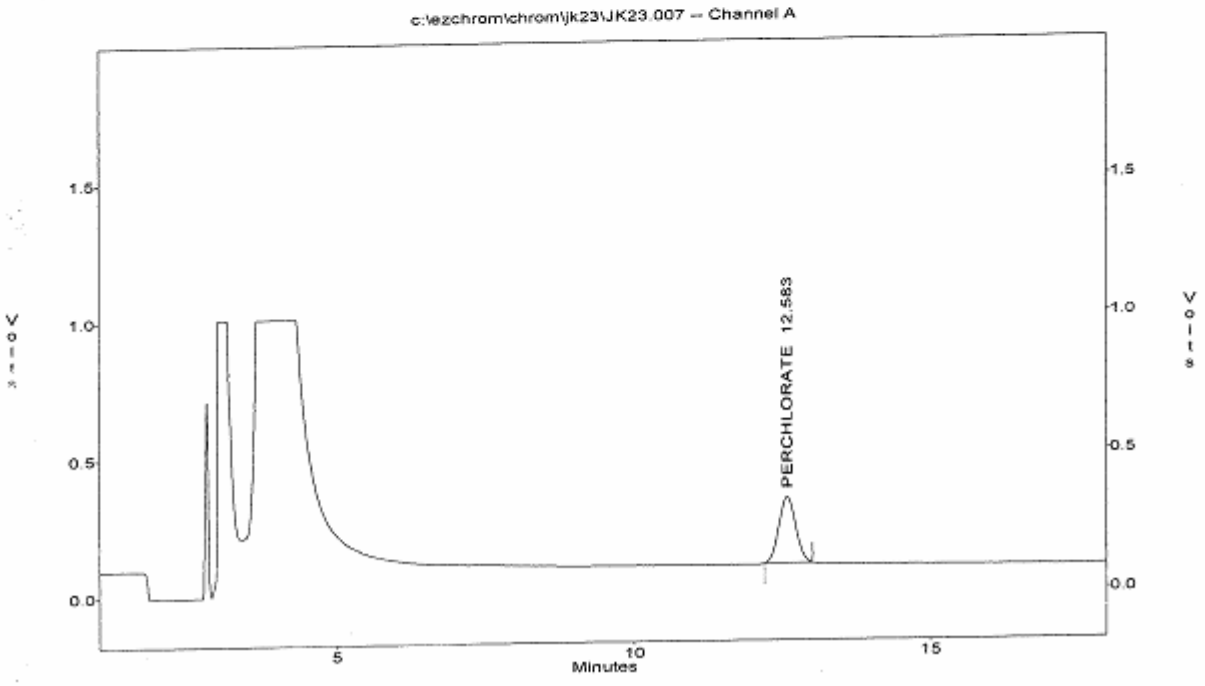
File : c:\ezchrom\chrom\jk23\JK23.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WL
Acquired : Nov 23, 2021 14:53:02
Printed : Nov 24, 2021 09:39:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	4747131	238532	180791.531	25.714

A/H
19.901

$$PD_{A/H} = \frac{|21.860 - 19.901|}{19.901} \times 100 = 10\%$$



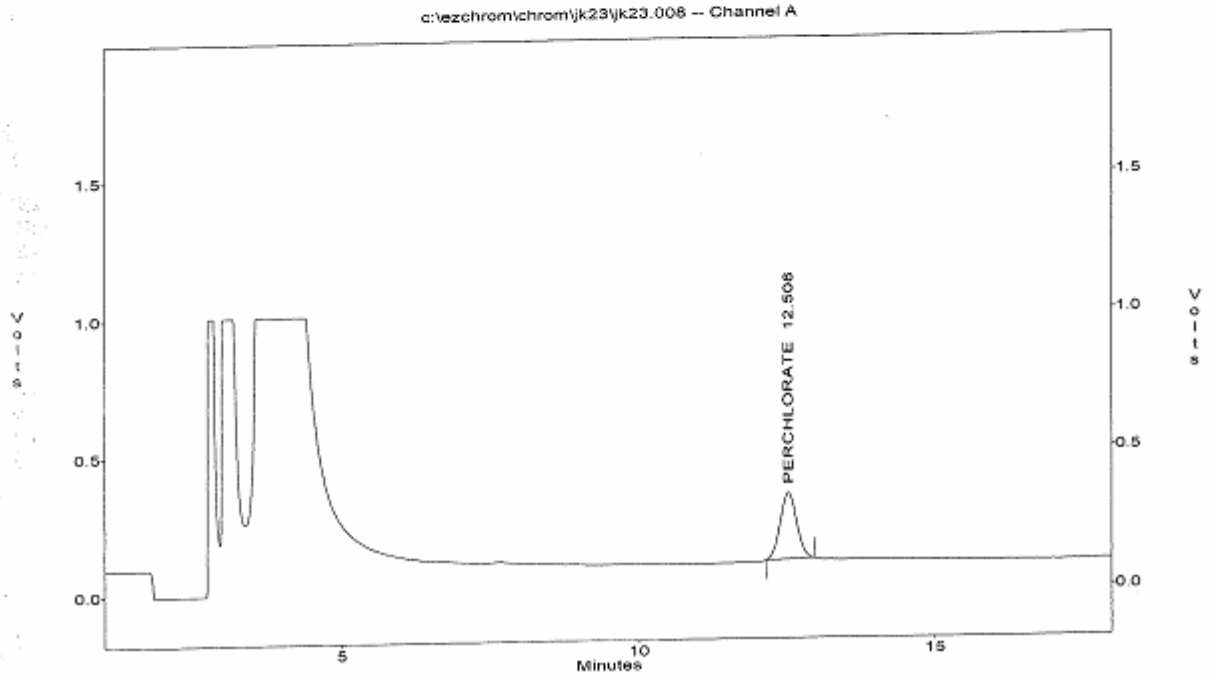
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WC
Acquired : Nov 23, 2021 15:14:31
Printed : Nov 24, 2021 07:57:33
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.51	4688636	238645	180791.531	25.400



REPORT ID: 21K209

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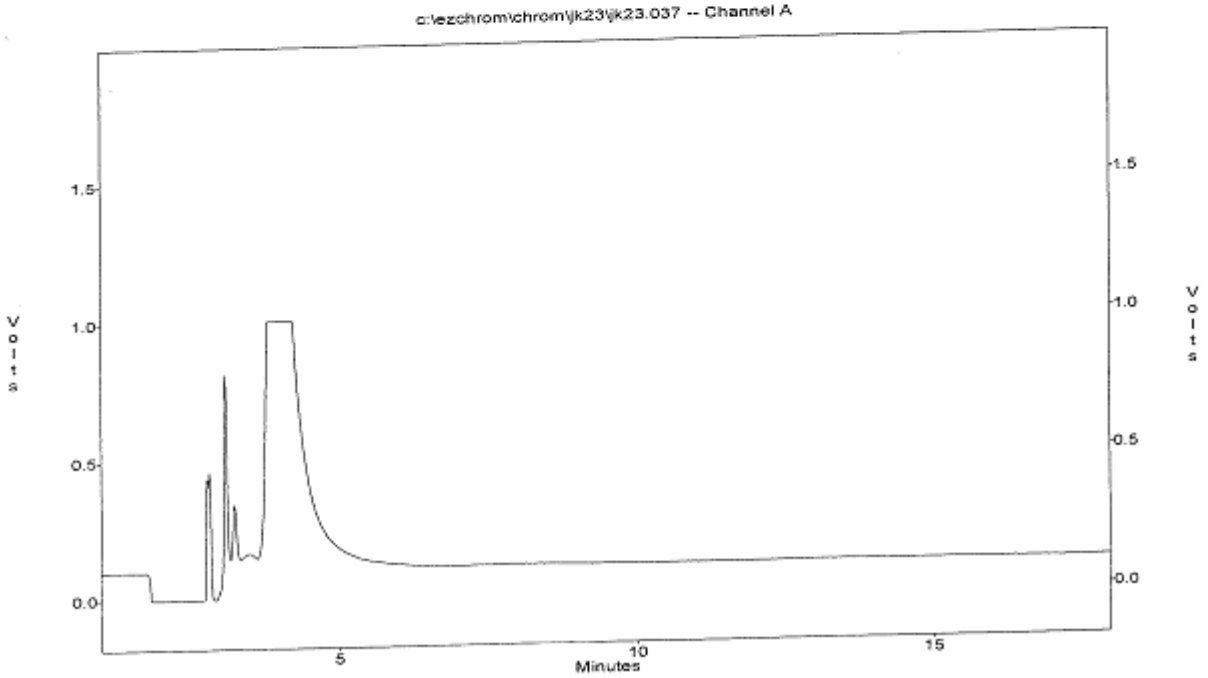
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.037
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK007WB
Acquired : Nov 24, 2021 03:06:15
Printed : Nov 24, 2021 08:32:06
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K209

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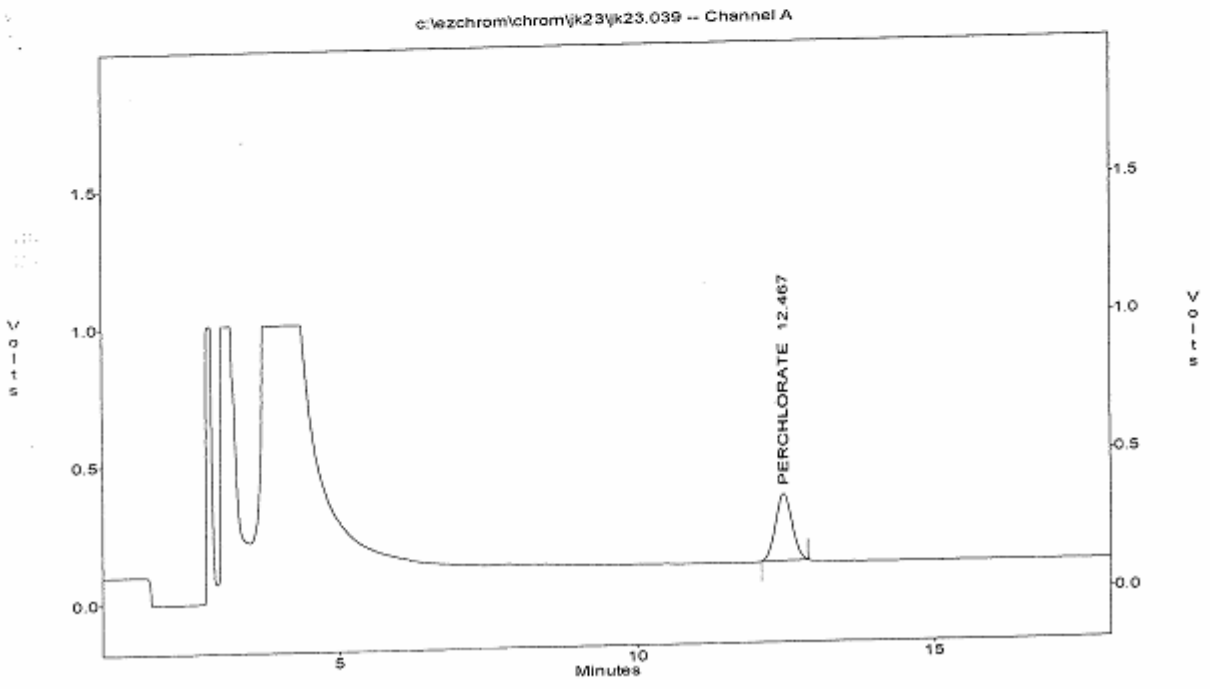
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.039
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK007WL
Acquired : Nov 24, 2021 03:48:18
Printed : Nov 24, 2021 08:33:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)	A|H
1	PERCHLORATE	12.47	4726299	241303	180791.531	25.602	19.587 ✓

$PD_{A|H} = \frac{|21.860 - 19.587|}{19.587} \times 100 = 12\ \%$ ✓



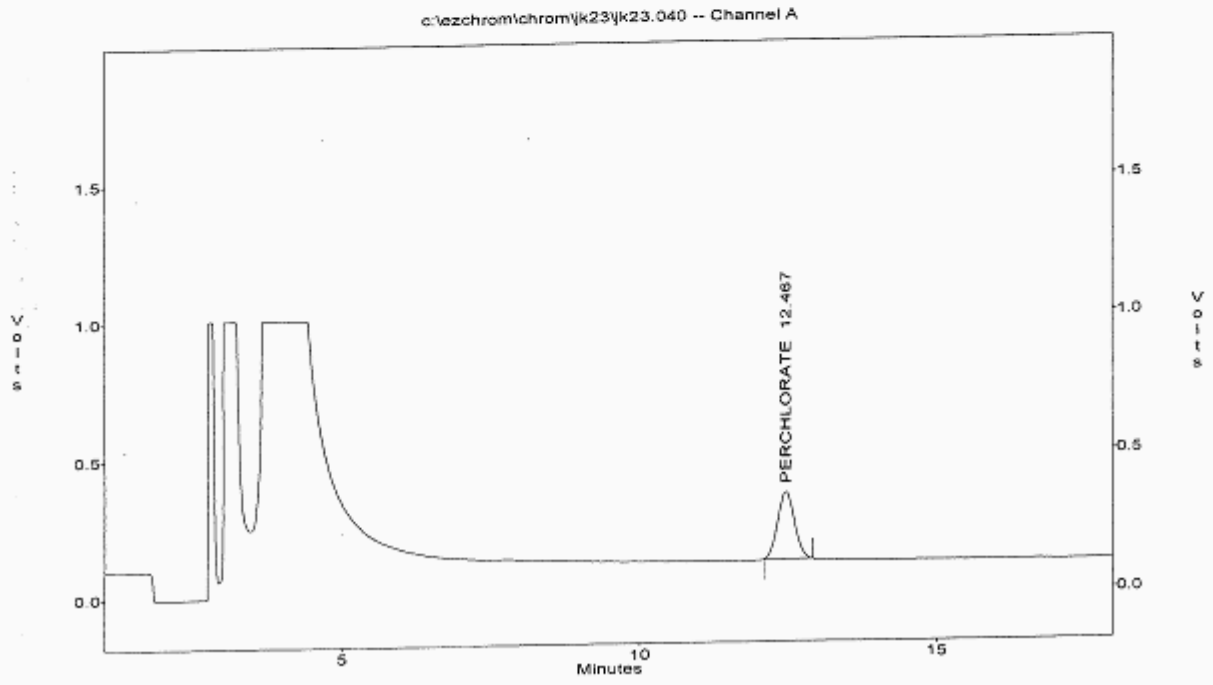
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.040
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK007WC
Acquired : Nov 24, 2021 04:09:19
Printed : Nov 24, 2021 08:34:10
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.47	4759995	241982	180791.531	25.783



REPORT ID: 21K209

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INITIAL CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K209

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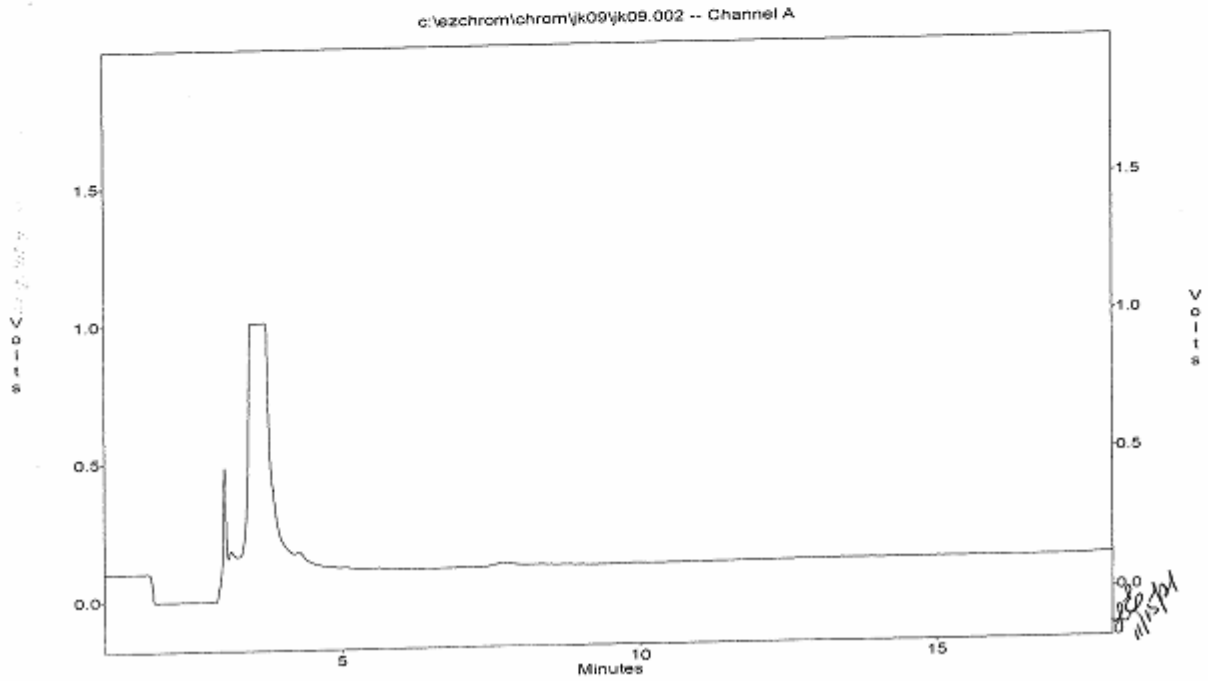
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S0
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K209

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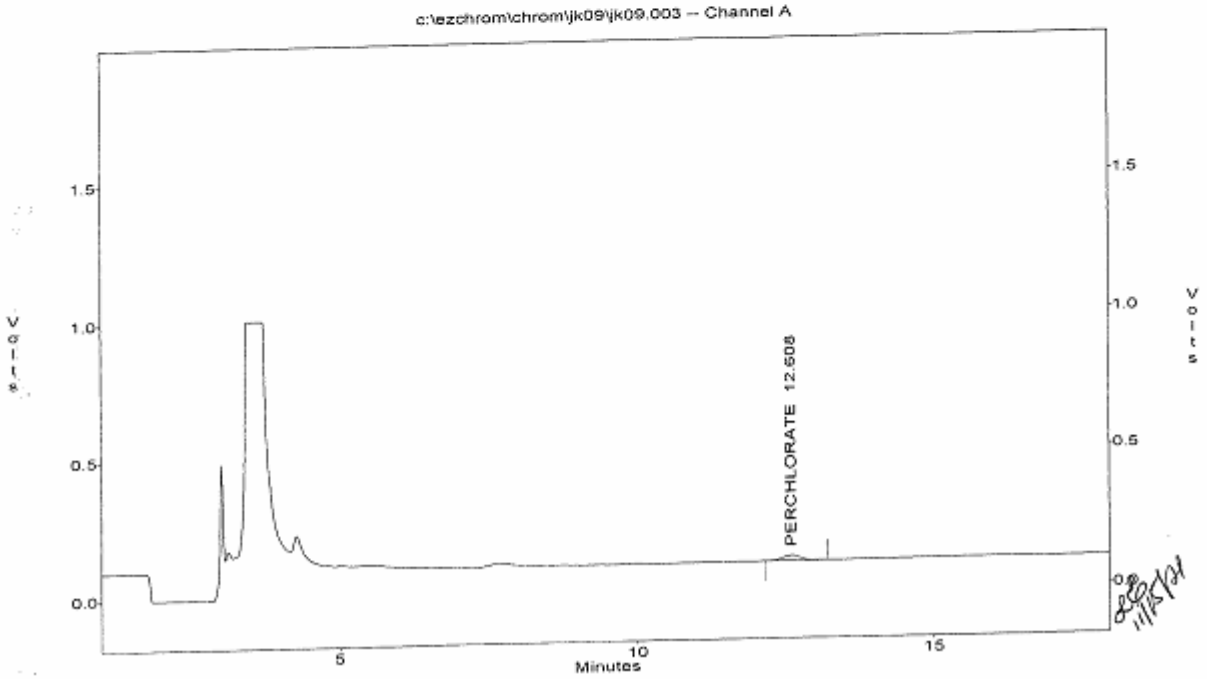
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



REPORT ID: 21K209

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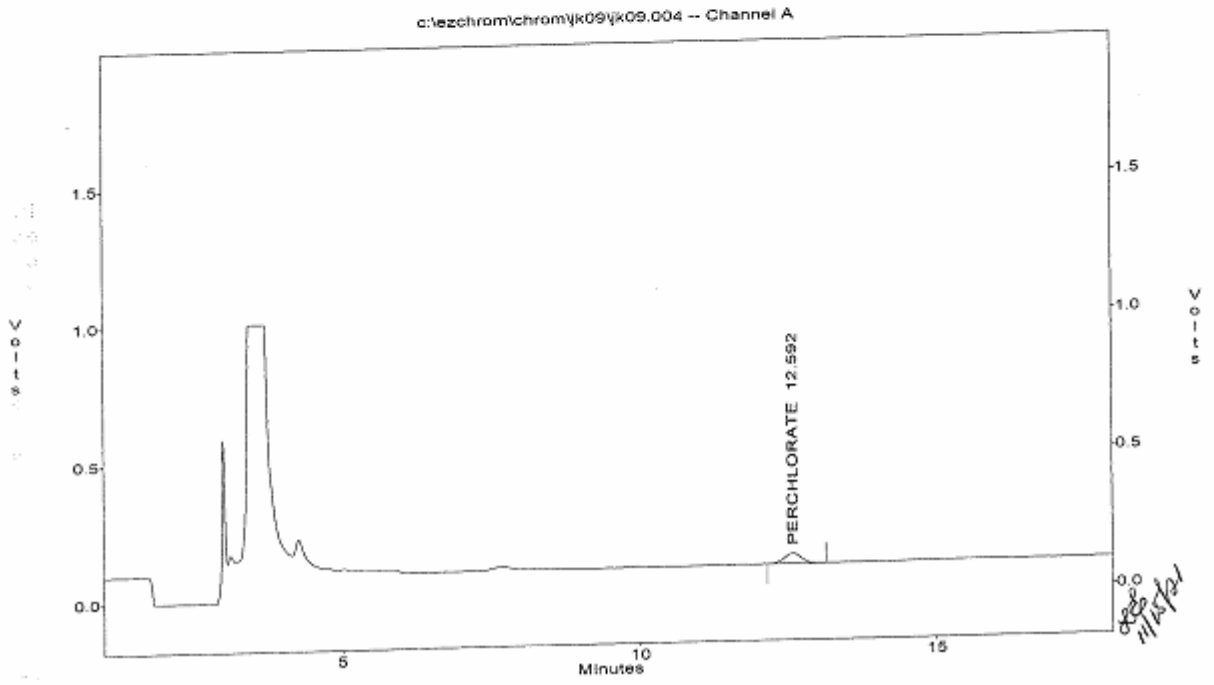
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



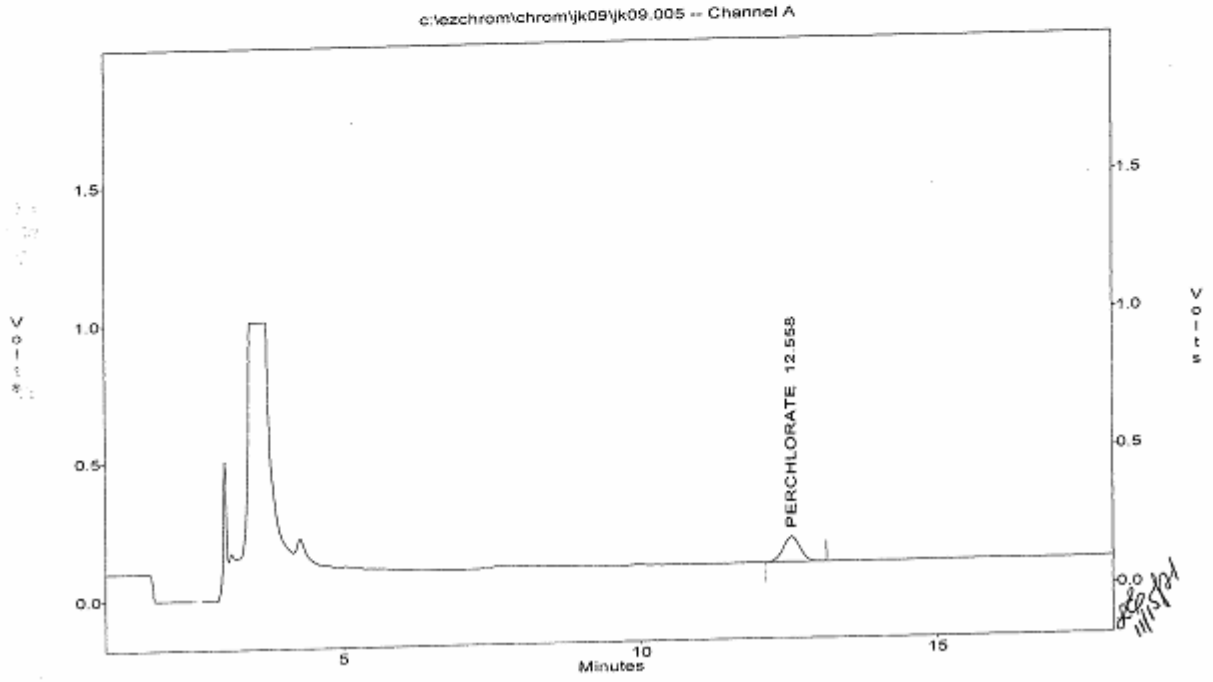
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



REPORT ID: 21K209

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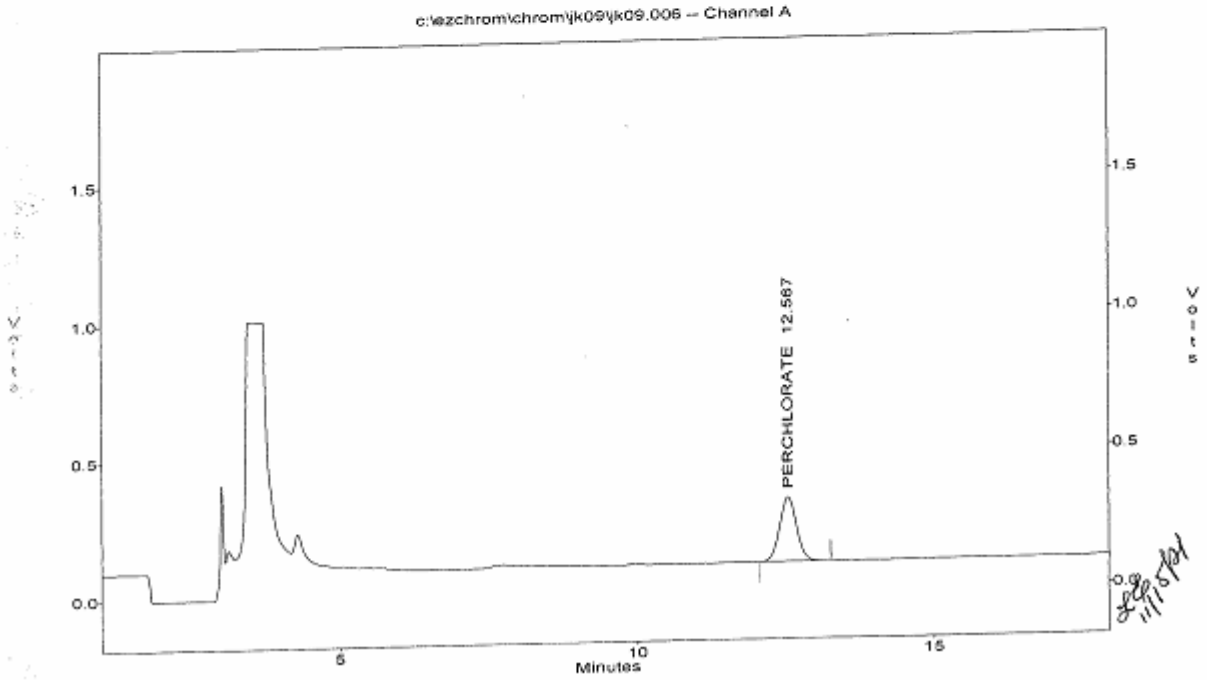
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



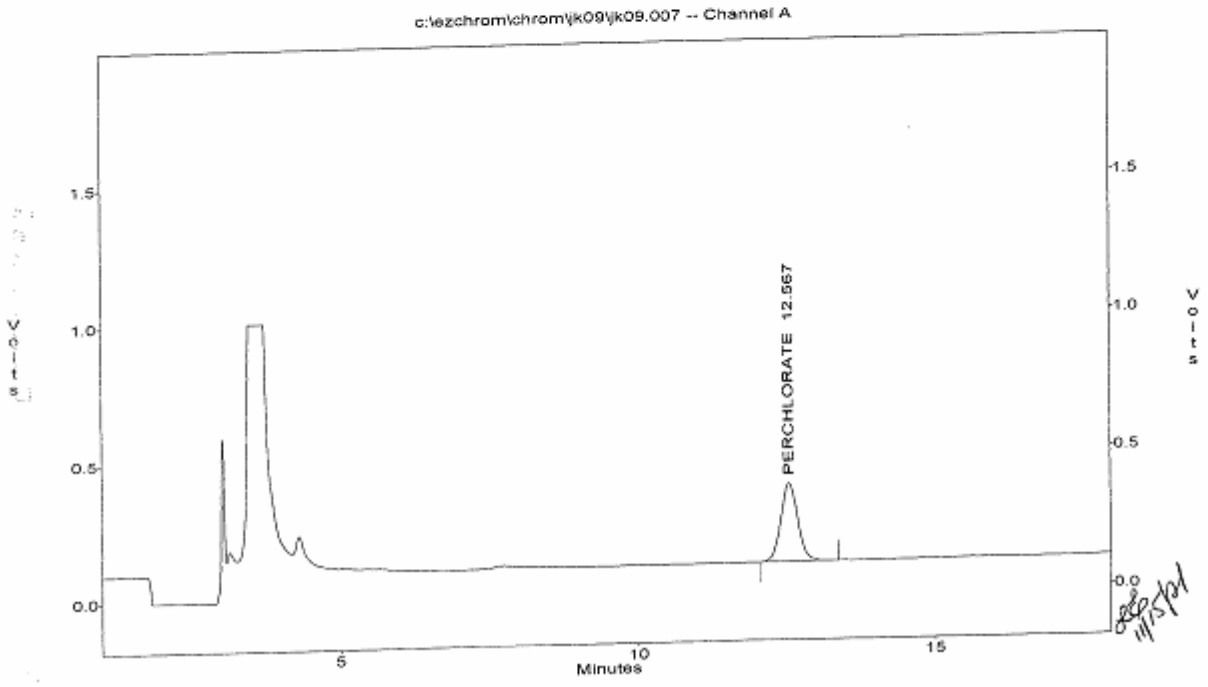
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



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* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

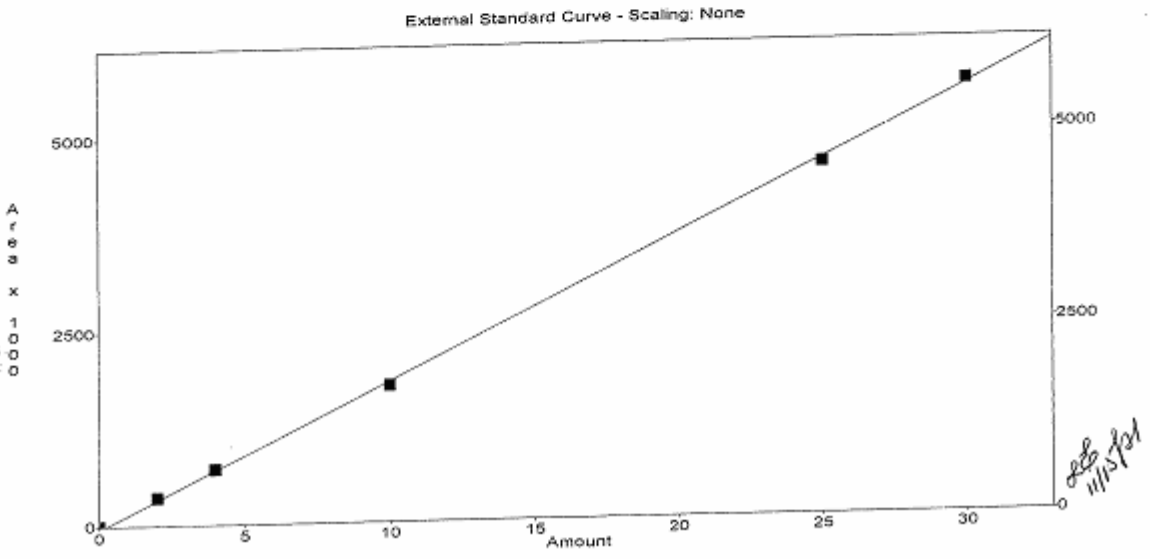
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3954.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36235e-006 x Area + 0.255269
r^2 = 0.999512



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SECOND SOURCE VERIFICATION

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

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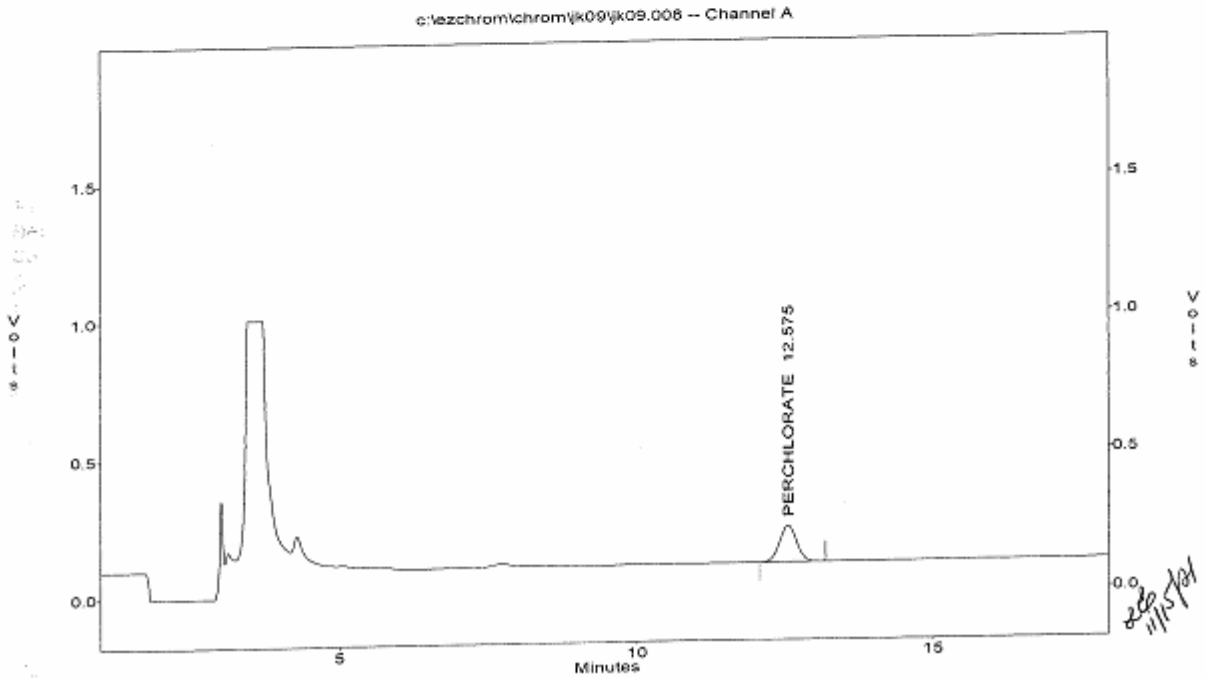
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



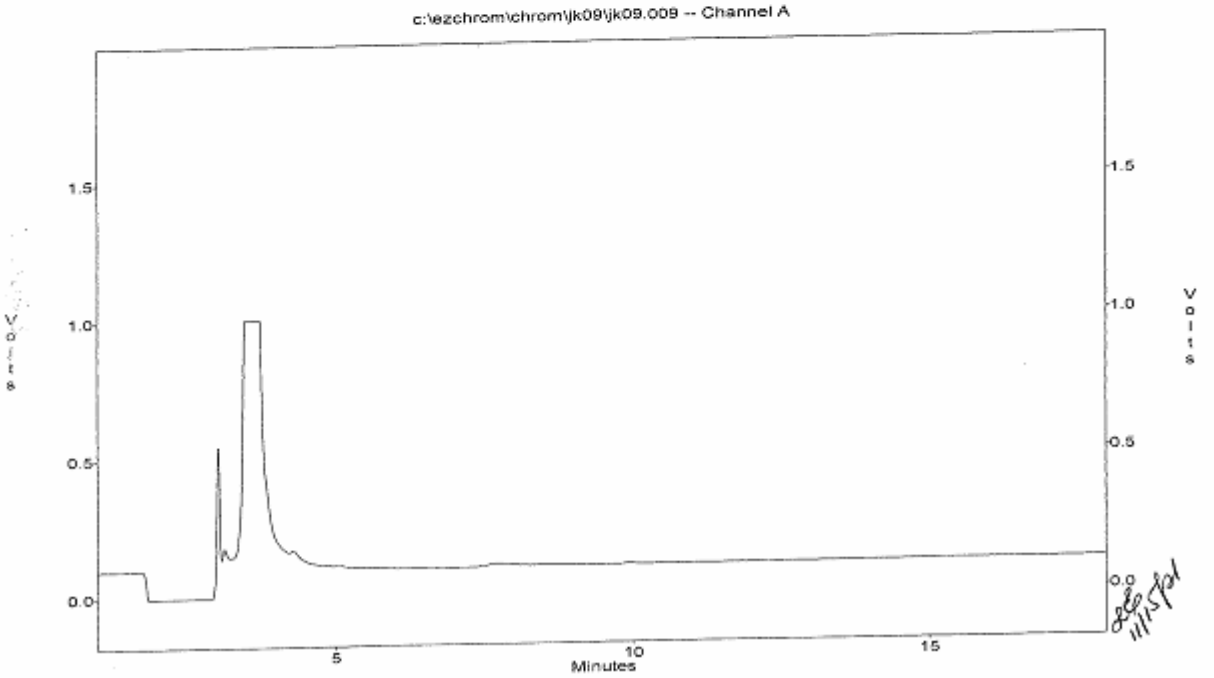
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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DAILY CALIBRATIONS

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Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2134813
SDG : 21K209
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK23009	CCV68-15	100	11/23/2115:42
21JK23031	CCV70-15	107	11/24/2101:00
21JK23036	CCV71-30	106	11/24/2102:45
21JK23041	CCV72-15	104	11/24/2104:30
21JK23052	CCV73-30	110	11/24/2108:21

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK23001	RINSE	P	IC57K08	11/23/2112:47	1
JK23002	RINSE	P	IC57K08	11/23/2113:08	1
JK23003	RINSE	P	IC57K08	11/23/2113:26	1
JK23004	IPCS	P	IC57K08	11/23/2113:48	1
JK23005	PCK006WB	P	IC57K08	11/23/2114:10	1
JK23006	MRLK2301	P	IC57K08	11/23/2114:31	1
JK23007	PCK006WL	P	IC57K08	11/23/2114:53	1
JK23008	PCK006WC	P	IC57K08	11/23/2115:14	1
JK23009	CCV68-15	P	IC57K08	11/23/2115:42	1
JK23010	K207-01	P	IC57K08	11/23/2116:14	1
JK23011	K207-02	P	IC57K08	11/23/2116:51	1
JK23012	K207-03	P	IC57K08	11/23/2117:57	1
JK23013	K207-04	P	IC57K08	11/23/2118:25	1
JK23014	K207-05	P	IC57K08	11/23/2119:02	1
JK23015	K207-06	P	IC57K08	11/23/2119:23	1
JK23016	K207-07	P	IC57K08	11/23/2119:44	1
JK23017	K207-08	P	IC57K08	11/23/2120:05	1
JK23018	K207-09	P	IC57K08	11/23/2120:26	1
JK23019	K207-10	P	IC57K08	11/23/2120:47	1
JK23020	CCV69-30	P	IC57K08	11/23/2121:08	1
JK23021	K207-11	P	IC57K08	11/23/2121:29	1
JK23022	K208-01	P	IC57K08	11/23/2121:50	1
JK23023	K208-02	P	IC57K08	11/23/2122:11	1
JK23024	K208-03	P	IC57K08	11/23/2122:32	1
JK23025	K208-03M	P	IC57K08	11/23/2122:53	1
JK23026	K208-03S	P	IC57K08	11/23/2123:15	1
JK23027	K208-04	P	IC57K08	11/23/2123:36	1
JK23028	K208-10	P	IC57K08	11/23/2123:57	1
JK23029	K208-10M	P	IC57K08	11/24/2100:18	1
JK23030	K208-10S	P	IC57K08	11/24/2100:39	1
JK23031	CCV70-15	P	IC57K08	11/24/2101:00	1
JK23032	K208-05	P	IC57K08	11/24/2101:21	1
JK23033	K208-06	P	IC57K08	11/24/2101:42	1
JK23034	K208-07	P	IC57K08	11/24/2102:03	1
JK23035	K209-01	P	IC57K08	11/24/2102:24	1
JK23036	CCV71-30	P	IC57K08	11/24/2102:45	1
JK23037	PCK007WB	P	IC57K08	11/24/2103:06	1
JK23038	MRLK2302	P	IC57K08	11/24/2103:27	1
JK23039	PCK007WL	P	IC57K08	11/24/2103:48	1
JK23040	PCK007WC	P	IC57K08	11/24/2104:09	1
JK23041	CCV72-15	P	IC57K08	11/24/2104:30	1
JK23042	K209-02	P	IC57K08	11/24/2104:51	1
JK23043	K209-03	P	IC57K08	11/24/2105:12	1
JK23044	K209-04	P	IC57K08	11/24/2105:33	1
JK23045	K209-05	P	IC57K08	11/24/2105:54	1
JK23046	K209-06	P	IC57K08	11/24/2106:15	1
JK23047	K209-07	P	IC57K08	11/24/2106:36	1
JK23048	K209-08	P	IC57K08	11/24/2106:57	1
JK23049	K209-09	P	IC57K08	11/24/2107:18	1
JK23050	K209-10	P	IC57K08	11/24/2107:39	1
JK23051	K209-11	P	IC57K08	11/24/2108:00	1
JK23052	CCV73-30	P	IC57K08	11/24/2108:21	1
JK23053	K208-08	P	IC57K08	11/24/2108:42	1
JK23054	K208-08M	P	IC57K08	11/24/2109:03	1
JK23055	K208-08S	P	IC57K08	11/24/2109:24	1
JK23056	K208-09	P	IC57K08	11/24/2109:45	1
JK23057	K208-09M	P	IC57K08	11/24/2110:06	1
JK23058	K208-09S	P	IC57K08	11/24/2110:27	1
JK23059	K217-01	P	IC57K08	11/24/2110:48	1
JK23060	K217-02	P	IC57K08	11/24/2111:09	1
JK23061	K217-03	P	IC57K08	11/24/2111:30	1
JK23062	K212-01	*	IC57K08	11/24/2111:51	1
JK23063	CCV74-15	P	IC57K08	11/24/2112:12	1
JK23064	K212-02	*	IC57K08	11/24/2112:33	1
JK23065	K212-03	P	IC57K08	11/24/2112:54	1
JK23066	K212-04	*	IC57K08	11/24/2113:15	1
JK23067	K212-05	P	IC57K08	11/24/2113:36	1
JK23068	K212-011	P	IC57K08	11/24/2113:57	5
JK23069	K212-021	P	IC57K08	11/24/2114:30	20
JK23070	K212-041	P	IC57K08	11/24/2114:51	20
JK23071	CCV75-30	P	IC57K08	11/24/2115:12	1

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IC RESULT FORM CalVersion: PCHL0314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK23001	RINSE	P	.000	11/23/2112:47	1
JK23002	RINSE	P	.000	11/23/2113:08	1
JK23003	RINSE	P	.000	11/23/2113:26	1
JK23004	IPCS	P	100%	11/23/2113:48	1
JK23005	PCK006WB	P	.000	11/23/2114:10	1
JK23006	MRLK2301	P	106%	11/23/2114:31	1
JK23007	PCK006WL	P	25.7	11/23/2114:53	1
JK23008	PCK006WC	P	25.4	11/23/2115:14	1
JK23009	CCV68-15	P	100%	11/23/2115:42	1
JK23010	K207-01	P	.000	11/23/2116:14	1
JK23011	K207-02	P	.000	11/23/2116:51	1
JK23012	K207-03	P	.000	11/23/2117:57	1
JK23013	K207-04	P	.000	11/23/2118:25	1
JK23014	K207-05	P	.000	11/23/2119:02	1
JK23015	K207-06	P	.000	11/23/2119:23	1
JK23016	K207-07	P	15	11/23/2119:44	1
JK23017	K207-08	P	15.8	11/23/2120:05	1
JK23018	K207-09	P	1.05	11/23/2120:26	1
JK23019	K207-10	P	.000	11/23/2120:47	1
JK23020	CCV69-30	P	106%	11/23/2121:08	1
JK23021	K207-11	P	.000	11/23/2121:29	1
JK23022	K208-01	P	3.48	11/23/2121:50	1
JK23023	K208-02	P	3.7	11/23/2122:11	1
JK23024	K208-03	P	3.98	11/23/2122:32	1
JK23025	K208-03M	P	19	11/23/2122:53	1
JK23026	K208-03S	P	19.1	11/23/2123:15	1
JK23027	K208-04	P	3.6	11/23/2123:36	1
JK23028	K208-10	P	.000	11/23/2123:57	1
JK23029	K208-10M	P	15.2	11/24/2100:18	1
JK23030	K208-10S	P	15.2	11/24/2100:39	1
JK23031	CCV70-15	P	107%	11/24/2101:00	1
JK23032	K208-05	P	3.49	11/24/2101:21	1
JK23033	K208-06	P	.000	11/24/2101:42	1
JK23034	K208-07	P	.000	11/24/2102:03	1
JK23035	K209-01	P	.000	11/24/2102:24	1
JK23036	CCV71-30	P	106%	11/24/2102:45	1
JK23037	PCK007WB	P	.000	11/24/2103:06	1
JK23038	MRLK2302	P	94.9%	11/24/2103:27	1
JK23039	PCK007WL	P	25.6	11/24/2103:48	1
JK23040	PCK007WC	P	25.8	11/24/2104:09	1
JK23041	CCV72-15	P	104%	11/24/2104:30	1
JK23042	K209-02	P	.000	11/24/2104:51	1
JK23043	K209-03	P	.000	11/24/2105:12	1
JK23044	K209-04	P	.000	11/24/2105:33	1
JK23045	K209-05	P	.000	11/24/2105:54	1
JK23046	K209-06	P	.000	11/24/2106:15	1
JK23047	K209-07	P	2.93	11/24/2106:36	1
JK23048	K209-08	P	2.91	11/24/2106:57	1
JK23049	K209-09	P	3.78	11/24/2107:18	1
JK23050	K209-10	P	2.57	11/24/2107:39	1
JK23051	K209-11	P	.000	11/24/2108:00	1
JK23052	CCV73-30	P	110%	11/24/2108:21	1
JK23053	K208-08	P	.000	11/24/2108:42	1
JK23054	K208-08M	P	15.3	11/24/2109:03	1
JK23055	K208-08S	P	15.2	11/24/2109:24	1
JK23056	K208-09	P	.000	11/24/2109:45	1
JK23057	K208-09M	P	15.2	11/24/2110:06	1
JK23058	K208-09S	P	14.9	11/24/2110:27	1
JK23059	K217-01	P	.000	11/24/2110:48	1
JK23060	K217-02	P	.000	11/24/2111:09	1
JK23061	K217-03	P	.000	11/24/2111:30	1
JK23062	K212-01	*	51.9E	11/24/2111:51	1
JK23063	CCV74-15	P	108%	11/24/2112:12	1
JK23064	K212-02	*	149E	11/24/2112:33	1
JK23065	K212-03	P	.000	11/24/2112:54	1
JK23066	K212-04	*	120E	11/24/2113:15	1
JK23067	K212-05	P	.000	11/24/2113:36	1
JK23068	K212-011	P	50.7	11/24/2113:57	5
JK23069	K212-021	P	395	11/24/2114:30	20
JK23070	K212-041	P	198	11/24/2114:51	20
JK23071	CCV75-30	P	109%	11/24/2115:12	1

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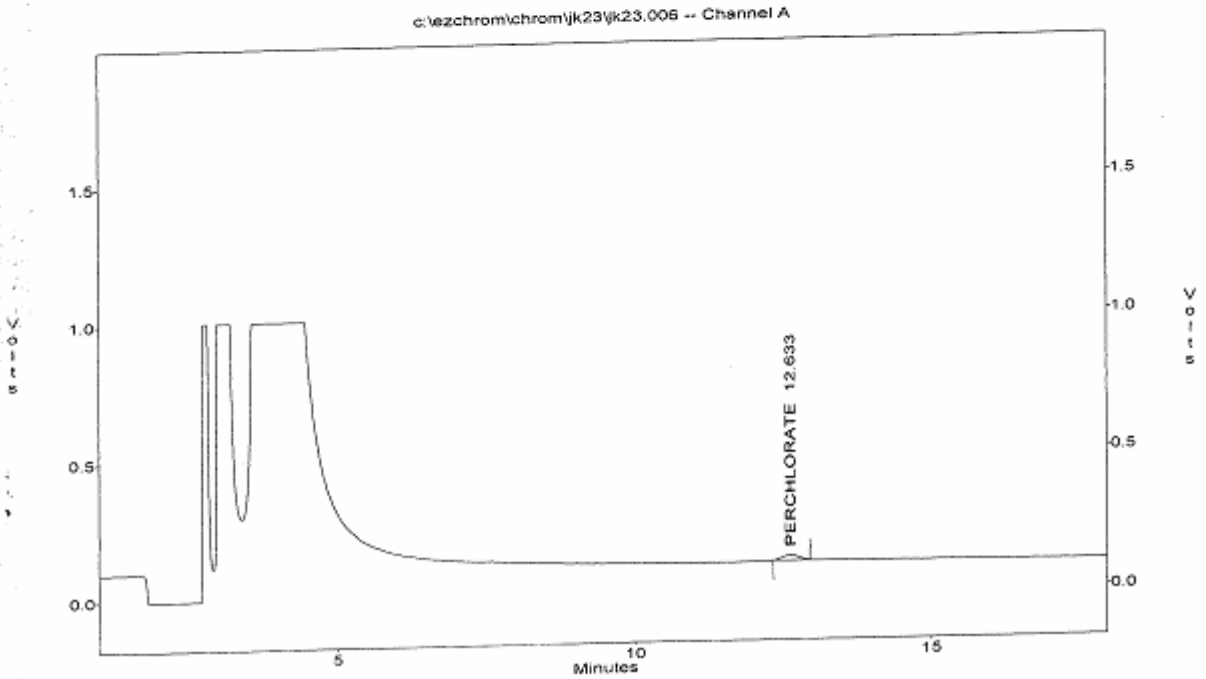
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2301
Acquired : Nov 23, 2021 14:31:23
Printed : Nov 24, 2021 07:57:02
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	346434	18782	180791.531	2.113



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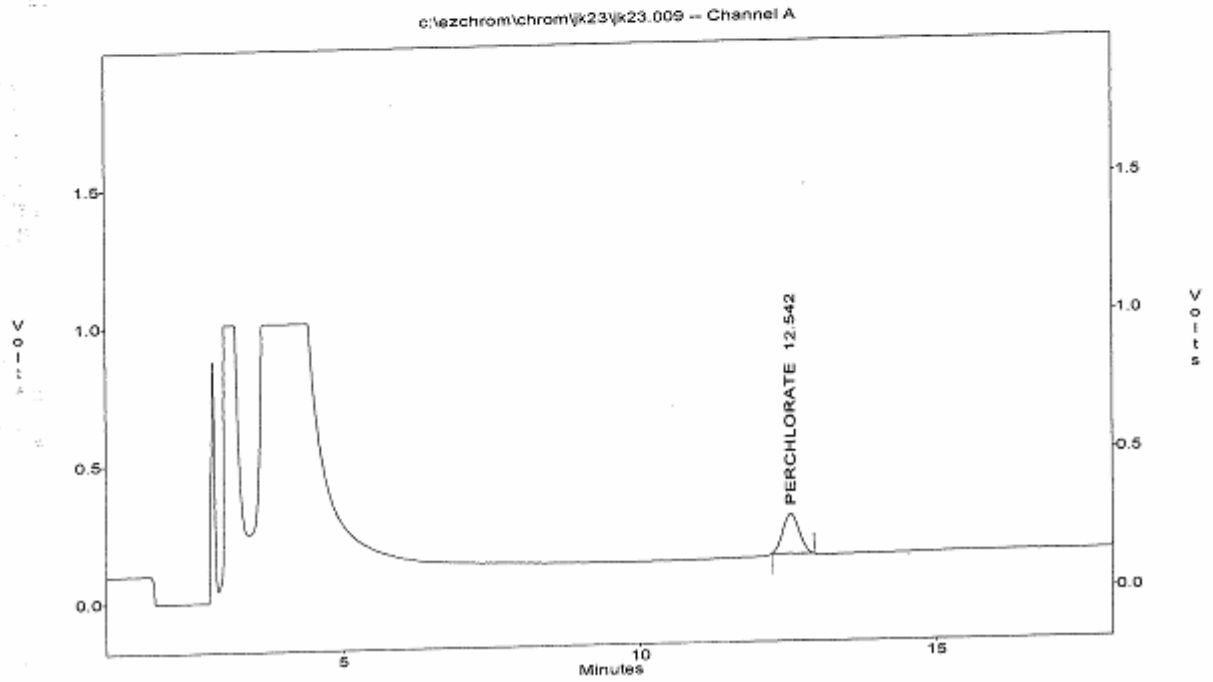
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV68-15
Acquired : Nov 23, 2021 15:42:13
Printed : Nov 24, 2021 07:58:16
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	2762225	144116	180791.531	15.069



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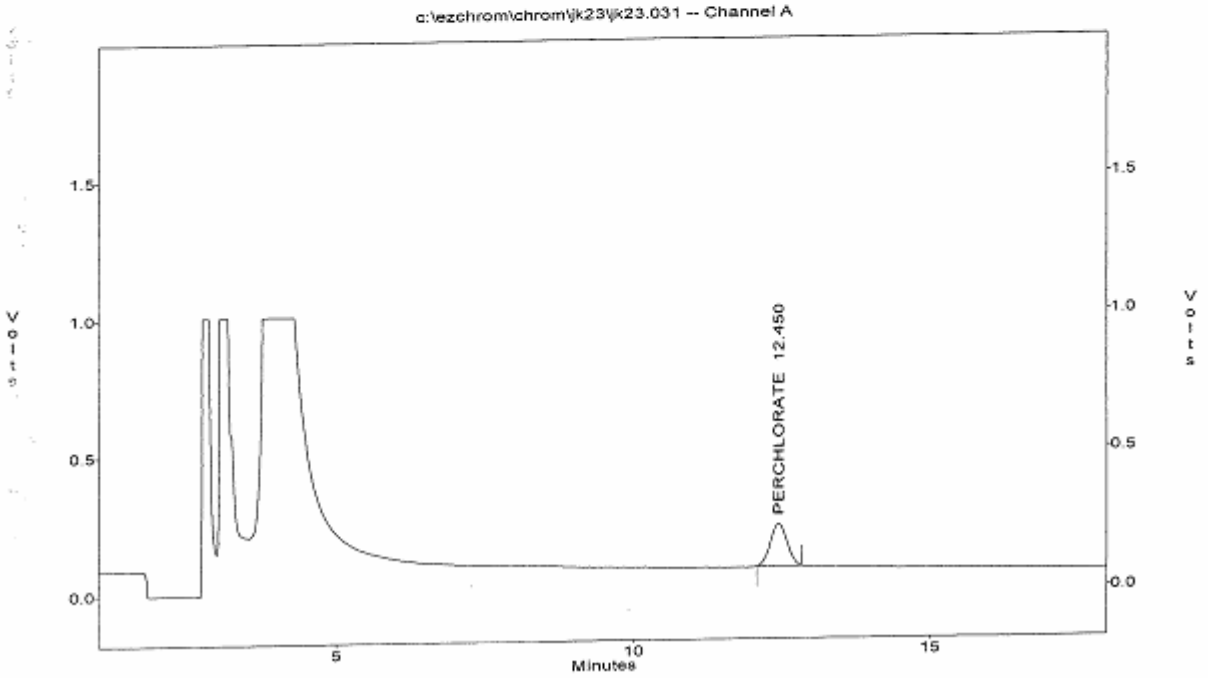
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.031
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV70-15
Acquired : Nov 24, 2021 01:00:07
Printed : Nov 24, 2021 08:29:23
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.45	2932552	151139	180791.531	15.982



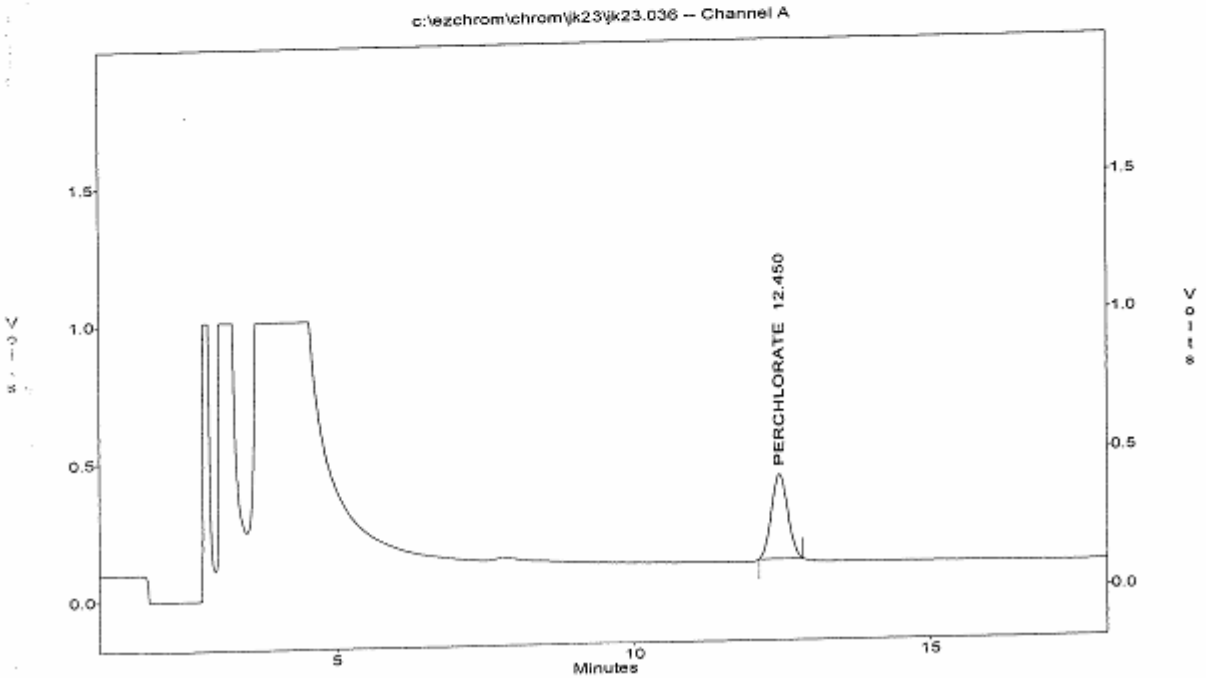
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.036
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV71-30
Acquired : Nov 24, 2021 02:45:13
Printed : Nov 24, 2021 08:31:55
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.45	5890114	306134	180791.531	31.844



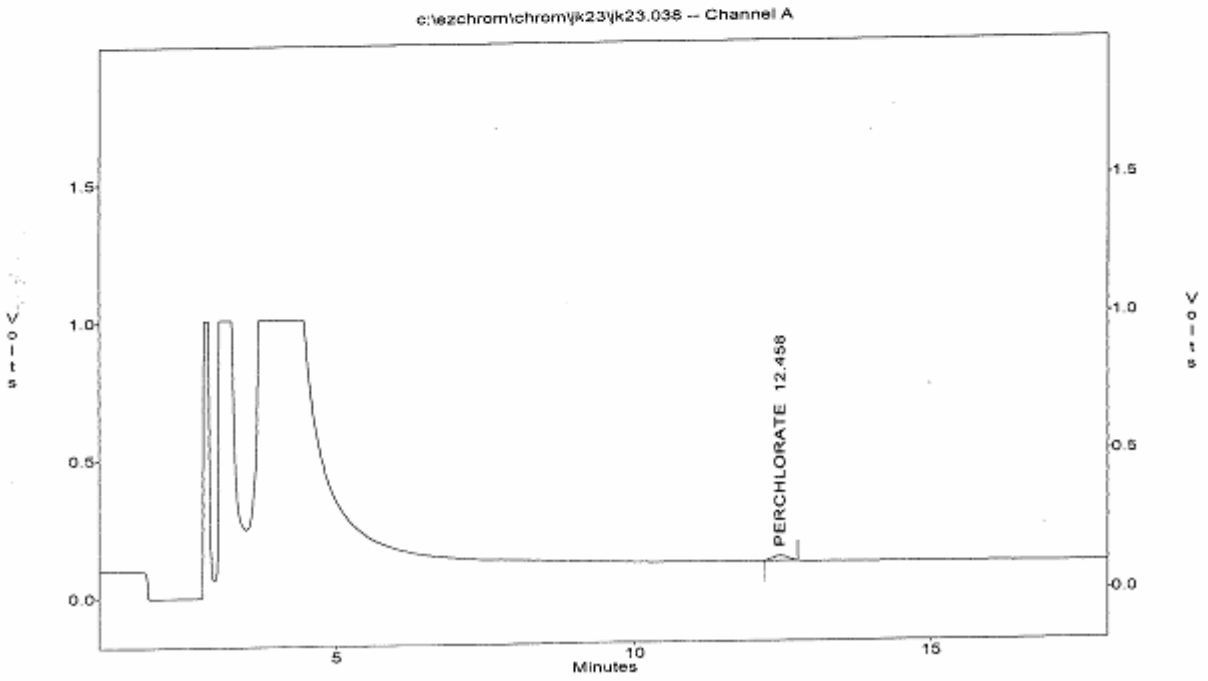
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.038
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2302
Acquired : Nov 24, 2021 03:27:16
Printed : Nov 24, 2021 08:32:28
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.46	306402	17506	180791.531	1.898



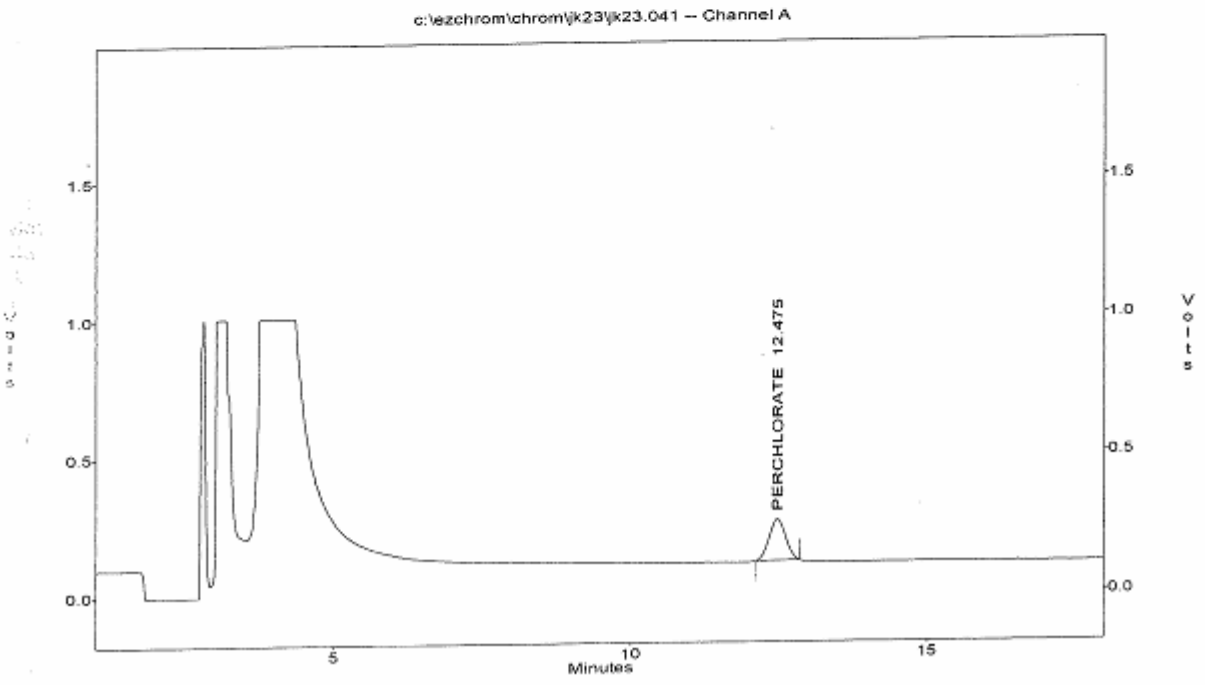
REPORT ID: 21K209

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.041
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV72-15
Acquired : Nov 24, 2021 04:30:20
Printed : Nov 24, 2021 08:35:06
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.48	2862419	148185	180791.531	15.606



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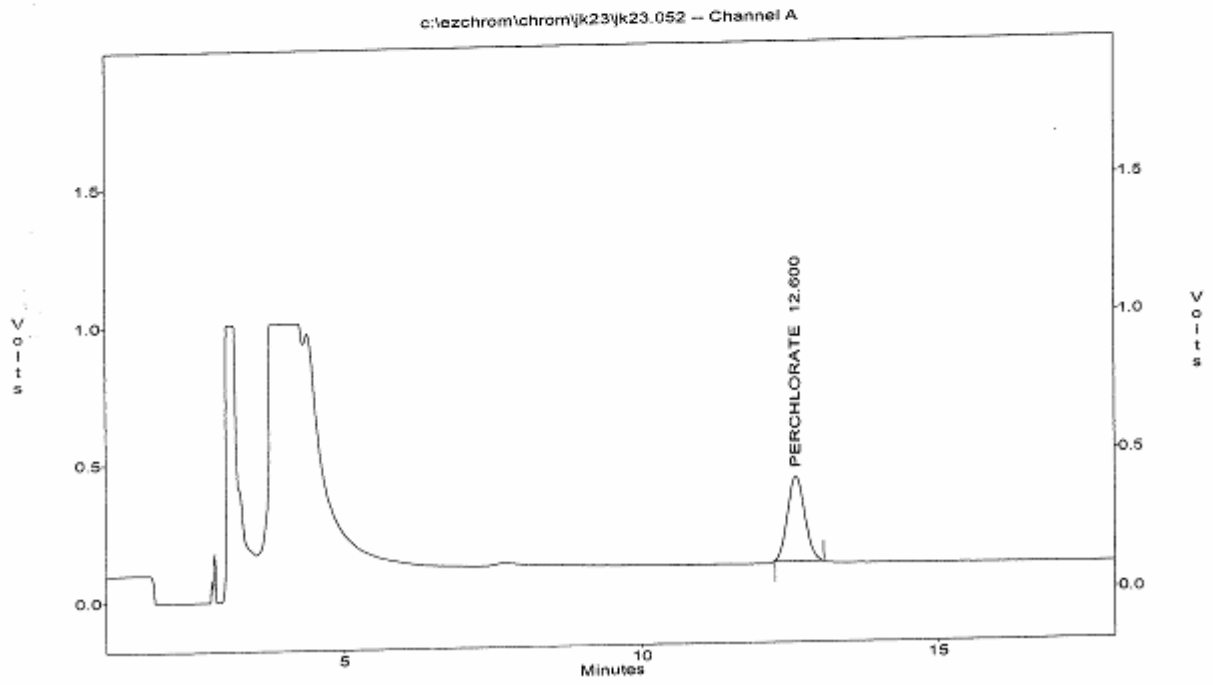
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.052
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV73-30
Acquired : Nov 24, 2021 08:21:33
Printed : Nov 24, 2021 10:21:55
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	6123149	306902	180791.531	33.093



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ANALYTICAL LOG(S)

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 17

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWRI-02-18-01

Reagent Water ID #: SWIA-611-03-01

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99,927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 170110144
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 181011294
Flow: 1.50mL/min Sample loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 170111085

Snapseal container

0.45 µm filter lot #: 4 oz; lot #: 35520012

0.2 µm filter lot #: 1.5 oz; lot #:

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57 K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	SW46-003-04-01
ICV	SW48-003-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/8/21

REPORT ID: 21K209

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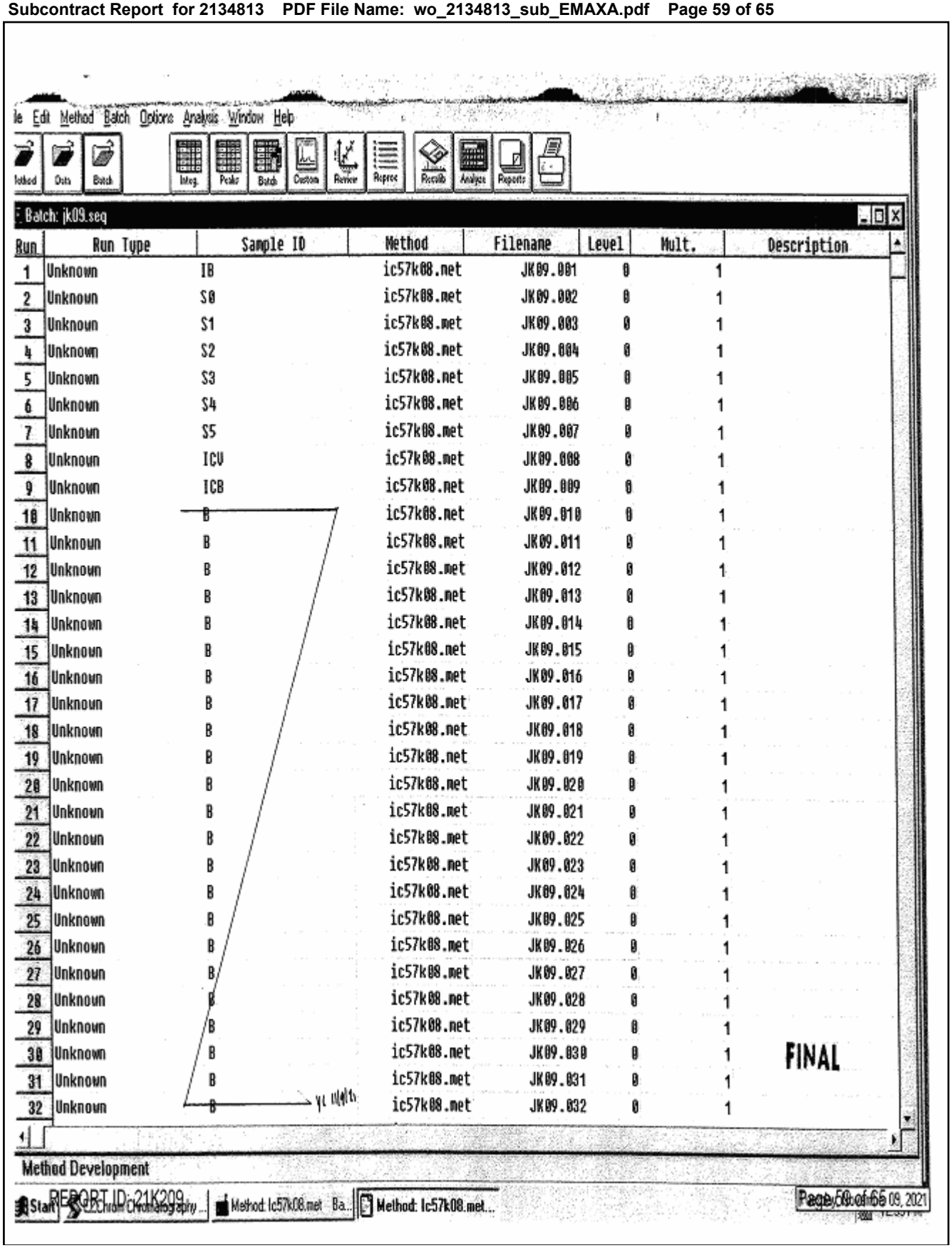

le Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknown	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknown	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknown	B	ic57k08.met	JK09.030	0	1	FINAL
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

Method Development

REPORT ID: 21K209

Method: ic57k08.met Ba...

Method: ic57k08.met...

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09, 2021

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Page 24

Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SWR1-02-18-04

Reagent Water ID #: RWI-21-004

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1411

Temperature: 25 °C Thermometer ID:

Comments:

PCK006W: K207; K208; ~~K209~~ K209 VG111231B1
• MS/MSD: Used 0.15mL (15ppb) of SW48-003-03-27 to a volume of 10mL of sample.

PCK007W: K209; K208; K217; K212
• MS/MSD: Used 0.15mL (15ppb) of SW48-003-03-27 to a volume of 10ml of Sample.

Snapseal container

0.45 µm filter lot #: 210890103 4 oz; lot #; 35520012

0.2 µm filter lot #: – 1.5 oz; lot #; 25020009

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK23
Method File:	IC57K08
Analytical Batch:	PCK006W/PCK007W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	–
ICV	–
CCV-15	SW48-003-04-11
CCV-30	-08
LCS	-12
IPC	-06
MRL	-10
MS	SW48-003-03-27

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/23/21

REPORT ID: 21K209

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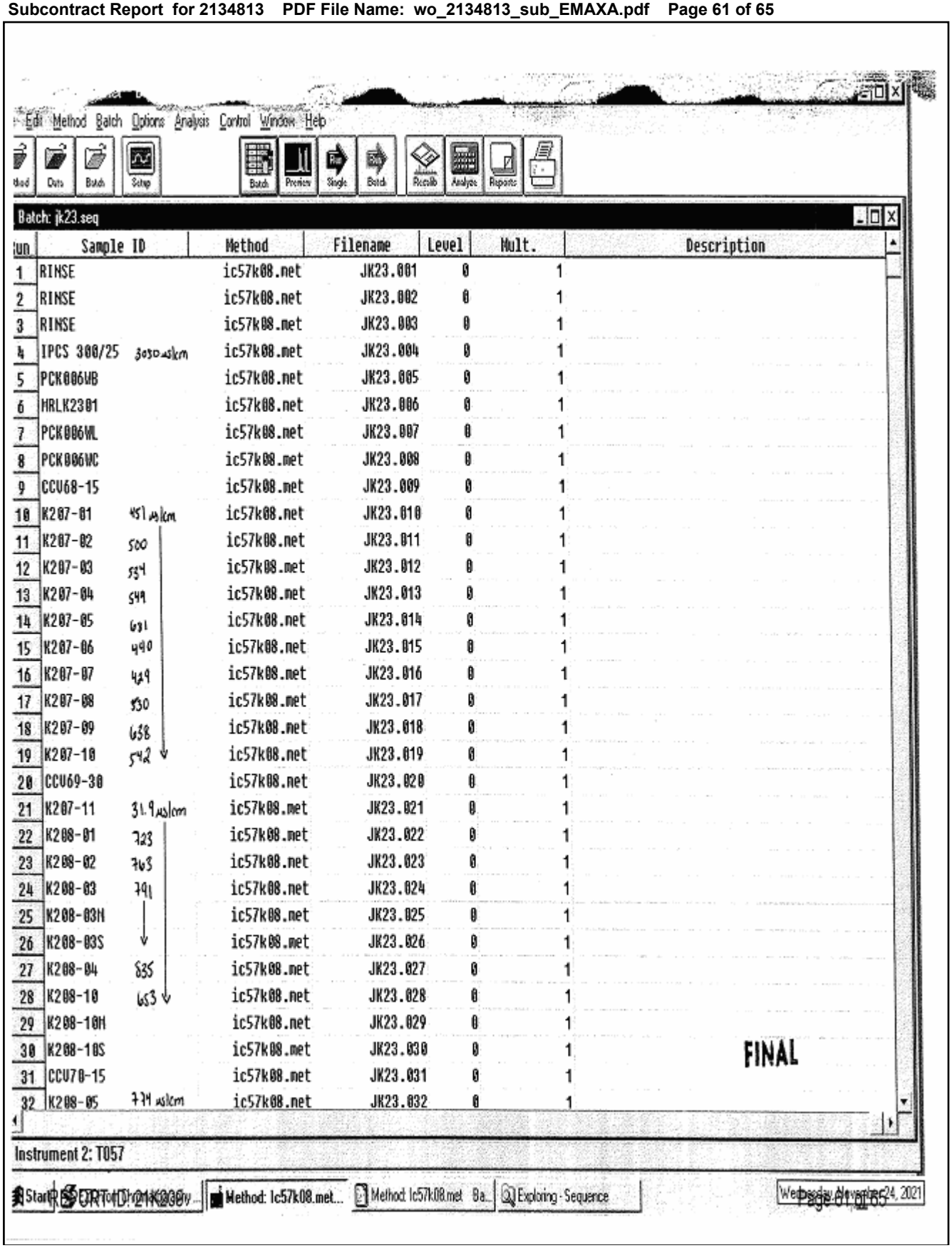


Edit Method Batch Options Analysis Control Window Help

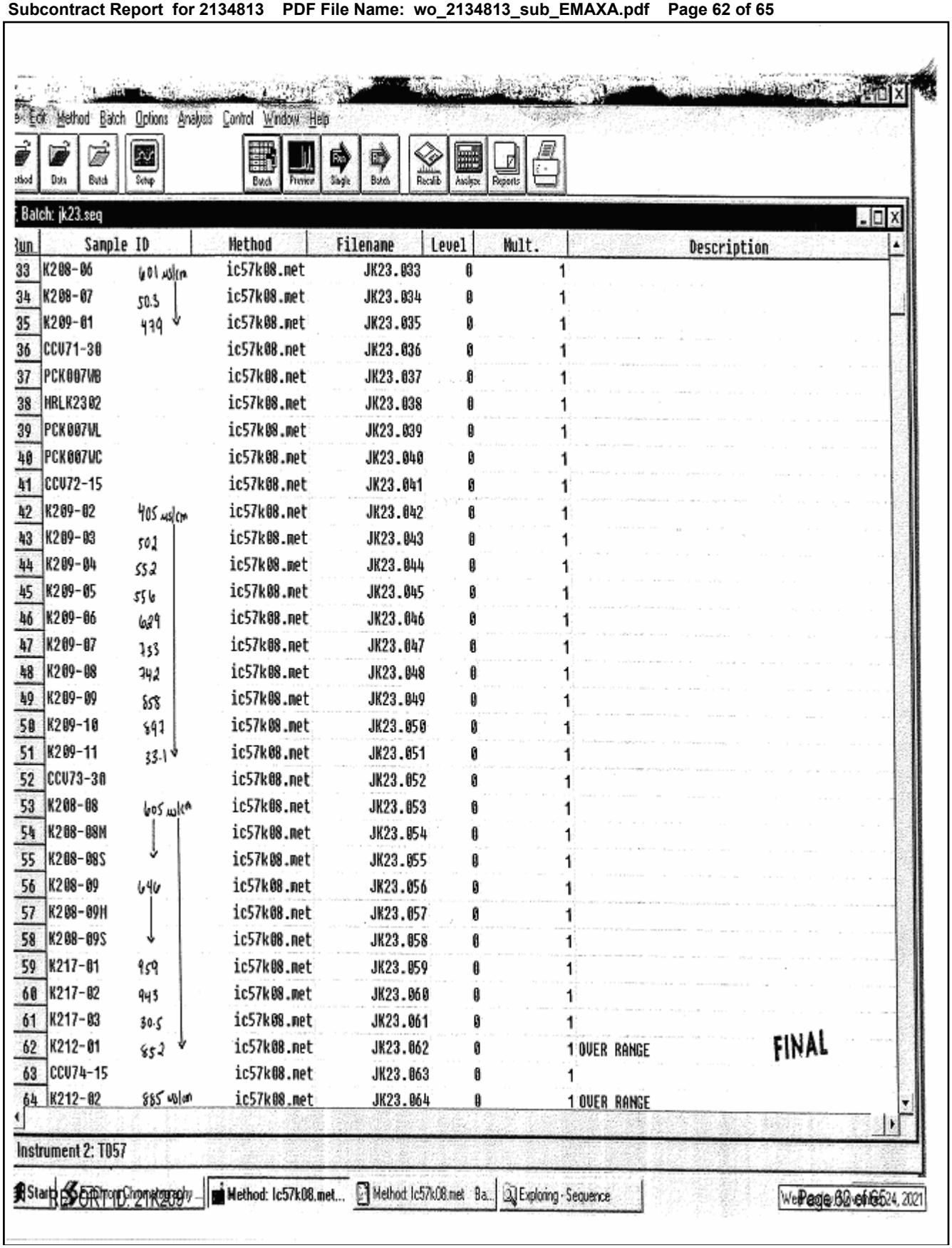
Batch: jk23.seq

Run	Sample ID		Method	Filename	Level	Mult.	Description
1	RINSE		ic57k08.net	JK23.001	0	1	
2	RINSE		ic57k08.net	JK23.002	0	1	
3	RINSE		ic57k08.net	JK23.003	0	1	
4	IPCS 300/25	3030 µs/cm	ic57k08.net	JK23.004	0	1	
5	PCK006UB		ic57k08.net	JK23.005	0	1	
6	HRLK2301		ic57k08.net	JK23.006	0	1	
7	PCK006WL		ic57k08.net	JK23.007	0	1	
8	PCK006WC		ic57k08.net	JK23.008	0	1	
9	CCU68-15		ic57k08.net	JK23.009	0	1	
10	K207-01	451 µs/cm	ic57k08.net	JK23.010	0	1	
11	K207-02	500	ic57k08.net	JK23.011	0	1	
12	K207-03	534	ic57k08.net	JK23.012	0	1	
13	K207-04	549	ic57k08.net	JK23.013	0	1	
14	K207-05	631	ic57k08.net	JK23.014	0	1	
15	K207-06	490	ic57k08.net	JK23.015	0	1	
16	K207-07	439	ic57k08.net	JK23.016	0	1	
17	K207-08	530	ic57k08.net	JK23.017	0	1	
18	K207-09	638	ic57k08.net	JK23.018	0	1	
19	K207-10	542	ic57k08.net	JK23.019	0	1	
20	CCU69-30		ic57k08.net	JK23.020	0	1	
21	K207-11	31.9 µs/cm	ic57k08.net	JK23.021	0	1	
22	K208-01	723	ic57k08.net	JK23.022	0	1	
23	K208-02	763	ic57k08.net	JK23.023	0	1	
24	K208-03	791	ic57k08.net	JK23.024	0	1	
25	K208-03N		ic57k08.net	JK23.025	0	1	
26	K208-03S		ic57k08.net	JK23.026	0	1	
27	K208-04	835	ic57k08.net	JK23.027	0	1	
28	K208-10	653	ic57k08.net	JK23.028	0	1	
29	K208-10H		ic57k08.net	JK23.029	0	1	
30	K208-10S		ic57k08.net	JK23.030	0	1	
31	CCU70-15		ic57k08.net	JK23.031	0	1	
32	K208-05	734 µs/cm	ic57k08.net	JK23.032	0	1	

FINAL

Instrument 2: T057

Method: Ic57k08.met... Method: Ic57k08.met Ba... Exploring - Sequence



Edit Method Batch Options Analysis Control Window Help

Batch: jk23.seq

Run	Sample ID		Method	Filename	Level	Mult.	Description
33	K208-06	601 ug/cm	ic57k08.met	JK23.033	0	1	
34	K208-07	50.3	ic57k08.met	JK23.034	0	1	
35	K209-01	439	ic57k08.met	JK23.035	0	1	
36	CCV71-30		ic57k08.met	JK23.036	0	1	
37	PCK007WB		ic57k08.met	JK23.037	0	1	
38	HRLK2302		ic57k08.met	JK23.038	0	1	
39	PCK007WL		ic57k08.met	JK23.039	0	1	
40	PCK007WC		ic57k08.met	JK23.040	0	1	
41	CCV72-15		ic57k08.met	JK23.041	0	1	
42	K209-02	405 ug/cm	ic57k08.met	JK23.042	0	1	
43	K209-03	502	ic57k08.met	JK23.043	0	1	
44	K209-04	552	ic57k08.met	JK23.044	0	1	
45	K209-05	556	ic57k08.met	JK23.045	0	1	
46	K209-06	689	ic57k08.met	JK23.046	0	1	
47	K209-07	353	ic57k08.met	JK23.047	0	1	
48	K209-08	342	ic57k08.met	JK23.048	0	1	
49	K209-09	858	ic57k08.met	JK23.049	0	1	
50	K209-10	891	ic57k08.met	JK23.050	0	1	
51	K209-11	33.1	ic57k08.met	JK23.051	0	1	
52	CCV73-30		ic57k08.met	JK23.052	0	1	
53	K208-08	605 ug/cm	ic57k08.met	JK23.053	0	1	
54	K208-08M		ic57k08.met	JK23.054	0	1	
55	K208-08S		ic57k08.met	JK23.055	0	1	
56	K208-09	646	ic57k08.met	JK23.056	0	1	
57	K208-09M		ic57k08.met	JK23.057	0	1	
58	K208-09S		ic57k08.met	JK23.058	0	1	
59	K217-01	959	ic57k08.met	JK23.059	0	1	
60	K217-02	945	ic57k08.met	JK23.060	0	1	
61	K217-03	30.5	ic57k08.met	JK23.061	0	1	
62	K212-01	85.2	ic57k08.met	JK23.062	0	1	OVER RANGE
63	CCV74-15		ic57k08.met	JK23.063	0	1	
64	K212-02	885 ug/cm	ic57k08.met	JK23.064	0	1	OVER RANGE

FINAL

Instrument 2: T057

Start | Method: Ic57k08.met... | Method: Ic57k08.met Ba... | Exploring - Sequence

REPORT ID: 21K209

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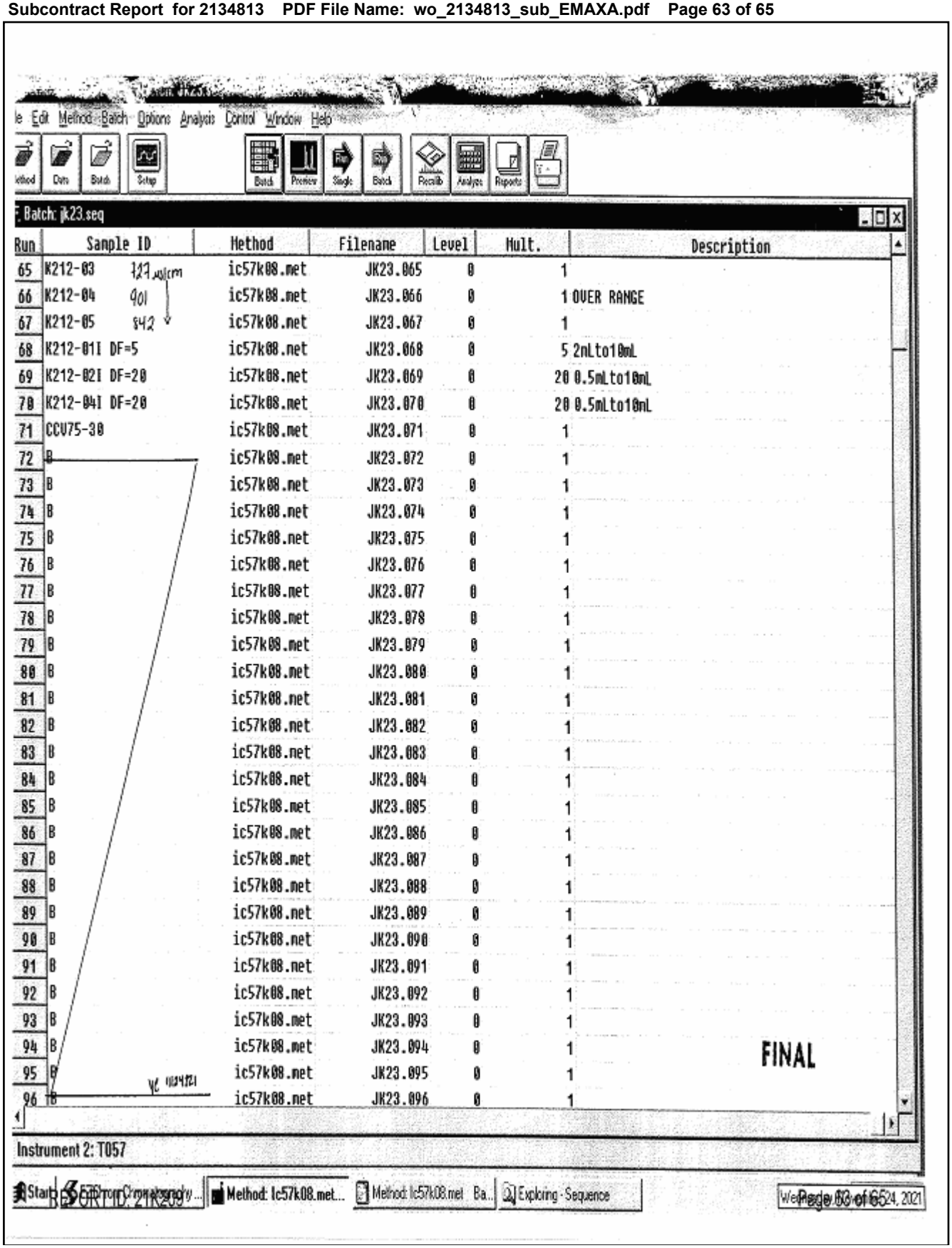

Batch: jk23.seq

Run	Sample ID	Method	Filename	Level	Mult.	Description
65	K212-03 121 ug/cm	ic57k08.met	JK23.065	0	1	
66	K212-04 901	ic57k08.met	JK23.066	0	1	OVER RANGE
67	K212-05 542	ic57k08.met	JK23.067	0	1	
68	K212-01I DF=5	ic57k08.met	JK23.068	0	5	2mLto10mL
69	K212-02I DF=20	ic57k08.met	JK23.069	0	20	0.5mLto10mL
70	K212-04I DF=20	ic57k08.met	JK23.070	0	20	0.5mLto10mL
71	CCV75-30	ic57k08.met	JK23.071	0	1	
72	B	ic57k08.met	JK23.072	0	1	
73	B	ic57k08.met	JK23.073	0	1	
74	B	ic57k08.met	JK23.074	0	1	
75	B	ic57k08.met	JK23.075	0	1	
76	B	ic57k08.met	JK23.076	0	1	
77	B	ic57k08.met	JK23.077	0	1	
78	B	ic57k08.met	JK23.078	0	1	
79	B	ic57k08.met	JK23.079	0	1	
80	B	ic57k08.met	JK23.080	0	1	
81	B	ic57k08.met	JK23.081	0	1	
82	B	ic57k08.met	JK23.082	0	1	
83	B	ic57k08.met	JK23.083	0	1	
84	B	ic57k08.met	JK23.084	0	1	
85	B	ic57k08.met	JK23.085	0	1	
86	B	ic57k08.met	JK23.086	0	1	
87	B	ic57k08.met	JK23.087	0	1	
88	B	ic57k08.met	JK23.088	0	1	
89	B	ic57k08.met	JK23.089	0	1	
90	B	ic57k08.met	JK23.090	0	1	
91	B	ic57k08.met	JK23.091	0	1	
92	B	ic57k08.met	JK23.092	0	1	
93	B	ic57k08.met	JK23.093	0	1	
94	B	ic57k08.met	JK23.094	0	1	
95	B	ic57k08.met	JK23.095	0	1	
96	B	ic57k08.met	JK23.096	0	1	

FINAL

Instrument 2: T057

REPORT ID: 21K209

RETENTION TIME WINDOW

REPORT ID: 21K209 Page 64 of 65

RETENTION TIME WINDOW

METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K209

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 15:06
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	Project Number: 4Q21
	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.
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.

Date of Report: 12/15/2021

David Conner

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Client Project: [none]
BCL Project: JPL- GW Monitoring Wells-CLP
BCL Work Order: 2135051
Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 11/4/2021. 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

Table of Contents

Table of Contents

Chain of Custody and Cooler Receipt Form for 2135051 Page 1 of 3

BC Laboratories, Inc. Chain of Custody Form

Page 1 of ___

*Required Fields

Report To: Client:* Tidewater, Inc.
Attn:* David Conner
Street Address:* 3761 Allucks Drive
City:* Powell State:* OH Zip:* 43065
Phone#:*626) 298 - 5715 Fax#: 614) 792 - 2897
Email Address: david.conner@tideh2o.net
Submission #: 21-350051

Project Description:* JPL-GW Monitoring
Project Code:* 4021
Sampler (s):* Blaine Tech

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

Sample #	Sample Description	Date	Time	Matrix*	VOCs EPA 524.2	TRM: Cr	Perchlorate	Hexavalent Cr6 -218.6 (mg/L)	Cl, NO3, NO2, SO4	Orthophosphate 365.1			Notes
-1	TB-6-110421	11/4/21	0830	W	X	X	X	X					
-2	MW-19-5		0943	GW	X	X	X	X					Time: 1020
-3	MW-19-4		1050		X	X	X	X					
-4	MW-19-3		1120		X	X	X	X					MS/MSD
-5	MW-19-2		1200		X	X	X	X					
-6	DUP-6-110421		1220		X	X	X	X					
-7	MW-19-1		0945		X	X	X	X					
-8	EB-6-110421		1245		X	X	X	X					MS/MSD
-9	MW-1		1445		X	X	X	X					
-10	MW-9		1330		X	X	X	X					MS/MSD
-11	MW-15	↓	0934	↓	X	X	X	X					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)

☐ MBU Site
☐ CVX RCRA
☐ Geotracker S File (CA Default)
☐ Geotracker 2 File
☐ Other (Specify) _____

Cost Center: _____ Global ID: _____

	Date	Time		Date	Time
1. Relinquished By:	11/4/21	1615	1. Received By:	11/4/21	1615
2. Relinquished By:	11/4/21	1830	2. Received By:	11/4/21	1830
3. Relinquished By:	11/4/21	1830	3. Received By:	11/4/21	1830

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

CHK BY DISTRIBUTION
SUB OUT ☐

*SHORT HOLDING TIME
Cr6 NO_2 NO_3 OP SS
DO Cl_2 BOD MBAS COT

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 2

Submission #: 21-35051

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ | Containers ☐ 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: PE Thermometer ID: 108

Temperature: (A) 1.6 °C / (C) 1.6 °C

Date/Time 11/04/21 1830

Analyst Init ZCL

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		D			D	D		D		
4oz / 8oz / 16oz PE UNPRES			DIE	G-J			DIE			
2oz CrVI		F	P Ø	M,N	F	F	G	F		
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz		E	F	K,L	E	E	F	E		
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK	A									
40ml VOA VIAL	A-C	A-C	A-C	A-E	A-C	A-C	A-C	A-C		
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: _____ Date/Time: 11/5/21 0857

A = Actual / C = Corrected

Rev 22 04/13/21

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 22]

Chain of Custody and Cooler Receipt Form for 2135051 Page 3 of 3

BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 2

Submission #: 21-35051

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ 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 ☐ Intact? Yes ☐ No ☐ Containers ☐ 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: PE Thermometer ID: 108

Temperature: (A) 0.4 °C / (C) 0.4 °C

Date/Time 11/04/21 1830

Analyst Init TCI

SAMPLE CONTAINERS	SAMPLE NUMBERS 9	10	11							
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES	G,H	G,H	G,H							
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}	K,L	K,L	K,L							
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / (16oz)	I,J	I,J	I,J							
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A-F	A-F	A-F							
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
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: CAP Date/Time: 11/5/21 0837

A = Actual / C = Corrected

Rev 22 04/13/21

(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 22)

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2135051-01	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 08:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	TB-8-110421	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Trip Blank
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): TB-8-110421	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-02	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 10:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-19-5	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-19-5	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-03	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 10:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-19-4	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-19-4	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2135051-04	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 11:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-19-3	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-19-3	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-05	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 12:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-19-2	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-19-2	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-06	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 12:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DUP-8-4Q21	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): DUP-8-4Q21	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2135051-07	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 09:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-19-1	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-19-1	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-08	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 12:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	EB-8-110421	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): EB-8-110421	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-09	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-1	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-1	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2135051-10	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 15:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-9	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-9	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	
2135051-11	**COC Number:**	---	**Receive Date:**	11/04/2021 18:30
	Project Number:	NASA/JPL	**Sampling Date:**	11/04/2021 09:34
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-15	**Lab Matrix:**	Water
	Sampled By:	BTST	**Sample Type:**	Groundwater
			Delivery Work Order:	
			Global ID: 0000000000	
			Location ID (FieldPoint): MW-15	
			Matrix: WG	
			Sample QC Type (SACode): CS	
			Cooler ID:	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-01 | **Client Sample Name:** NASA/JPL, TB-8-110421, 11/4/2021 8:30:00AM

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	V11	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-01 | **Client Sample Name:** NASA/JPL, TB-8-110421, 11/4/2021 8:30:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-01 | **Client Sample Name:** NASA/JPL, TB-8-110421, 11/4/2021 8:30:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	91.1	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 20:09	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-01 | **Client Sample Name:** NASA/JPL, TB-8-110421, 11/4/2021 8:30:00AM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 20:09	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-02 | **Client Sample Name:** NASA/JPL, MW-19-5, 11/4/2021 10:20:00AM

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	**4.2**	**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	V11	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-02 | **Client Sample Name:** NASA/JPL, MW-19-5, 11/4/2021 10:20:00AM

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	**2.2**	**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	**0.67**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-02 | **Client Sample Name:** NASA/JPL, MW-19-5, 11/4/2021 10:20:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	95.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 20:33	MGC	MS-V5	1	B124404	EPA 524.2

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-02 | **Client Sample Name:** NASA/JPL, MW-19-5, 11/4/2021 10:20:00AM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 20:33	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-02 | **Client Sample Name:** NASA/JPL, MW-19-5, 11/4/2021 10:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0023**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**1.8**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 17:22	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 12:16	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-03 | **Client Sample Name:** NASA/JPL, MW-19-4, 11/4/2021 10:50:00AM

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	**4.6**	**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	V11	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	**0.25**	**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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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-03 | **Client Sample Name:** NASA/JPL, MW-19-4, 11/4/2021 10:50:00AM

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	**3.1**	**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	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-03 | **Client Sample Name:** NASA/JPL, MW-19-4, 11/4/2021 10:50:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	101	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	88.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 20:57	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-03 | **Client Sample Name:** NASA/JPL, MW-19-4, 11/4/2021 10:50:00AM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 20:57	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-03 | **Client Sample Name:** NASA/JPL, MW-19-4, 11/4/2021 10:50:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.0026**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**2.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 17:31	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 12:17	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-04 | **Client Sample Name:** NASA/JPL, MW-19-3, 11/4/2021 11:20:00AM

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	**3.6**	**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	V11	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	**0.28**	**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	**0.40**	**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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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-04 | **Client Sample Name:** NASA/JPL, MW-19-3, 11/4/2021 11:20:00AM

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	**3.7**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-04 | **Client Sample Name:** NASA/JPL, MW-19-3, 11/4/2021 11:20:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	84.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 13:15	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-04 | **Client Sample Name:** NASA/JPL, MW-19-3, 11/4/2021 11:20:00AM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 13:15	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-04 | **Client Sample Name:** NASA/JPL, MW-19-3, 11/4/2021 11:20:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00040**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	**1.7**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 16:43	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 11:44	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-05 | **Client Sample Name:** NASA/JPL, MW-19-2, 11/4/2021 12:00:00PM

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	**0.90**	**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	V11	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: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-05 | **Client Sample Name:** NASA/JPL, MW-19-2, 11/4/2021 12:00:00PM

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	**0.68**	**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	**0.46**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-05 | **Client Sample Name:** NASA/JPL, MW-19-2, 11/4/2021 12:00:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	105	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.5	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 21:21	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-05 | **Client Sample Name:** NASA/JPL, MW-19-2, 11/4/2021 12:00:00PM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 21:21	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-05 | **Client Sample Name:** NASA/JPL, MW-19-2, 11/4/2021 12:00:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00013**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	**1.2**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 17:41	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 12:19	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-06 | **Client Sample Name:** NASA/JPL, DUP-8-4Q21, 11/4/2021 12:20:00PM

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	V11	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	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	**0.30**	**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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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-06 | **Client Sample Name:** NASA/JPL, DUP-8-4Q21, 11/4/2021 12:20:00PM

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	**2.4**	**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	**1.5**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-06 | **Client Sample Name:** NASA/JPL, DUP-8-4Q21, 11/4/2021 12:20:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	102	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	89.9	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 21:46	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-06 | **Client Sample Name:** NASA/JPL, DUP-8-4Q21, 11/4/2021 12:20:00PM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 21:46	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-06 | **Client Sample Name:** NASA/JPL, DUP-8-4Q21, 11/4/2021 12:20:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00013**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	**0.93**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND	**J**	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 17:50	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 12:20	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-07 | **Client Sample Name:** NASA/JPL, MW-19-1, 11/4/2021 9:45:00AM

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	**2.6**	**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	V11	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: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-07 | **Client Sample Name:** NASA/JPL, MW-19-1, 11/4/2021 9:45:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-07 | **Client Sample Name:** NASA/JPL, MW-19-1, 11/4/2021 9:45:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	105	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.2	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 22:10	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-07 | **Client Sample Name:** NASA/JPL, MW-19-1, 11/4/2021 9:45:00AM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 22:10	MGC	MS-V5	1	B124404	EPA 524.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-07 | **Client Sample Name:** NASA/JPL, MW-19-1, 11/4/2021 9:45:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00033**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND		1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 18:19	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 12:22	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-08 | **Client Sample Name:** NASA/JPL, EB-8-110421, 11/4/2021 12:45:00PM

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	V11	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. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-08 | **Client Sample Name:** NASA/JPL, EB-8-110421, 11/4/2021 12:45:00PM

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	**0.92**	**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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-08 | **Client Sample Name:** NASA/JPL, EB-8-110421, 11/4/2021 12:45:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	106	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.7	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 22:34	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID:	2135051-08	**Client Sample Name:**	NASA/JPL, EB-8-110421, 11/4/2021 12:45:00PM

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	Prep Method
1	EPA-524.2	11/05/21 11:22	11/05/21 22:34	MGC	MS-V5	1	B124404	EPA 524.2

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Tidewater Inc. - Powell
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Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-08 | **Client Sample Name:** NASA/JPL, EB-8-110421, 11/4/2021 12:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00012**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	ND	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 18:29	KB1	IC-4	1	B124828	No Prep
2	EPA-200.8	11/11/21 20:25	11/12/21 12:24	ARD	PE-EL2	1	B124959	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-09 | **Client Sample Name:** NASA/JPL, MW-1, 11/4/2021 2:45:00PM

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	V11	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. - Powell
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-09 | **Client Sample Name:** NASA/JPL, MW-1, 11/4/2021 2:45:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-09 | **Client Sample Name:** NASA/JPL, MW-1, 11/4/2021 2:45:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	2.4	EPA-524.2	ND		1
Methyl methacrylate	ND	ug/L	5.0	1.2	EPA-524.2	ND		1
Pentachloroethane	ND	ug/L	2.0	0.63	EPA-524.2	ND		1
Propionitrile	ND	ug/L	20	6.2	EPA-524.2	ND		1
Tetrahydrofuran	ND	ug/L	20	5.2	EPA-524.2	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.34	EPA-524.2	ND		1
o-Xylene	ND	ug/L	0.50	0.13	EPA-524.2	ND		1
1,2-Dichloroethane-d4 (Surrogate)	107	%	75 - 125 (LCL - UCL)		EPA-524.2			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	86.4	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 11:24	11/05/21 23:23	MGC	MS-V5	1	B124405	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-09 | **Client Sample Name:** NASA/JPL, MW-1, 11/4/2021 2:45:00PM

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	Prep Method
1	EPA-524.2	11/05/21 11:24	11/05/21 23:23	MGC	MS-V5	1	B124405	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-09 | **Client Sample Name:** NASA/JPL, MW-1, 11/4/2021 2:45:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00010**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000027	**J**	1
Total Recoverable Chromium	ND	ug/L	3.0	0.50	EPA-200.8	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 19:26	KB1	IC-4	1	B124829	No Prep
2	EPA-200.8	11/11/21 20:35	11/12/21 13:02	KHS	PE-EL2	1	B124960	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-10 | **Client Sample Name:** NASA/JPL, MW-9, 11/4/2021 3:30:00PM

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	V11	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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ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-10 | **Client Sample Name:** NASA/JPL, MW-9, 11/4/2021 3:30:00PM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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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Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-10 | **Client Sample Name:** NASA/JPL, MW-9, 11/4/2021 3:30:00PM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	92.8	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 09:29	11/06/21 01:48	MGC	MS-V5	1	B124407	EPA 524.2

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3761 Attucks Drive
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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-10 | **Client Sample Name:** NASA/JPL, MW-9, 11/4/2021 3:30:00PM

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	Prep Method
1	EPA-524.2	11/05/21 09:29	11/06/21 01:48	MGC	MS-V5	1	B124407	EPA 524.2

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-10 | **Client Sample Name:** NASA/JPL, MW-9, 11/4/2021 3:30:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00058**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000031		1
Total Recoverable Chromium	**140**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/10/21 22:29	KB1	IC-4	1	B124830	No Prep
2	EPA-200.8	11/12/21 19:25	11/15/21 10:05	ARD	PE-EL4	1	B125070	EPA 200.2

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Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-11 | **Client Sample Name:** NASA/JPL, MW-15, 11/4/2021 9:34:00AM

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	V11	1
1,1-Dichloropropene	ND	ug/L	0.50	0.19	EPA-524.2	ND		1

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Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-11 | **Client Sample Name:** NASA/JPL, MW-15, 11/4/2021 9:34:00AM

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	2.0	2.0	EPA-524.2	ND		1
Carbon disulfide	ND	ug/L	0.50	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: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2)

BCL Sample ID: 2135051-11 | **Client Sample Name:** NASA/JPL, MW-15, 11/4/2021 9:34:00AM

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	5.0	3.3	EPA-524.2	ND		1
Methyl iodide	ND	ug/L	2.0	1.1	EPA-524.2	ND	V11	1
Methyl isobutyl ketone	ND	ug/L	5.0	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	V11	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)	104	%	80 - 120 (LCL - UCL)		EPA-524.2			1
4-Bromofluorobenzene (Surrogate)	90.6	%	80 - 120 (LCL - UCL)		EPA-524.2			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-524.2	11/05/21 09:24	11/06/21 05:50	MGC	MS-V5	1	B124408	EPA 524.2

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Project: JPL- GW Monitoring Wells-CLP
Project Number: [none]
Project Manager: David Conner

Volatile Organic Analysis (EPA Method 524.2) TICs

BCL Sample ID: 2135051-11 | **Client Sample Name:** NASA/JPL, MW-15, 11/4/2021 9:34:00AM

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	Prep Method
1	EPA-524.2	11/05/21 09:24	11/06/21 05:50	MGC	MS-V5	1	B124408	EPA 524.2

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Project Number: [none]
Project Manager: David Conner

Metals Analysis

BCL Sample ID: 2135051-11 | **Client Sample Name:** NASA/JPL, MW-15, 11/4/2021 9:34:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Hexavalent Chromium	**0.00025**	**mg/L**	**0.00020**	**0.000020**	**EPA-218.6**	0.000073		1
Total Recoverable Chromium	**14**	**ug/L**	**3.0**	**0.50**	**EPA-200.8**	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-218.6	11/10/21 16:00	11/11/21 16:24	KB1	IC-4	1	B124831	No Prep
2	EPA-200.8	11/12/21 19:25	11/15/21 11:22	KHS	PE-EL4	1	B125071	EPA 200.2

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Project: JPL- GW Monitoring Wells-CLP
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: B124404						
Benzene	B124404-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124404-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124404-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124404-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124404-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124404-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124404-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124404-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124404-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124404-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124404-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124404-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124404-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B124404-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124404-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124404-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124404-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124404-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124404-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124404-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124404-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124404-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124404-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124404-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124404-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124404-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124404-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124404-BLK1	ND	ug/L	0.50	0.14	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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: B124404						
trans-1,3-Dichloropropene	B124404-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124404-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124404-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124404-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124404-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124404-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124404-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124404-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124404-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124404-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124404-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124404-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124404-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124404-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B124404-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124404-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124404-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124404-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124404-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124404-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124404-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124404-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124404-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124404-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124404-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124404-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124404-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124404-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124404-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124404-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124404-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124404-BLK1	ND	ug/L	4.0	1.3	

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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: B124404						
Ethyl t-butyl ether	B124404-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124404-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124404-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124404-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124404-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124404-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124404-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124404-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124404-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124404-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124404-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124404-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124404-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124404-BLK1**	**106**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124404-BLK1**	**102**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124404-BLK1**	**95.4**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: B124405						
Benzene	B124405-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124405-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124405-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124405-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124405-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124405-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124405-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124405-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124405-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124405-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124405-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124405-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124405-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124405-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124405-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124405-BLK1	ND	ug/L	0.50	0.093	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B124405						
Dibromochloromethane	B124405-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124405-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124405-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124405-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124405-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124405-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124405-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124405-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124405-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124405-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124405-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124405-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124405-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124405-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124405-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124405-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124405-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124405-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B124405-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124405-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124405-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124405-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124405-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124405-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124405-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124405-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124405-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124405-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124405-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124405-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124405-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124405-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124405-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124405-BLK1	ND	ug/L	0.50	0.15	

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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: B124405						
1,1,1-Trichloroethane	B124405-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124405-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124405-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124405-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124405-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124405-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124405-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124405-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124405-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124405-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124405-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124405-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124405-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124405-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124405-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124405-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124405-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124405-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B124405-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124405-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124405-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124405-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124405-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124405-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124405-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124405-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124405-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124405-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124405-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124405-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124405-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124405-BLK1**	**104**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124405-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124405-BLK1**	**91.8**	%	**80 - 120 (LCL - UCL)**		

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B124407						
Benzene	B124407-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124407-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124407-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124407-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124407-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124407-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124407-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124407-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124407-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124407-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124407-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124407-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124407-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124407-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124407-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124407-BLK1	ND	ug/L	0.50	0.093	
Dibromochloromethane	B124407-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124407-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124407-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124407-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124407-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124407-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124407-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124407-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124407-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124407-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124407-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124407-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124407-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124407-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124407-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124407-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124407-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124407-BLK1	ND	ug/L	0.50	0.14	

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Volatile Organic Analysis (EPA Method 524.2)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B124407						
trans-1,3-Dichloropropene	B124407-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124407-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124407-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124407-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124407-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124407-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124407-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124407-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124407-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124407-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124407-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124407-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124407-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124407-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124407-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124407-BLK1	ND	ug/L	0.50	0.15	
1,1,1-Trichloroethane	B124407-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124407-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124407-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124407-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124407-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124407-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124407-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124407-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124407-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124407-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124407-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124407-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124407-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124407-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124407-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124407-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124407-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124407-BLK1	ND	ug/L	4.0	1.3	

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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: B124407						
Ethyl t-butyl ether	B124407-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124407-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124407-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124407-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124407-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124407-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124407-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124407-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124407-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124407-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124407-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124407-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124407-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124407-BLK1**	**105**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124407-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124407-BLK1**	**90.6**	%	**80 - 120 (LCL - UCL)**		
QC Batch ID: B124408						
Benzene	B124408-BLK1	ND	ug/L	0.50	0.11	
Bromobenzene	B124408-BLK1	ND	ug/L	0.50	0.15	
Bromochloromethane	B124408-BLK1	ND	ug/L	0.50	0.27	
Bromodichloromethane	B124408-BLK1	ND	ug/L	0.50	0.20	
Bromoform	B124408-BLK1	ND	ug/L	0.50	0.46	
Bromomethane	B124408-BLK1	ND	ug/L	0.50	0.20	
n-Butylbenzene	B124408-BLK1	ND	ug/L	0.50	0.15	
sec-Butylbenzene	B124408-BLK1	ND	ug/L	0.50	0.13	
tert-Butylbenzene	B124408-BLK1	ND	ug/L	0.50	0.18	
Carbon tetrachloride	B124408-BLK1	ND	ug/L	0.50	0.17	
Chlorobenzene	B124408-BLK1	ND	ug/L	0.50	0.14	
Chloroethane	B124408-BLK1	ND	ug/L	0.50	0.17	
Chloroform	B124408-BLK1	ND	ug/L	0.50	0.14	
Chloromethane	B124408-BLK1	ND	ug/L	0.50	0.11	
2-Chlorotoluene	B124408-BLK1	ND	ug/L	0.50	0.14	
4-Chlorotoluene	B124408-BLK1	ND	ug/L	0.50	0.093	

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Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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: B124408						
Dibromochloromethane	B124408-BLK1	ND	ug/L	0.50	0.22	
1,2-Dibromo-3-chloropropane	B124408-BLK1	ND	ug/L	1.0	0.89	
1,2-Dibromoethane	B124408-BLK1	ND	ug/L	0.50	0.22	
Dibromomethane	B124408-BLK1	ND	ug/L	0.50	0.23	
1,2-Dichlorobenzene	B124408-BLK1	ND	ug/L	0.50	0.21	
1,3-Dichlorobenzene	B124408-BLK1	ND	ug/L	0.50	0.16	
1,4-Dichlorobenzene	B124408-BLK1	ND	ug/L	0.50	0.15	
Dichlorodifluoromethane	B124408-BLK1	ND	ug/L	0.50	0.15	
1,1-Dichloroethane	B124408-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloroethane	B124408-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	B124408-BLK1	ND	ug/L	0.50	0.27	
cis-1,2-Dichloroethene	B124408-BLK1	ND	ug/L	0.50	0.27	
trans-1,2-Dichloroethene	B124408-BLK1	ND	ug/L	0.50	0.17	
1,2-Dichloropropane	B124408-BLK1	ND	ug/L	0.50	0.15	
1,3-Dichloropropane	B124408-BLK1	ND	ug/L	0.50	0.13	
2,2-Dichloropropane	B124408-BLK1	ND	ug/L	0.50	0.18	
1,1-Dichloropropene	B124408-BLK1	ND	ug/L	0.50	0.19	
cis-1,3-Dichloropropene	B124408-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	B124408-BLK1	ND	ug/L	0.50	0.13	
Ethylbenzene	B124408-BLK1	ND	ug/L	0.50	0.15	
Hexachlorobutadiene	B124408-BLK1	ND	ug/L	0.50	0.20	
Isopropylbenzene	B124408-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	B124408-BLK1	ND	ug/L	0.50	0.14	
Methylene chloride	B124408-BLK1	ND	ug/L	0.50	0.21	
Methyl t-butyl ether	B124408-BLK1	ND	ug/L	0.50	0.14	
Naphthalene	B124408-BLK1	ND	ug/L	0.50	0.16	
n-Propylbenzene	B124408-BLK1	ND	ug/L	0.50	0.12	
Styrene	B124408-BLK1	ND	ug/L	0.50	0.12	
1,1,1,2-Tetrachloroethane	B124408-BLK1	ND	ug/L	0.50	0.21	
1,1,2,2-Tetrachloroethane	B124408-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	B124408-BLK1	ND	ug/L	0.50	0.23	
Toluene	B124408-BLK1	ND	ug/L	0.50	0.17	
1,2,3-Trichlorobenzene	B124408-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trichlorobenzene	B124408-BLK1	ND	ug/L	0.50	0.15	

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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: B124408						
1,1,1-Trichloroethane	B124408-BLK1	ND	ug/L	0.50	0.21	
1,1,2-Trichloroethane	B124408-BLK1	ND	ug/L	0.50	0.21	
Trichloroethene	B124408-BLK1	ND	ug/L	0.50	0.19	
Trichlorofluoromethane	B124408-BLK1	ND	ug/L	0.50	0.14	
1,2,3-Trichloropropane	B124408-BLK1	ND	ug/L	1.0	0.78	
1,1,2-Trichloro-1,2,2-trifluoroethane	B124408-BLK1	ND	ug/L	0.50	0.19	
1,2,4-Trimethylbenzene	B124408-BLK1	ND	ug/L	0.50	0.17	
1,3,5-Trimethylbenzene	B124408-BLK1	ND	ug/L	0.50	0.14	
Vinyl chloride	B124408-BLK1	ND	ug/L	0.50	0.18	
Acetone	B124408-BLK1	ND	ug/L	10	6.6	
Acrylonitrile	B124408-BLK1	ND	ug/L	5.0	1.5	
Allyl chloride	B124408-BLK1	ND	ug/L	5.0	0.47	
t-Amyl Methyl ether	B124408-BLK1	ND	ug/L	0.50	0.19	
t-Butyl alcohol	B124408-BLK1	ND	ug/L	2.0	2.0	
Carbon disulfide	B124408-BLK1	ND	ug/L	0.50	0.48	
trans-1,4-Dichloro-2-butene	B124408-BLK1	ND	ug/L	5.0	1.8	
Diethyl ether	B124408-BLK1	ND	ug/L	2.0	0.33	
Ethyl methacrylate	B124408-BLK1	ND	ug/L	4.0	1.3	
Ethyl t-butyl ether	B124408-BLK1	ND	ug/L	0.50	0.32	
Hexachloroethane	B124408-BLK1	ND	ug/L	0.50	0.11	
2-Hexanone	B124408-BLK1	ND	ug/L	10	5.0	
Methacrylonitrile	B124408-BLK1	ND	ug/L	10	2.3	
Methyl ethyl ketone	B124408-BLK1	ND	ug/L	5.0	3.3	
Methyl iodide	B124408-BLK1	ND	ug/L	2.0	1.1	
Methyl isobutyl ketone	B124408-BLK1	ND	ug/L	5.0	2.4	
Methyl methacrylate	B124408-BLK1	ND	ug/L	5.0	1.2	
Pentachloroethane	B124408-BLK1	ND	ug/L	2.0	0.63	
Propionitrile	B124408-BLK1	ND	ug/L	20	6.2	
Tetrahydrofuran	B124408-BLK1	ND	ug/L	20	5.2	
p- & m-Xylenes	B124408-BLK1	ND	ug/L	0.50	0.34	
o-Xylene	B124408-BLK1	ND	ug/L	0.50	0.13	
1,2-Dichloroethane-d4 (Surrogate)	**B124408-BLK1**	**107**	%	**75 - 125 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**B124408-BLK1**	**104**	%	**80 - 120 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**B124408-BLK1**	**94.7**	%	**80 - 120 (LCL - UCL)**		

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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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124404										
Benzene	B124404-BS1	LCS	23.320	25.000	ug/L	93.3		70 - 130		
Bromodichloromethane	B124404-BS1	LCS	28.530	25.000	ug/L	114		70 - 130		
Chlorobenzene	B124404-BS1	LCS	26.270	25.000	ug/L	105		70 - 130		
Chloroethane	B124404-BS1	LCS	26.100	25.000	ug/L	104		70 - 130		
1,4-Dichlorobenzene	B124404-BS1	LCS	26.460	25.000	ug/L	106		70 - 130		
1,1-Dichloroethane	B124404-BS1	LCS	25.240	25.000	ug/L	101		70 - 130		
1,1-Dichloroethene	B124404-BS1	LCS	26.410	25.000	ug/L	106		70 - 130		
Toluene	B124404-BS1	LCS	25.870	25.000	ug/L	103		70 - 130		
Trichloroethene	B124404-BS1	LCS	26.020	25.000	ug/L	104		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124404-BS1	LCS	10.450	10.000	ug/L	104		75 - 125		
Toluene-d8 (Surrogate)	B124404-BS1	LCS	10.600	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124404-BS1	LCS	10.180	10.000	ug/L	102		80 - 120		
QC Batch ID: B124405										
Benzene	B124405-BS1	LCS	23.020	25.000	ug/L	92.1		70 - 130		
Bromodichloromethane	B124405-BS1	LCS	28.310	25.000	ug/L	113		70 - 130		
Chlorobenzene	B124405-BS1	LCS	24.600	25.000	ug/L	98.4		70 - 130		
Chloroethane	B124405-BS1	LCS	25.710	25.000	ug/L	103		70 - 130		
1,4-Dichlorobenzene	B124405-BS1	LCS	24.400	25.000	ug/L	97.6		70 - 130		
1,1-Dichloroethane	B124405-BS1	LCS	24.970	25.000	ug/L	99.9		70 - 130		
1,1-Dichloroethene	B124405-BS1	LCS	26.420	25.000	ug/L	106		70 - 130		
Toluene	B124405-BS1	LCS	25.390	25.000	ug/L	102		70 - 130		
Trichloroethene	B124405-BS1	LCS	27.680	25.000	ug/L	111		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124405-BS1	LCS	10.810	10.000	ug/L	108		75 - 125		
Toluene-d8 (Surrogate)	B124405-BS1	LCS	10.550	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124405-BS1	LCS	9.8700	10.000	ug/L	98.7		80 - 120		
QC Batch ID: B124407										
Benzene	B124407-BS1	LCS	23.940	25.000	ug/L	95.8		70 - 130		
Bromodichloromethane	B124407-BS1	LCS	28.860	25.000	ug/L	115		70 - 130		
Chlorobenzene	B124407-BS1	LCS	25.490	25.000	ug/L	102		70 - 130		
Chloroethane	B124407-BS1	LCS	26.010	25.000	ug/L	104		70 - 130		
1,4-Dichlorobenzene	B124407-BS1	LCS	25.490	25.000	ug/L	102		70 - 130		
1,1-Dichloroethane	B124407-BS1	LCS	25.840	25.000	ug/L	103		70 - 130		
1,1-Dichloroethene	B124407-BS1	LCS	26.740	25.000	ug/L	107		70 - 130		

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Project: JPL- GW Monitoring Wells-CLP
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124407										
Toluene	B124407-BS1	LCS	26.010	25.000	ug/L	104		70 - 130		
Trichloroethene	B124407-BS1	LCS	28.620	25.000	ug/L	114		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124407-BS1	LCS	10.290	10.000	ug/L	103		75 - 125		
Toluene-d8 (Surrogate)	B124407-BS1	LCS	10.490	10.000	ug/L	105		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124407-BS1	LCS	9.8500	10.000	ug/L	98.5		80 - 120		
QC Batch ID: B124408										
Benzene	B124408-BS1	LCS	22.980	25.000	ug/L	91.9		70 - 130		
Bromodichloromethane	B124408-BS1	LCS	28.490	25.000	ug/L	114		70 - 130		
Chlorobenzene	B124408-BS1	LCS	25.210	25.000	ug/L	101		70 - 130		
Chloroethane	B124408-BS1	LCS	24.450	25.000	ug/L	97.8		70 - 130		
1,4-Dichlorobenzene	B124408-BS1	LCS	25.060	25.000	ug/L	100		70 - 130		
1,1-Dichloroethane	B124408-BS1	LCS	24.550	25.000	ug/L	98.2		70 - 130		
1,1-Dichloroethene	B124408-BS1	LCS	26.000	25.000	ug/L	104		70 - 130		
Toluene	B124408-BS1	LCS	25.290	25.000	ug/L	101		70 - 130		
Trichloroethene	B124408-BS1	LCS	29.810	25.000	ug/L	119		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B124408-BS1	LCS	10.500	10.000	ug/L	105		75 - 125		
Toluene-d8 (Surrogate)	B124408-BS1	LCS	10.580	10.000	ug/L	106		80 - 120		
4-Bromofluorobenzene (Surrogate)	B124408-BS1	LCS	10.140	10.000	ug/L	101		80 - 120		

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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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124404	Used client sample: Y - Description: MW-19-3, 11/04/2021 11:20										
Benzene	MS	2135051-04	ND	24.120	25.000	ug/L		96.5		70 - 130	
	MSD	2135051-04	ND	23.430	25.000	ug/L	2.9	93.7	20	70 - 130	
Bromodichloromethane	MS	2135051-04	ND	29.260	25.000	ug/L		117		70 - 130	
	MSD	2135051-04	ND	29.080	25.000	ug/L	0.6	116	20	70 - 130	
Chlorobenzene	MS	2135051-04	ND	26.320	25.000	ug/L		105		70 - 130	
	MSD	2135051-04	ND	25.500	25.000	ug/L	3.2	102	20	70 - 130	
Chloroethane	MS	2135051-04	ND	25.350	25.000	ug/L		101		70 - 130	
	MSD	2135051-04	ND	25.620	25.000	ug/L	1.1	102	20	70 - 130	
1,4-Dichlorobenzene	MS	2135051-04	ND	25.920	25.000	ug/L		104		70 - 130	
	MSD	2135051-04	ND	25.500	25.000	ug/L	1.6	102	20	70 - 130	
1,1-Dichloroethane	MS	2135051-04	0.28000	26.310	25.000	ug/L		104		70 - 130	
	MSD	2135051-04	0.28000	25.710	25.000	ug/L	2.3	102	20	70 - 130	
1,1-Dichloroethene	MS	2135051-04	ND	27.220	25.000	ug/L		109		70 - 130	
	MSD	2135051-04	ND	26.820	25.000	ug/L	1.5	107	20	70 - 130	
Toluene	MS	2135051-04	ND	26.070	25.000	ug/L		104		70 - 130	
	MSD	2135051-04	ND	25.100	25.000	ug/L	3.8	100	20	70 - 130	
Trichloroethene	MS	2135051-04	1.1300	27.350	25.000	ug/L		105		70 - 130	
	MSD	2135051-04	1.1300	26.610	25.000	ug/L	2.7	102	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2135051-04	ND	10.060	10.000	ug/L		101		75 - 125	
	MSD	2135051-04	ND	10.060	10.000	ug/L	0	101		75 - 125	
Toluene-d8 (Surrogate)	MS	2135051-04	ND	10.180	10.000	ug/L		102		80 - 120	
	MSD	2135051-04	ND	10.120	10.000	ug/L	0.6	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2135051-04	ND	9.7800	10.000	ug/L		97.8		80 - 120	
	MSD	2135051-04	ND	9.6900	10.000	ug/L	0.9	96.9		80 - 120	
QC Batch ID: B124405	Used client sample: Y - Description: MW-1, 11/04/2021 14:45										
Benzene	MS	2135051-09	ND	23.470	25.000	ug/L		93.9		70 - 130	
	MSD	2135051-09	ND	24.010	25.000	ug/L	2.3	96.0	20	70 - 130	
Bromodichloromethane	MS	2135051-09	ND	28.900	25.000	ug/L		116		70 - 130	
	MSD	2135051-09	ND	29.710	25.000	ug/L	2.8	119	20	70 - 130	
Chlorobenzene	MS	2135051-09	ND	25.260	25.000	ug/L		101		70 - 130	
	MSD	2135051-09	ND	25.930	25.000	ug/L	2.6	104	20	70 - 130	
Chloroethane	MS	2135051-09	ND	26.050	25.000	ug/L		104		70 - 130	
	MSD	2135051-09	ND	26.800	25.000	ug/L	2.8	107	20	70 - 130	
1,4-Dichlorobenzene	MS	2135051-09	ND	25.390	25.000	ug/L		102		70 - 130	
	MSD	2135051-09	ND	25.920	25.000	ug/L	2.1	104	20	70 - 130	
1,1-Dichloroethane	MS	2135051-09	ND	25.840	25.000	ug/L		103		70 - 130	
	MSD	2135051-09	ND	26.430	25.000	ug/L	2.3	106	20	70 - 130	

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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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124405	Used client sample: Y - Description: MW-1, 11/04/2021 14:45										
1,1-Dichloroethene	MS	2135051-09	ND	26.790	25.000	ug/L		107		70 - 130	
	MSD	2135051-09	ND	27.940	25.000	ug/L	4.2	112	20	70 - 130	
Toluene	MS	2135051-09	ND	25.870	25.000	ug/L		103		70 - 130	
	MSD	2135051-09	ND	26.100	25.000	ug/L	0.9	104	20	70 - 130	
Trichloroethene	MS	2135051-09	ND	25.350	25.000	ug/L		101		70 - 130	
	MSD	2135051-09	ND	25.550	25.000	ug/L	0.8	102	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2135051-09	ND	10.410	10.000	ug/L		104		75 - 125	
	MSD	2135051-09	ND	10.820	10.000	ug/L	3.9	108		75 - 125	
Toluene-d8 (Surrogate)	MS	2135051-09	ND	10.490	10.000	ug/L		105		80 - 120	
	MSD	2135051-09	ND	10.570	10.000	ug/L	0.8	106		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2135051-09	ND	9.9300	10.000	ug/L		99.3		80 - 120	
	MSD	2135051-09	ND	9.8500	10.000	ug/L	0.8	98.5		80 - 120	
QC Batch ID: B124407	Used client sample: Y - Description: MW-9, 11/04/2021 15:30										
Benzene	MS	2135051-10	ND	24.590	25.000	ug/L		98.4		70 - 130	
	MSD	2135051-10	ND	25.040	25.000	ug/L	1.8	100	20	70 - 130	
Bromodichloromethane	MS	2135051-10	ND	29.980	25.000	ug/L		120		70 - 130	
	MSD	2135051-10	ND	30.340	25.000	ug/L	1.2	121	20	70 - 130	
Chlorobenzene	MS	2135051-10	ND	26.330	25.000	ug/L		105		70 - 130	
	MSD	2135051-10	ND	26.690	25.000	ug/L	1.4	107	20	70 - 130	
Chloroethane	MS	2135051-10	ND	26.330	25.000	ug/L		105		70 - 130	
	MSD	2135051-10	ND	27.360	25.000	ug/L	3.8	109	20	70 - 130	
1,4-Dichlorobenzene	MS	2135051-10	ND	26.600	25.000	ug/L		106		70 - 130	
	MSD	2135051-10	ND	26.720	25.000	ug/L	0.5	107	20	70 - 130	
1,1-Dichloroethane	MS	2135051-10	ND	26.560	25.000	ug/L		106		70 - 130	
	MSD	2135051-10	ND	26.960	25.000	ug/L	1.5	108	20	70 - 130	
1,1-Dichloroethene	MS	2135051-10	ND	27.680	25.000	ug/L		111		70 - 130	
	MSD	2135051-10	ND	28.490	25.000	ug/L	2.9	114	20	70 - 130	
Toluene	MS	2135051-10	ND	26.980	25.000	ug/L		108		70 - 130	
	MSD	2135051-10	ND	26.890	25.000	ug/L	0.3	108	20	70 - 130	
Trichloroethene	MS	2135051-10	ND	26.490	25.000	ug/L		106		70 - 130	
	MSD	2135051-10	ND	26.870	25.000	ug/L	1.4	107	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2135051-10	ND	9.8700	10.000	ug/L		98.7		75 - 125	
	MSD	2135051-10	ND	10.580	10.000	ug/L	6.9	106		75 - 125	
Toluene-d8 (Surrogate)	MS	2135051-10	ND	10.450	10.000	ug/L		104		80 - 120	
	MSD	2135051-10	ND	10.480	10.000	ug/L	0.3	105		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2135051-10	ND	9.6800	10.000	ug/L		96.8		80 - 120	
	MSD	2135051-10	ND	9.9600	10.000	ug/L	2.9	99.6		80 - 120	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124408	Used client sample: Y - Description: MW-15, 11/04/2021 09:34										
Benzene	MS	2135051-11	ND	23.070	25.000	ug/L		92.3		70 - 130	
	MSD	2135051-11	ND	24.130	25.000	ug/L	4.5	96.5	20	70 - 130	
Bromodichloromethane	MS	2135051-11	ND	28.050	25.000	ug/L		112		70 - 130	
	MSD	2135051-11	ND	29.730	25.000	ug/L	5.8	119	20	70 - 130	
Chlorobenzene	MS	2135051-11	ND	25.390	25.000	ug/L		102		70 - 130	
	MSD	2135051-11	ND	25.950	25.000	ug/L	2.2	104	20	70 - 130	
Chloroethane	MS	2135051-11	ND	24.900	25.000	ug/L		99.6		70 - 130	
	MSD	2135051-11	ND	25.750	25.000	ug/L	3.4	103	20	70 - 130	
1,4-Dichlorobenzene	MS	2135051-11	ND	25.130	25.000	ug/L		101		70 - 130	
	MSD	2135051-11	ND	25.460	25.000	ug/L	1.3	102	20	70 - 130	
1,1-Dichloroethane	MS	2135051-11	ND	25.560	25.000	ug/L		102		70 - 130	
	MSD	2135051-11	ND	26.690	25.000	ug/L	4.3	107	20	70 - 130	
1,1-Dichloroethene	MS	2135051-11	ND	26.440	25.000	ug/L		106		70 - 130	
	MSD	2135051-11	ND	27.510	25.000	ug/L	4.0	110	20	70 - 130	
Toluene	MS	2135051-11	ND	25.450	25.000	ug/L		102		70 - 130	
	MSD	2135051-11	ND	26.850	25.000	ug/L	5.4	107	20	70 - 130	
Trichloroethene	MS	2135051-11	ND	25.320	25.000	ug/L		101		70 - 130	
	MSD	2135051-11	ND	26.170	25.000	ug/L	3.3	105	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	2135051-11	ND	10.160	10.000	ug/L		102		75 - 125	
	MSD	2135051-11	ND	10.390	10.000	ug/L	2.2	104		75 - 125	
Toluene-d8 (Surrogate)	MS	2135051-11	ND	10.200	10.000	ug/L		102		80 - 120	
	MSD	2135051-11	ND	10.570	10.000	ug/L	3.6	106		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	2135051-11	ND	9.8100	10.000	ug/L		98.1		80 - 120	
	MSD	2135051-11	ND	9.7200	10.000	ug/L	0.9	97.2		80 - 120	

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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: B124404						
Chloroacetonitrile	B124404-BLK1	0	ug/L			
1-Chlorobutane	B124404-BLK1	0	ug/L			
1,1-Dichloropropanone	B124404-BLK1	0	ug/L			
Methyl acrylate	B124404-BLK1	0	ug/L			
Nitrobenzene	B124404-BLK1	0	ug/L			
2-Nitropropane	B124404-BLK1	0	ug/L			
QC Batch ID: B124405						
Chloroacetonitrile	B124405-BLK1	0	ug/L			
1-Chlorobutane	B124405-BLK1	0	ug/L			
1,1-Dichloropropanone	B124405-BLK1	0	ug/L			
Methyl acrylate	B124405-BLK1	0	ug/L			
Nitrobenzene	B124405-BLK1	0	ug/L			
2-Nitropropane	B124405-BLK1	0	ug/L			
QC Batch ID: B124407						
Chloroacetonitrile	B124407-BLK1	0	ug/L			
1-Chlorobutane	B124407-BLK1	0	ug/L			
1,1-Dichloropropanone	B124407-BLK1	0	ug/L			
Methyl acrylate	B124407-BLK1	0	ug/L			
Nitrobenzene	B124407-BLK1	0	ug/L			
2-Nitropropane	B124407-BLK1	0	ug/L			
QC Batch ID: B124408						
Chloroacetonitrile	B124408-BLK1	0	ug/L			
1-Chlorobutane	B124408-BLK1	0	ug/L			
1,1-Dichloropropanone	B124408-BLK1	0	ug/L			
Methyl acrylate	B124408-BLK1	0	ug/L			
Nitrobenzene	B124408-BLK1	0	ug/L			
2-Nitropropane	B124408-BLK1	0	ug/L			

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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: B124828						
Hexavalent Chromium	B124828-BLK1	ND	mg/L	0.00020	0.000020	
QC Batch ID: B124829						
Hexavalent Chromium	**B124829-BLK1**	**0.000027000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124830						
Hexavalent Chromium	**B124830-BLK1**	**0.000031000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124831						
Hexavalent Chromium	**B124831-BLK1**	**0.000073000**	**mg/L**	**0.00020**	**0.000020**	**J**
QC Batch ID: B124959						
Total Recoverable Chromium	B124959-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B124960						
Total Recoverable Chromium	B124960-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B125070						
Total Recoverable Chromium	B125070-BLK1	ND	ug/L	3.0	0.50	
QC Batch ID: B125071						
Total Recoverable Chromium	B125071-BLK1	ND	ug/L	3.0	0.50	

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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 Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B124828										
Hexavalent Chromium	B124828-BS1	LCS	0.019187	0.020000	mg/L	95.9		90 - 110		
	B124828-BSD1	LCSD	0.018355	0.020000	mg/L	91.8	4.4	90 - 110	10	
QC Batch ID: B124829										
Hexavalent Chromium	B124829-BS1	LCS	0.018949	0.020000	mg/L	94.7		90 - 110		
	B124829-BSD1	LCSD	0.018843	0.020000	mg/L	94.2	0.6	90 - 110	10	
QC Batch ID: B124830										
Hexavalent Chromium	B124830-BS1	LCS	0.018234	0.020000	mg/L	91.2		90 - 110		
	B124830-BSD1	LCSD	0.018497	0.020000	mg/L	92.5	1.4	90 - 110	10	
QC Batch ID: B124831										
Hexavalent Chromium	B124831-BS1	LCS	0.018634	0.020000	mg/L	93.2		90 - 110		
	B124831-BSD1	LCSD	0.018010	0.020000	mg/L	90.0	3.4	90 - 110	10	
QC Batch ID: B124959										
Total Recoverable Chromium	B124959-BS1	LCS	42.291	40.000	ug/L	106		85 - 115		
QC Batch ID: B124960										
Total Recoverable Chromium	B124960-BS1	LCS	41.644	40.000	ug/L	104		85 - 115		
QC Batch ID: B125070										
Total Recoverable Chromium	B125070-BS1	LCS	42.683	40.000	ug/L	107		85 - 115		
QC Batch ID: B125071										
Total Recoverable Chromium	B125071-BS1	LCS	43.330	40.000	ug/L	108		85 - 115		

Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell
3761 Attucks Drive
Powell, OH 43065

Reported: 12/15/2021 16:29
Project: JPL- GW Monitoring Wells-CLP
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	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B124828	Used client sample: Y - Description: MW-19-3, 11/04/2021 11:20										
Hexavalent Chromium	DUP	2135051-04	0.00039600	0.00039400		mg/L	0.5		10		
	MS	2135051-04	0.00039600	0.019810	0.020202	mg/L		96.1		90 - 110	
	MSD	2135051-04	0.00039600	0.019771	0.020202	mg/L	0.2	95.9	10	90 - 110	
QC Batch ID: B124829	Used client sample: Y - Description: MW-1, 11/04/2021 14:45										
Hexavalent Chromium	DUP	2135051-09	0.00010400	0.00010800		mg/L	3.8		10		J
	MS	2135051-09	0.00010400	0.019394	0.020202	mg/L		95.5		90 - 110	
	MSD	2135051-09	0.00010400	0.019423	0.020202	mg/L	0.2	95.6	10	90 - 110	
QC Batch ID: B124830	Used client sample: Y - Description: MW-9, 11/04/2021 15:30										
Hexavalent Chromium	DUP	2135051-10	0.00058300	0.00056900		mg/L	2.4		10		
	MS	2135051-10	0.00058300	0.018839	0.020202	mg/L		90.4		90 - 110	
	MSD	2135051-10	0.00058300	0.018884	0.020202	mg/L	0.2	90.6	10	90 - 110	
QC Batch ID: B124831	Used client sample: Y - Description: MW-15, 11/04/2021 09:34										
Hexavalent Chromium	DUP	2135051-11	0.00024900	0.00023900		mg/L	4.1		10		
	MS	2135051-11	0.00024900	0.018928	0.020202	mg/L		92.5		90 - 110	
	MSD	2135051-11	0.00024900	0.018903	0.020202	mg/L	0.1	92.3	10	90 - 110	
QC Batch ID: B124959	Used client sample: Y - Description: MW-19-3, 11/04/2021 11:20										
Total Recoverable Chromium	DUP	2135051-04	1.7120	1.4690		ug/L	15.3		20		J
	MS	2135051-04	1.7120	39.074	40.000	ug/L		93.4		70 - 130	
	MSD	2135051-04	1.7120	41.270	40.000	ug/L	5.5	98.9	20	70 - 130	
QC Batch ID: B124960	Used client sample: Y - Description: MW-1, 11/04/2021 14:45										
Total Recoverable Chromium	DUP	2135051-09	ND	ND		ug/L			20		
	MS	2135051-09	ND	39.049	40.000	ug/L		97.6		70 - 130	
	MSD	2135051-09	ND	39.513	40.000	ug/L	1.2	98.8	20	70 - 130	
QC Batch ID: B125070	Used client sample: Y - Description: MW-9, 11/04/2021 15:30										
Total Recoverable Chromium	DUP	**2135051-10**	**136.77**	**177.94**		**ug/L**	**26.2**		**20**		**Q01**
	MS	**2135051-10**	**136.77**	**249.69**	**40.000**	**ug/L**		**282**		**70 - 130**	**Q03**
	MSD	**2135051-10**	**136.77**	**261.42**	**40.000**	**ug/L**	**4.6**	**312**	**20**	**70 - 130**	**Q03**
QC Batch ID: B125071	Used client sample: Y - Description: MW-15, 11/04/2021 09:34										
Total Recoverable Chromium	DUP	**2135051-11**	**13.571**	**21.463**		**ug/L**	**45.1**		**20**		**Q01**
	MS	**2135051-11**	**13.571**	**59.810**	**40.000**	**ug/L**		**116**		**70 - 130**	
	MSD	**2135051-11**	**13.571**	**67.421**	**40.000**	**ug/L**	**12.0**	**135**	**20**	**70 - 130**	**Q03**

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 12-09-2021
EMAX Batch No.: 21K208

Attn: Natalie Serda

Pace Analytical
4100 Atlas Court
Bakersfield CA 93308

Subject: Laboratory Report
Project: 2135051

Enclosed is the Laboratory report for samples received on 11/23/21.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
2135051-02	K208-01	11/04/21	WATER	PERCHLORATE BY IC
2135051-03	K208-02	11/04/21	WATER	PERCHLORATE BY IC
2135051-04	K208-03	11/04/21	WATER	PERCHLORATE BY IC
2135051-05	K208-04	11/04/21	WATER	PERCHLORATE BY IC
2135051-06	K208-05	11/04/21	WATER	PERCHLORATE BY IC
2135051-07	K208-06	11/04/21	WATER	PERCHLORATE BY IC
2135051-08	K208-07	11/04/21	WATER	PERCHLORATE BY IC
2135051-09	K208-08	11/04/21	WATER	PERCHLORATE BY IC
2135051-10	K208-09	11/04/21	WATER	PERCHLORATE BY IC
2135051-11	K208-10	11/04/21	WATER	PERCHLORATE BY IC
2135051-04MS	K208-03M	11/04/21	WATER	PERCHLORATE BY IC
2135051-04MSD	K208-03S	11/04/21	WATER	PERCHLORATE BY IC
2135051-09MS	K208-08M	11/04/21	WATER	PERCHLORATE BY IC
2135051-09MSD	K208-08S	11/04/21	WATER	PERCHLORATE BY IC
2135051-10MS	K208-09M	11/04/21	WATER	PERCHLORATE BY IC
2135051-10MSD	K208-09S	11/04/21	WATER	PERCHLORATE BY IC
2135051-11MS	K208-10M	11/04/21	WATER	PERCHLORATE BY IC
2135051-11MSD	K208-10S	11/04/21	WATER	PERCHLORATE BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912021-19
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

REPORT ID: 21K208 Page 1 of 76

SUBCONTRACT ORDER

21K208

BC Laboratories

2135051

SENDING LABORATORY:

BC Laboratories
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Natalie Serda

RECEIVING LABORATORY:

Emax Laboratory $EMAXA
3051 Fujita Street
Torrance, CA 90505
Phone :(310) 618-8889
Fax: 310-618-0818

@ 11/22/21 9:52

Analysis	Due	Expires	Laboratory ID	Comments
1 **Sample ID: 2135051-02**	**Water**	**Sampled:11/04/21 10:20**		**MW-19-5 (Level III ON ALL)**
i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 10:20		Global ID #0000000000, Company ID BTST
Containers Supplied:				
2 **Sample ID: 2135051-03**	**Water**	**Sampled:11/04/21 10:50**		**MW-19-4**
i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 10:50		Global ID #0000000000, Company ID BTST
Containers Supplied:				
3 **Sample ID: 2135051-04**	**Water**	**Sampled:11/04/21 11:20**		**MW-19-3 (MS/MSD)**
i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 11:20		Global ID #0000000000, Company ID BTST
Containers Supplied:				
4 **Sample ID: 2135051-05**	**Water**	**Sampled:11/04/21 12:00**		**MW-19-2**
i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 12:00		Global ID #0000000000, Company ID BTST
Containers Supplied:				
5 **Sample ID: 2135051-06**	**Water**	**Sampled:11/04/21 12:20**		**DUP-8-4Q21**
i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 12:20		Global ID #0000000000, Company ID BTST
Containers Supplied:				

00D/CLP EDF Needed

Released By	Date	Received By	Date
	11-22-21		
Released By	Date	Received By	Date
			11/23/21 10:19

Page 1 of 2

REPORT ID: 21K208

Page 2 of 76

SUBCONTRACT ORDER

BC Laboratories

21K208

2135051

	Analysis	Due	Expires	Laboratory ID	Comments
6	**Sample ID: 2135051-07**	**Water**	**Sampled: 11/04/21 09:45**		**MW-19-1**
	i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 09:45		Global ID #0000000000, Company ID BTSF
	Containers Supplied:				
7	**Sample ID: 2135051-08**	**Water**	**Sampled: 11/04/21 12:45**		**EB-8-110421**
	i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 12:45		Global ID #0000000000, Company ID BTSF
	Containers Supplied:				
8	**Sample ID: 2135051-09**	**Water**	**Sampled: 11/04/21 14:45**		**MW-1 (MS/MSD)**
	i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 14:45		Global ID #0000000000, Company ID BTSF
	Containers Supplied:				
9	**Sample ID: 2135051-10**	**Water**	**Sampled: 11/04/21 15:30**		**MW-9 (MS/MSD)**
	i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 15:30		Global ID #0000000000, Company ID BTSF
	Containers Supplied:				
10	**Sample ID: 2135051-11**	**Water**	**Sampled: 11/04/21 09:34**		**MW-15 (MS/MSD)**
	i314.0w Perchlorate (ug/L)	11/18/21 17:00	12/02/21 09:34		Global ID #0000000000, Company ID BTSF
	Containers Supplied:				

Released By	Date	Received By	Date
	11-22-21		
Released By	Date	Received By	Date
			11/23/21 10:19

Page 2 of 2

REPORT ID: 21K208 Page 3 of 76

SAMPLE RECEIPT FORM 1

Reference: Addendum SMD2.11.1
Form: SM02F1

Type of Delivery	Airbill / Tracking Number	ECN 21K208
☐ Fedex ☐ UPS ☒ GSO ☐ Others	4705 7111 2221 3711 8877 23	Recipient Maria Rivera
☐ EMAX Courier ☐ Client Delivery		Date 11/23/21 Time 10:19

COC INSPECTION

☒ Client Name ☒ Client PM/FC ☐ Sampler Name ☒ Sampling Date/Time ☒ Sample ID ☒ Matrix
☐ Address ☒ Tel # / Fax # ☐ Courier Signature ☒ Analysis Required ☐ Preservative (if any) ☐ TAT
Safety Issues (if any) ☐ High concentrations expected ☐ From Superfund Site ☐ Rad screening required
Note:

PACKAGING INSPECTION

Container *conversion ☒ Cooler ☐ Box ☐ Other
Condition factory ☐ Custody Seal ☐ Intact ☐ Damaged
Packaging - 2 ☐ Bubble Pack ☐ Styrofoam ☐ Popcorn ☐ Sufficient ☒ bag
Temperatures (Cool. ≤6 °C but not frozen) ☐ Cooler 1 °C ☐ Cooler 2 °C ☒ Cooler 3 1.1/0.9 °C ☐ Cooler 4 °C ☐ Cooler 5 °C
☐ Cooler 6 °C ☐ Cooler 7 °C ☐ Cooler 8 °C ☐ Cooler 9 °C ☐ Cooler 10 °C
Thermometer: (1) S/N 210191066 B - S/N 210271390 C - S/N D - S/N
Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.
Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
9	9	D6		RJ
1-10	1-10	D1		
1-10	1-10	D3	Label ID's have A letter at the end, COC ID does not	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
D1	Analysis is not indicated in label
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in label
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instructions
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:
Sample Labeling maria R. Rivera Date 11/23/21
SRF Date 11/23/21
PM Date 11/24/21

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REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

PACE ANALYTICAL

2135051

METHOD E314.0
PERCHLORATE

SDG#: 21K208

REPORT ID: 21K208 Page 6 of 76

CASE NARRATIVE

Client : PACE ANALYTICAL

Project: 2135051

SDG : 21K208

METHOD E314.0
PERCHLORATE

A total of ten(10) water samples were received on 11/23/21 to be analyzed for Perchlorate in accordance with Method E314.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. PCK006WB and PCK007WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. PCK006WL/PCK006WC and PCK007WL/PCK007WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, four(4) sets of MS/MSD were analyzed.
- Perchlorate was within MS QC limits in K208-03M/K208-03S.
- Perchlorate was within MS QC limits in K208-08M/K208-08S.
- Perchlorate was within MS QC limits in K208-09M/K208-09S.
- Perchlorate was within MS QC limits in K208-10M/K208-10S.

Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E314.0
PERCHLORATE

Client : PACE ANALYTICAL
Project : 2135051
Batch No. : 21K208

Matrix : WATER
InstrumentID : 57

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULT (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	PCX006MB	ND	1	NA	2.00	0.500	1.00	11/23/2114:10	NA	21JK23005	21JK23004	PCX006W	NA	NA
LCS1W	PCX006WL	25.7	1	NA	2.00	0.500	1.00	11/23/2114:53	NA	21JK23007	21JK23004	PCX006W	NA	NA
LCD1W	PCX006WC	25.4	1	NA	2.00	0.500	1.00	11/23/2115:14	NA	21JK23008	21JK23004	PCX006W	NA	NA
2135051-02	K208-01	3.48	1	NA	2.00	0.500	1.00	11/23/2121:50	NA	21JK23022	21JK23020	PCX006W	11/04/2110:20	11/23/21
2135051-03	K208-02	3.70	1	NA	2.00	0.500	1.00	11/23/2122:11	NA	21JK23023	21JK23020	PCX006W	11/04/2110:50	11/23/21
2135051-04	K208-03	3.98	1	NA	2.00	0.500	1.00	11/23/2122:32	NA	21JK23024	21JK23020	PCX006W	11/04/2111:20	11/23/21
2135051-04MS	K208-03M	19.0	1	NA	2.00	0.500	1.00	11/23/2122:53	NA	21JK23025	21JK23020	PCX006W	11/04/2111:20	11/23/21
2135051-04MSD	K208-03S	19.1	1	NA	2.00	0.500	1.00	11/23/2123:15	NA	21JK23026	21JK23020	PCX006W	11/04/2111:20	11/23/21
2135051-05	K208-04	3.60	1	NA	2.00	0.500	1.00	11/23/2123:36	NA	21JK23027	21JK23020	PCX006W	11/04/2112:00	11/23/21
2135051-11	K208-10	ND	1	NA	2.00	0.500	1.00	11/23/2123:57	NA	21JK23028	21JK23020	PCX006W	11/04/2109:34	11/23/21
2135051-11MS	K208-10M	15.2	1	NA	2.00	0.500	1.00	11/24/2100:18	NA	21JK23029	21JK23020	PCX006W	11/04/2109:34	11/23/21
2135051-11MSD	K208-10S	15.2	1	NA	2.00	0.500	1.00	11/24/2100:39	NA	21JK23030	21JK23020	PCX006W	11/04/2109:34	11/23/21
2135051-06	K208-05	3.49	1	NA	2.00	0.500	1.00	11/24/2101:21	NA	21JK23032	21JK23031	PCX006W	11/04/2112:20	11/23/21
2135051-07	K208-06	ND	1	NA	2.00	0.500	1.00	11/24/2101:42	NA	21JK23033	21JK23031	PCX006W	11/04/2109:45	11/23/21
2135051-08	K208-07	ND	1	NA	2.00	0.500	1.00	11/24/2102:03	NA	21JK23034	21JK23031	PCX006W	11/04/2112:45	11/23/21
MBLK2W	PCX007MB	ND	1	NA	2.00	0.500	1.00	11/24/2103:06	NA	21JK23037	21JK23036	PCX007W	NA	NA
LCS2W	PCX007WL	25.6	1	NA	2.00	0.500	1.00	11/24/2103:48	NA	21JK23039	21JK23036	PCX007W	NA	NA
LCD2W	PCX007WC	25.8	1	NA	2.00	0.500	1.00	11/24/2104:09	NA	21JK23040	21JK23036	PCX007W	NA	NA
2135051-09	K208-08	ND	1	NA	2.00	0.500	1.00	11/24/2108:42	NA	21JK23053	21JK23052	PCX007W	11/04/2114:45	11/23/21
2135051-09MS	K208-08M	15.3	1	NA	2.00	0.500	1.00	11/24/2109:03	NA	21JK23054	21JK23052	PCX007W	11/04/2114:45	11/23/21
2135051-09MSD	K208-08S	15.2	1	NA	2.00	0.500	1.00	11/24/2109:24	NA	21JK23055	21JK23052	PCX007W	11/04/2114:45	11/23/21
2135051-10	K208-09	ND	1	NA	2.00	0.500	1.00	11/24/2109:45	NA	21JK23056	21JK23052	PCX007W	11/04/2115:30	11/23/21
2135051-10MS	K208-09M	15.2	1	NA	2.00	0.500	1.00	11/24/2110:06	NA	21JK23057	21JK23052	PCX007W	11/04/2115:30	11/23/21
2135051-10MSD	K208-09S	14.9	1	NA	2.00	0.500	1.00	11/24/2110:27	NA	21JK23058	21JK23052	PCX007W	11/04/2115:30	11/23/21

Note: Detection limits are reported relative to sample result significant figures.

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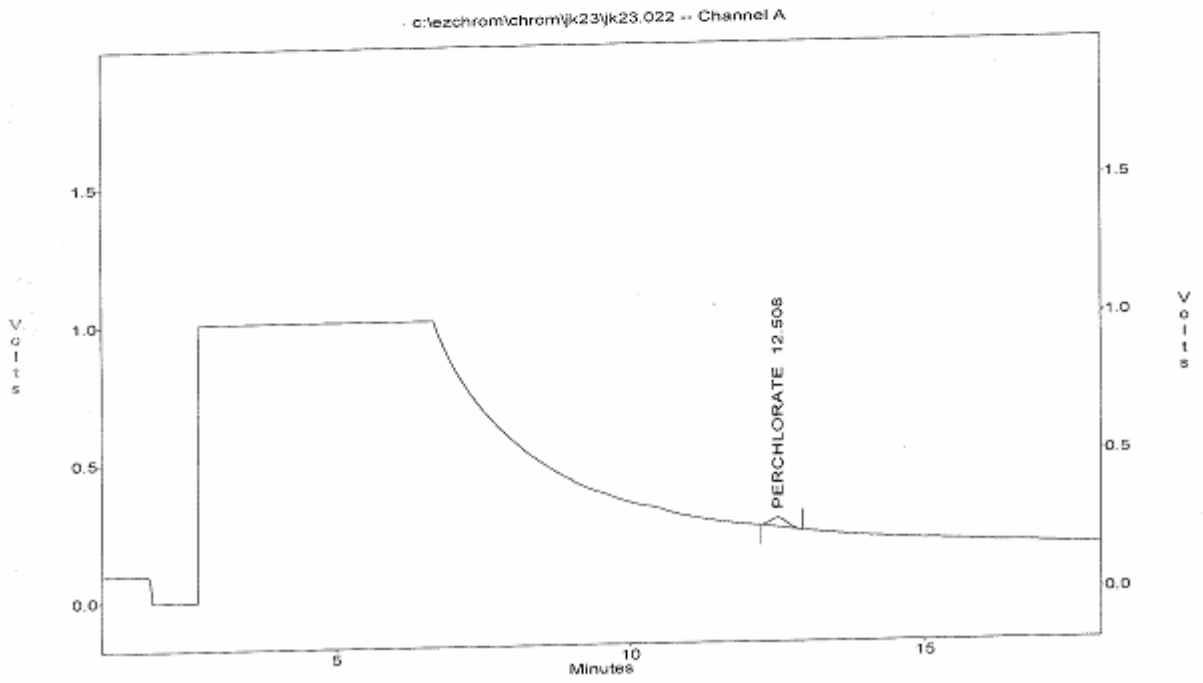
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.022
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-01
Acquired : Nov 23, 2021 21:50:55
Printed : Nov 24, 2021 08:23:37
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.51	600571	31470	180791.531	3.476



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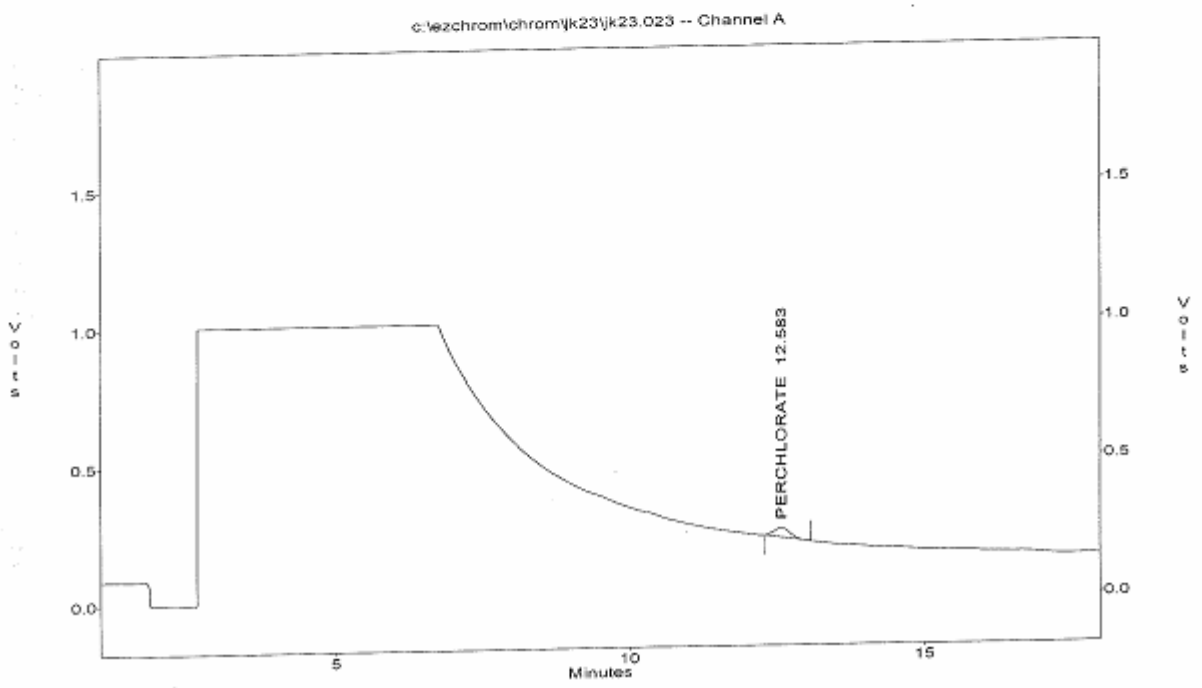
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.023
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-02
Acquired : Nov 23, 2021 22:11:56
Printed : Nov 24, 2021 08:23:45
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	641756	33648	180791.531	3.697



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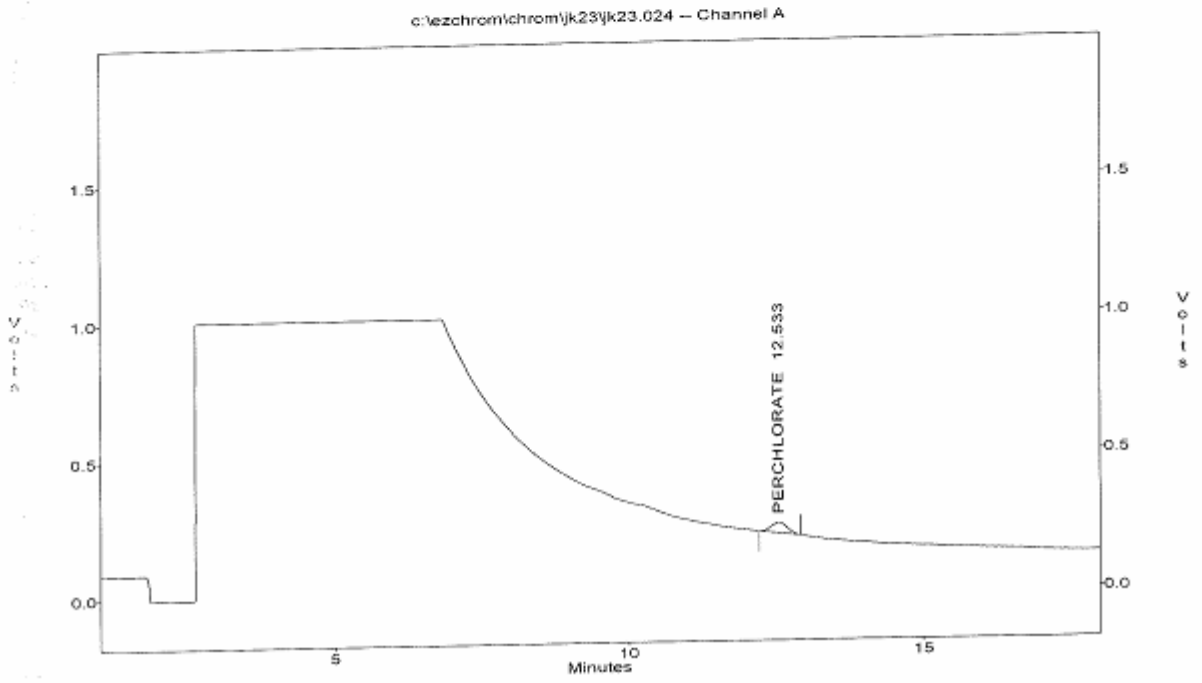
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.024
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-03
Acquired : Nov 23, 2021 22:32:57
Printed : Nov 24, 2021 08:26:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.53	693769	36899	180791.531	3.976



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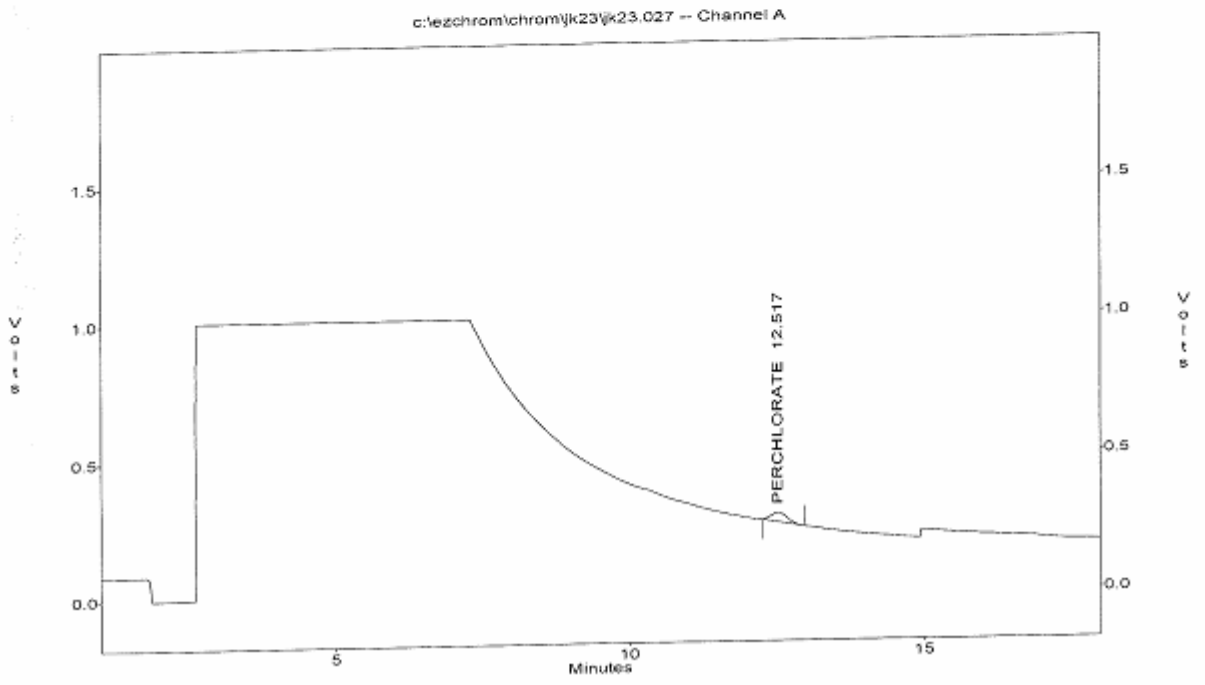
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.027
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-04
Acquired : Nov 23, 2021 23:36:02
Printed : Nov 24, 2021 08:27:10
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.52	623059	32441	180791.531	3.597



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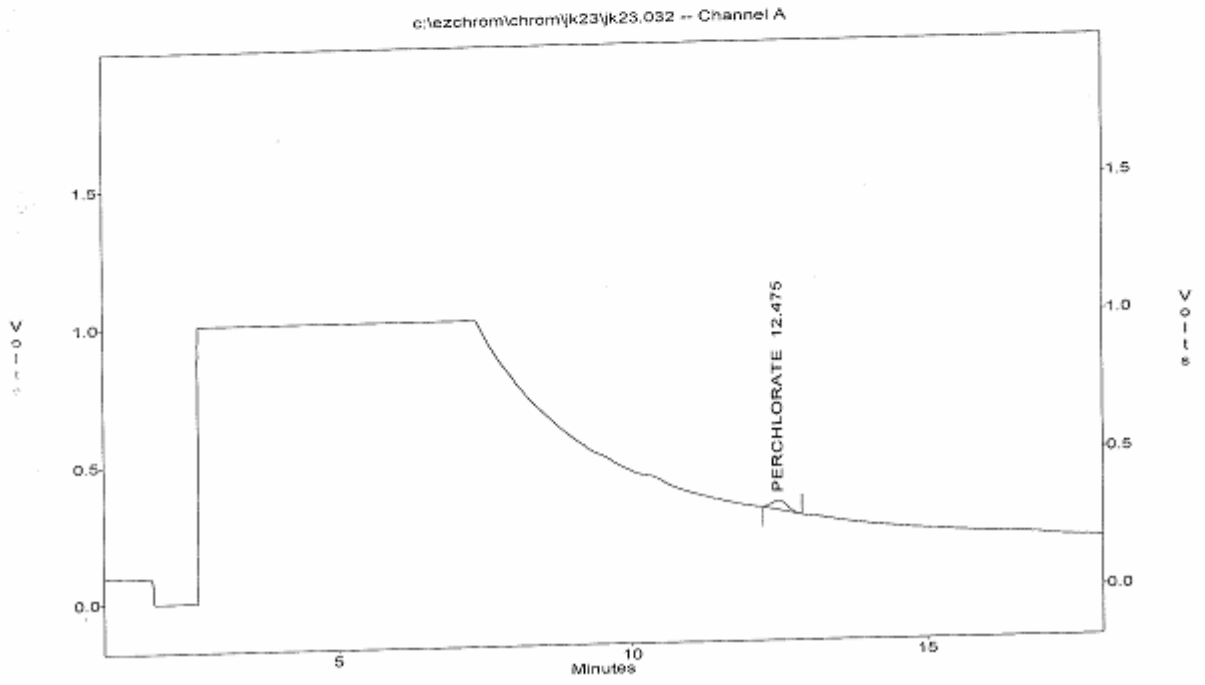
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.032
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-05
Acquired : Nov 24, 2021 01:21:09
Printed : Nov 24, 2021 08:29:37
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.48	602454	31481	180791.531	3.486



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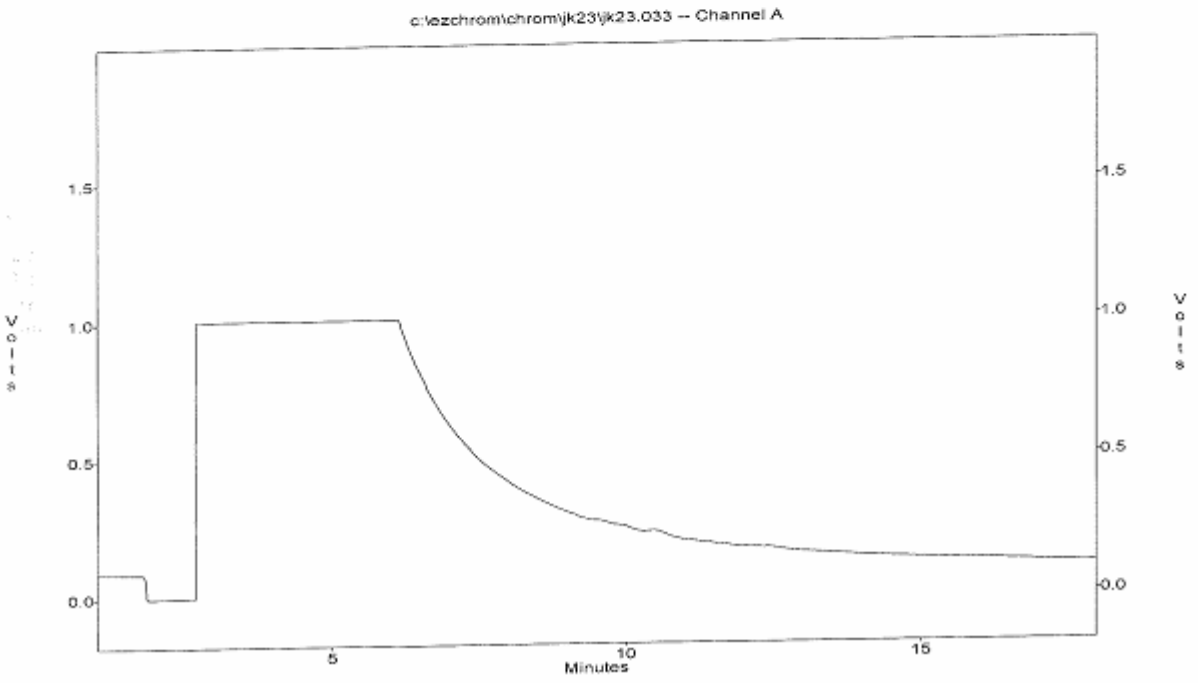
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.033
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-06
Acquired : Nov 24, 2021 01:42:10
Printed : Nov 24, 2021 08:29:47
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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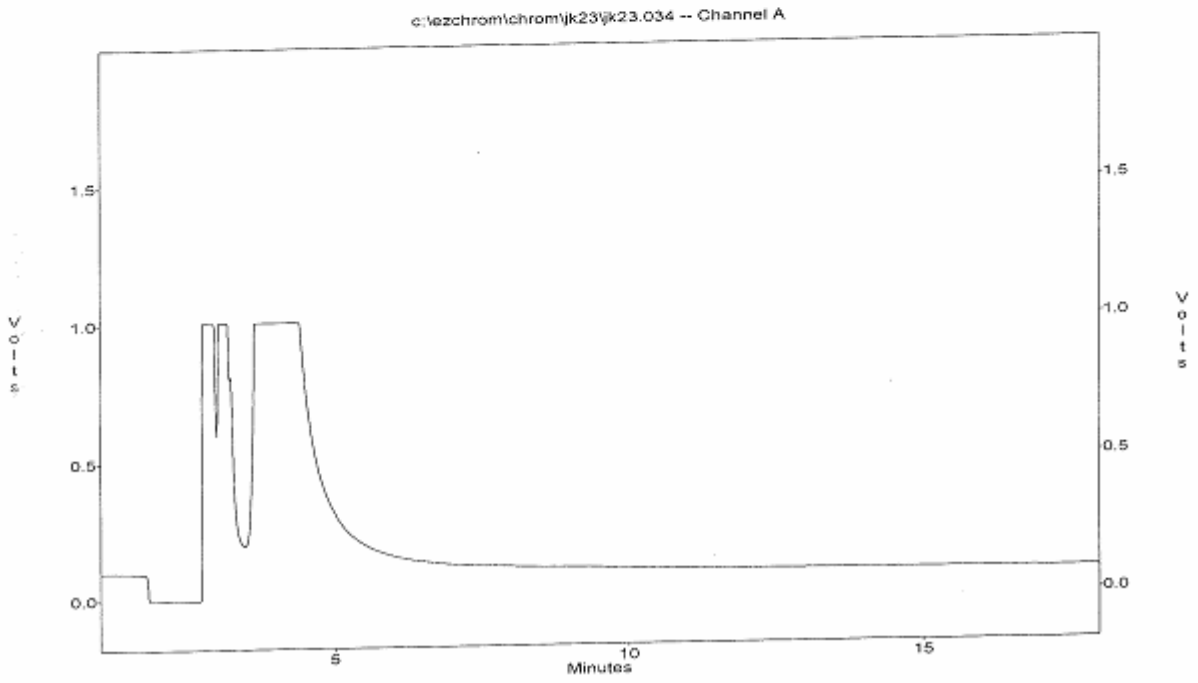
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.034
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-07
Acquired : Nov 24, 2021 02:03:11
Printed : Nov 24, 2021 08:29:54
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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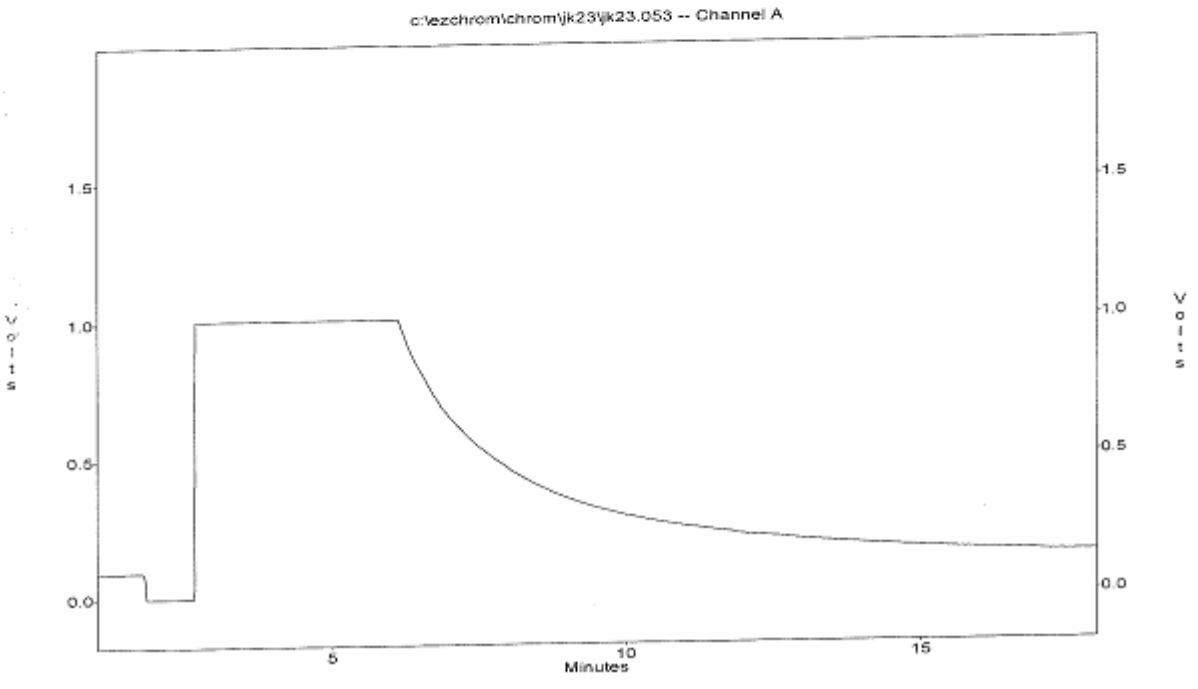
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.053
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-08
Acquired : Nov 24, 2021 08:42:34
Printed : Nov 24, 2021 10:22:05
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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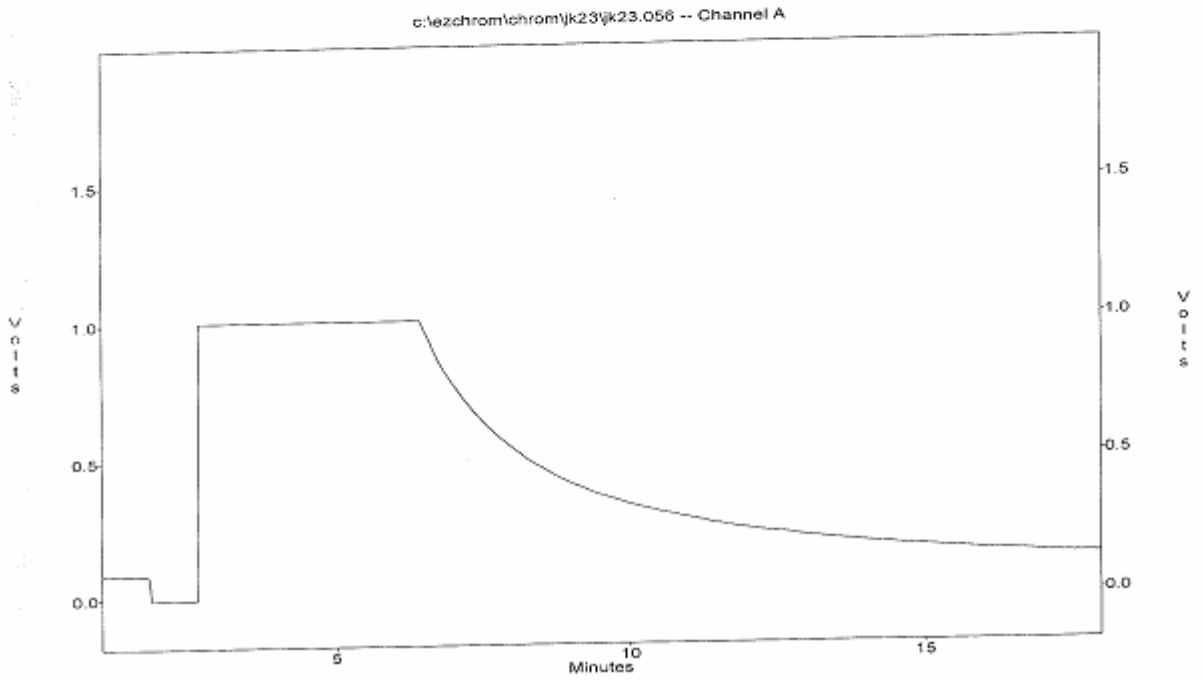
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.056
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-09
Acquired : Nov 24, 2021 09:45:37
Printed : Nov 24, 2021 10:23:07
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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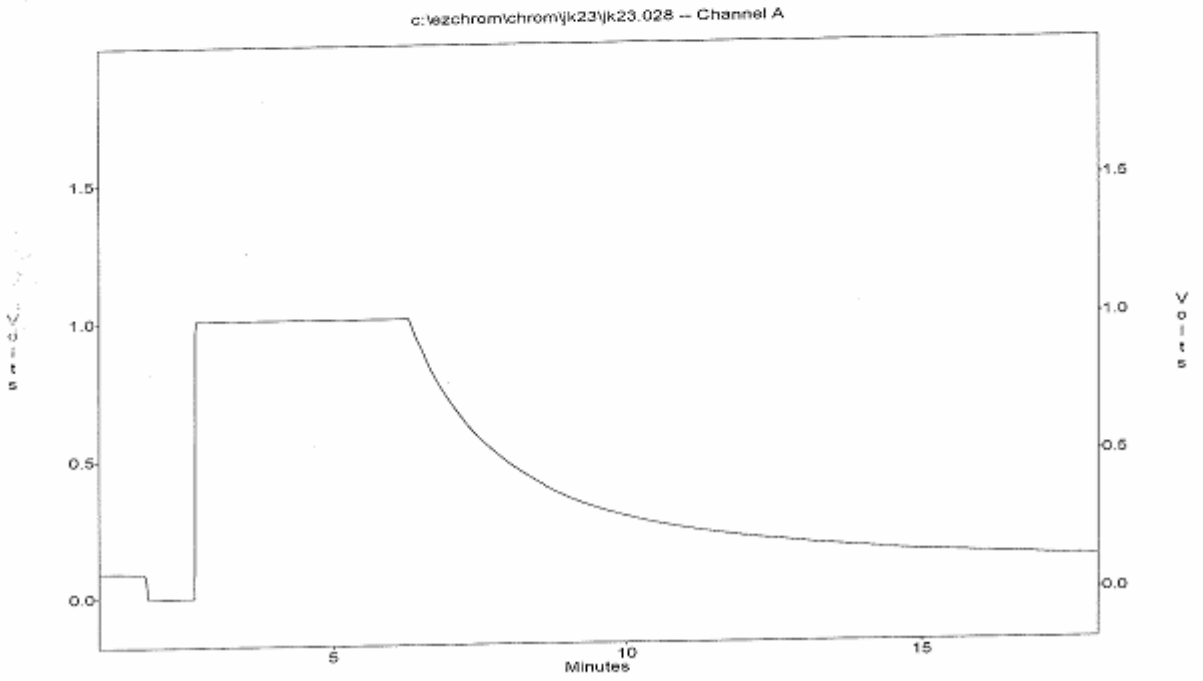
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.028
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-10
Acquired : Nov 23, 2021 23:57:03
Printed : Nov 24, 2021 08:27:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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QC SUMMARIES

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2135051
BATCH NO. : 21K208
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	PCK006WB	PCK006WL	PCK006WC
LAB FILE ID :	21JK23005	21JK23007	21JK23008
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/23/2114:10	11/23/2114:53	11/23/2115:14
PREP BATCH :	PCK006W	PCK006W	PCK006W
CALIBRATION REF:	21JK23004	21JK23004	21JK23004

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	25.7	103	25	25.4	102	1	85-115	15

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EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2135051
BATCH NO. : 21K208
METHOD : E314.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	PCK007WB	PCK007WL	PCK007WC
LAB FILE ID :	21JK23037	21JK23039	21JK23040
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	11/24/2103:06	11/24/2103:48	11/24/2104:09
PREP BATCH :	PCK007W	PCK007W	PCK007W
CALIBRATION REF:	21JK23036	21JK23036	21JK23036

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	25	25.6	102	25	25.8	103	1	85-115	15

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EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2135051
BATCH NO. : 21K208
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 2135051-04	2135051-04MS	2135051-04MSD
LAB SAMPLE ID	: K208-03	K208-03M	K208-03S
LAB FILE ID	: 21JK23024	21JK23025	21JK23026
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/23/2122:32	11/23/2122:53	11/23/2123:15
PREP BATCH	: PCK006W	PCK006W	PCK006W
CALIBRATION REF:	21JK23020	21JK23020	21JK23020

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	3.98	15.00	19.0	100	15.00	19.1	101	1	80-120	15

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EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2135051
BATCH NO. : 21K208
METHOD : E314.0

MATRIX : WATER		% MOISTURE:	NA
DILUTION FACTOR: 1	1		1
SAMPLE ID : 2135051-09	2135051-09MS		2135051-09MSD
LAB SAMPLE ID : K208-08	K208-08M		K208-08S
LAB FILE ID : 21JK23053	21JK23054		21JK23055
DATE PREPARED : NA	NA		NA
DATE ANALYZED : 11/24/2108:42	11/24/2109:03		11/24/2109:24
PREP BATCH : PCK006W	PCK006W		PCK006W
CALIBRATION REF: 21JK23052	21JK23052		21JK23052

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	15.00	15.3	102	15.00	15.2	101	1	80-120	15

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EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2135051
BATCH NO. : 21K208
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 2135051-10	2135051-10MS	2135051-10MSD
LAB SAMPLE ID	: K208-09	K208-09M	K208-09S
LAB FILE ID	: 21JK23056	21JK23057	21JK23058
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/24/2109:45	11/24/2110:06	11/24/2110:27
PREP BATCH	: PCK006W	PCK006W	PCK006W
CALIBRATION REF:	21JK23052	21JK23052	21JK23052

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	15.00	15.2	101	15.00	14.9	99	2	80-120	15

REPORT ID: 21K208 Page 25 of 76

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PACE ANALYTICAL
PROJECT : 2135051
BATCH NO. : 21K208
METHOD : E314.0

MATRIX	: WATER	% MOISTURE:	NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 2135051-11	2135051-11MS	2135051-11MSD
LAB SAMPLE ID	: K208-10	K208-10M	K208-10S
LAB FILE ID	: 21JK23028	21JK23029	21JK23030
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 11/23/2123:57	11/24/2100:18	11/24/2100:39
PREP BATCH	: PCK006W	PCK006W	PCK006W
CALIBRATION REF:	21JK23020	21JK23020	21JK23020

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	15.00	15.2	101	15.00	15.2	101	0	80-120	15

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QC DATA

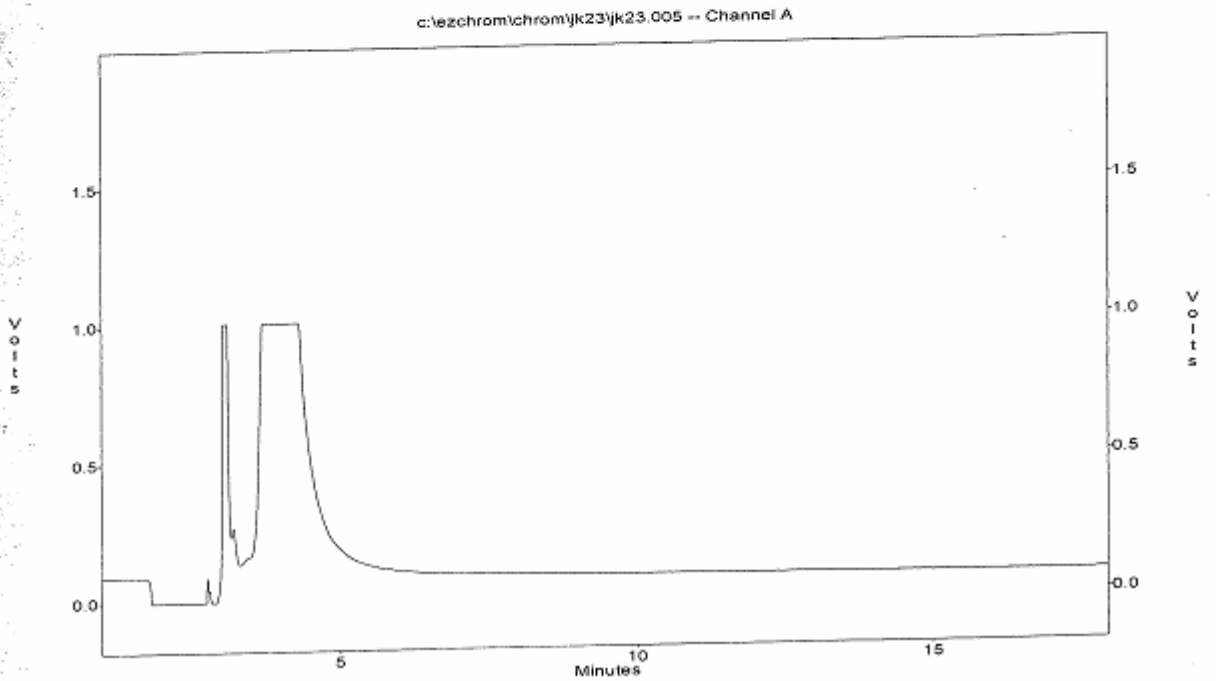
REPORT ID: 21K208 Page 27 of 76

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WB
Acquired : Nov 23, 2021 14:10:02
Printed : Nov 24, 2021 07:56:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K208

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EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

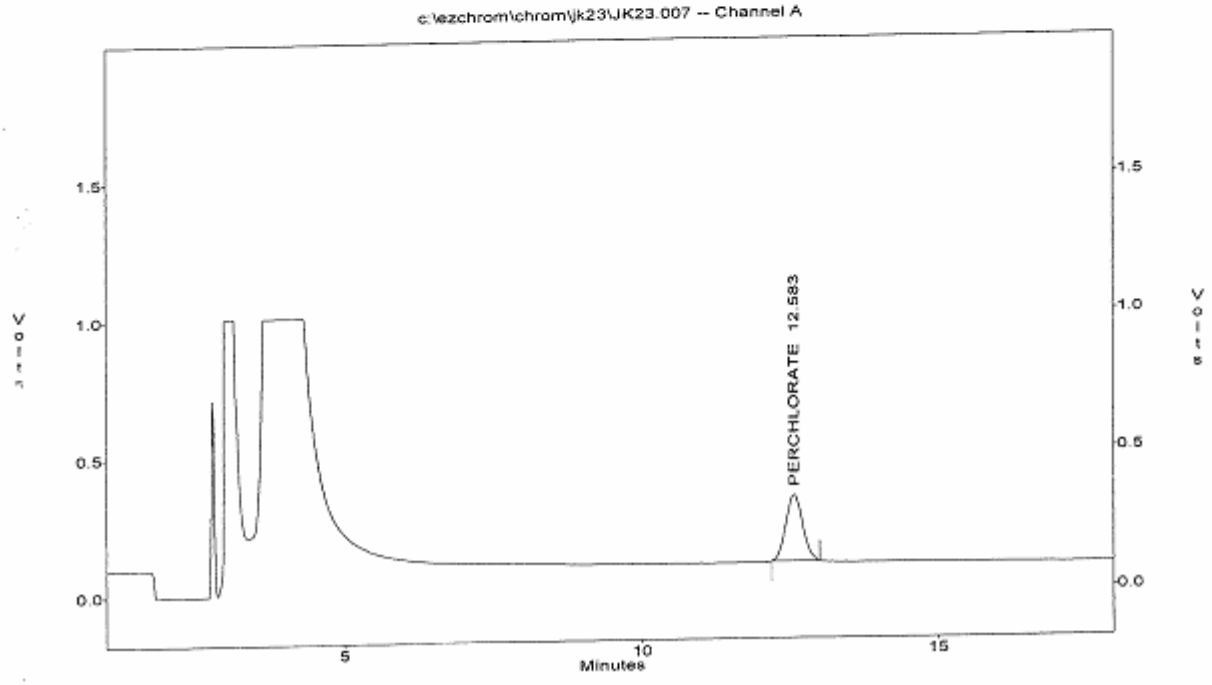
File : c:\ezchrom\chrom\jk23\JK23.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WL
Acquired : Nov 23, 2021 14:53:02
Printed : Nov 24, 2021 09:39:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	4747131	238532	180791.531	25.714

A/H
19.901 ✓

$$PD_{A/H} = \frac{|21.860 - 19.901|}{19.901} \times 100 = 10.90 \checkmark$$



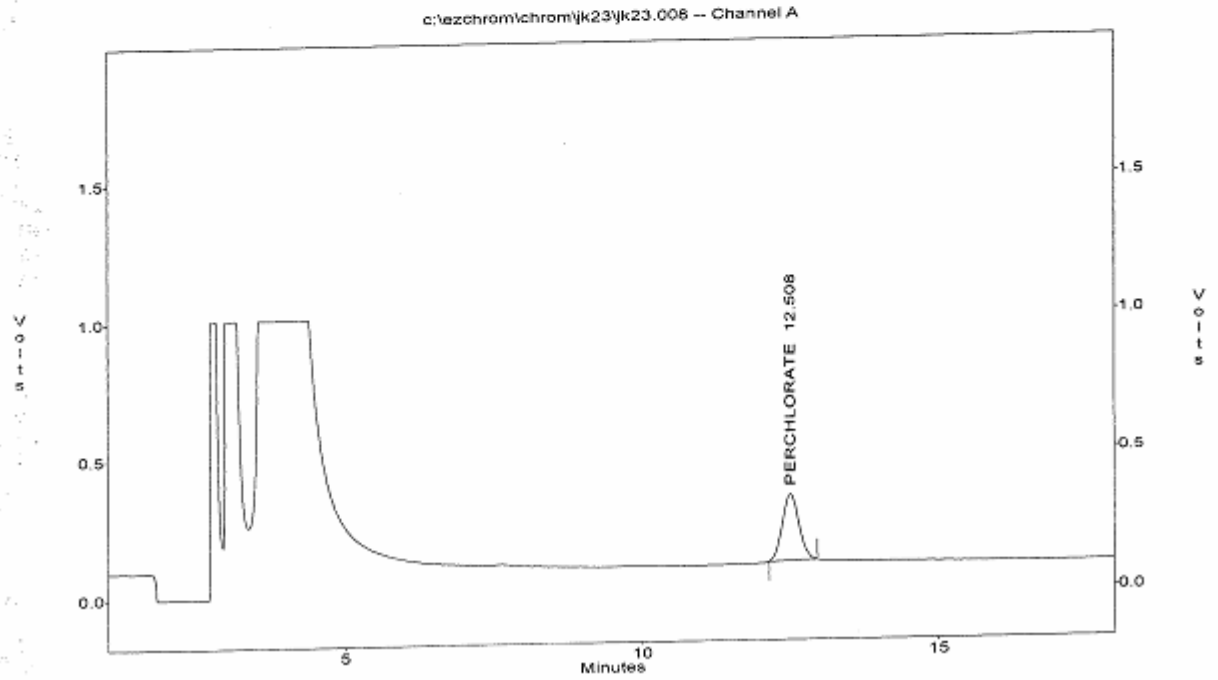
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK006WC
Acquired : Nov 23, 2021 15:14:31
Printed : Nov 24, 2021 07:57:33
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.51	4688636	238645	180791.531	25.400



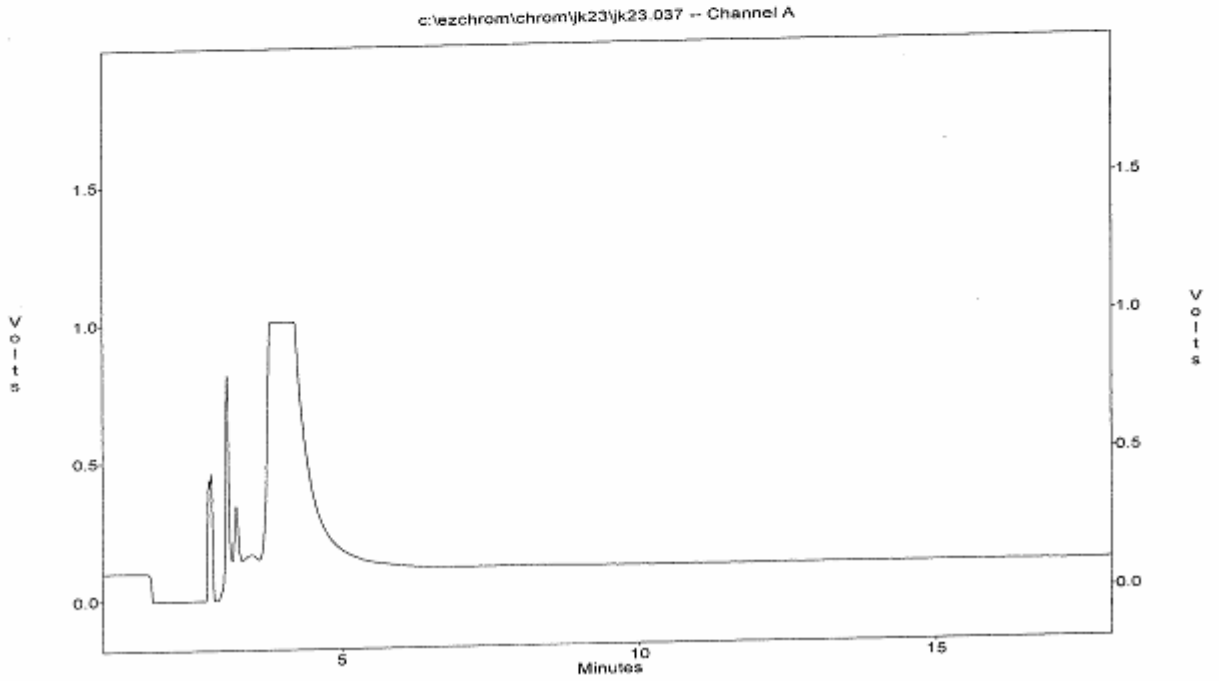
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.037
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK007WB
Acquired : Nov 24, 2021 03:06:15
Printed : Nov 24, 2021 08:32:06
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



REPORT ID: 21K208

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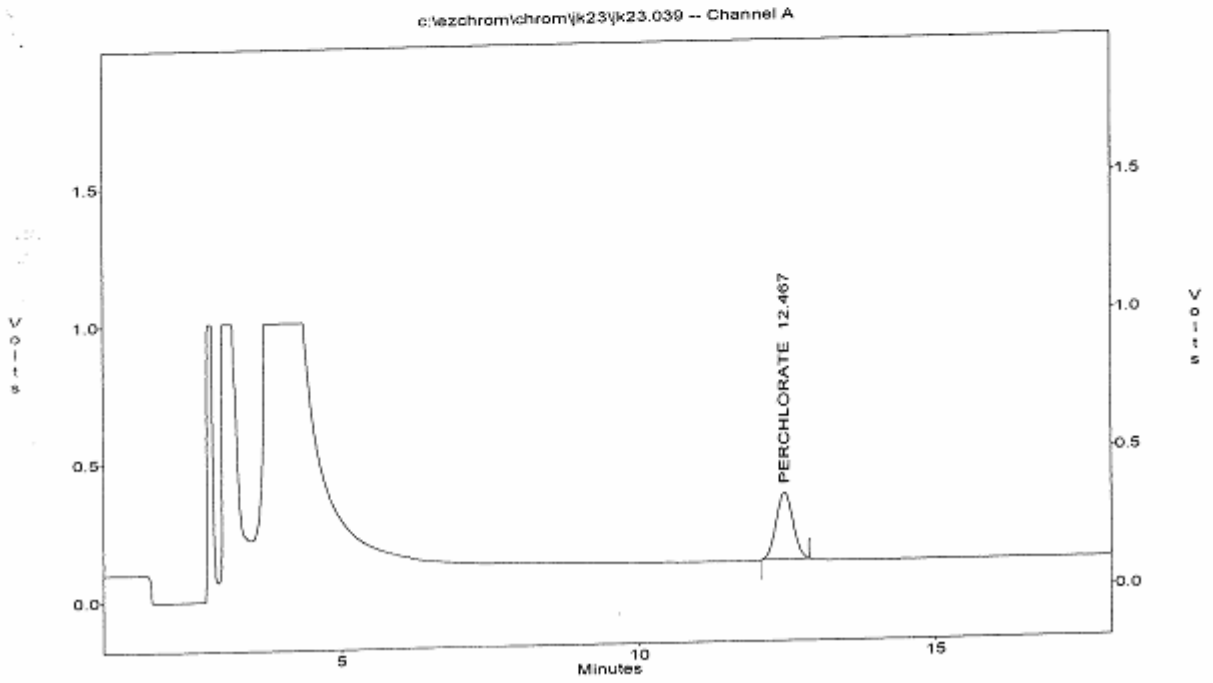
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.039
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK007WL
Acquired : Nov 24, 2021 03:48:18
Printed : Nov 24, 2021 08:33:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)	A|H
1	PERCHLORATE	12.47	4726299	241303	180791.531	25.602	19.587 ✓

$PD_{A|H} = \frac{|21.860 - 19.587|}{19.587} \times 100 = 12\%$ ✓ JLP



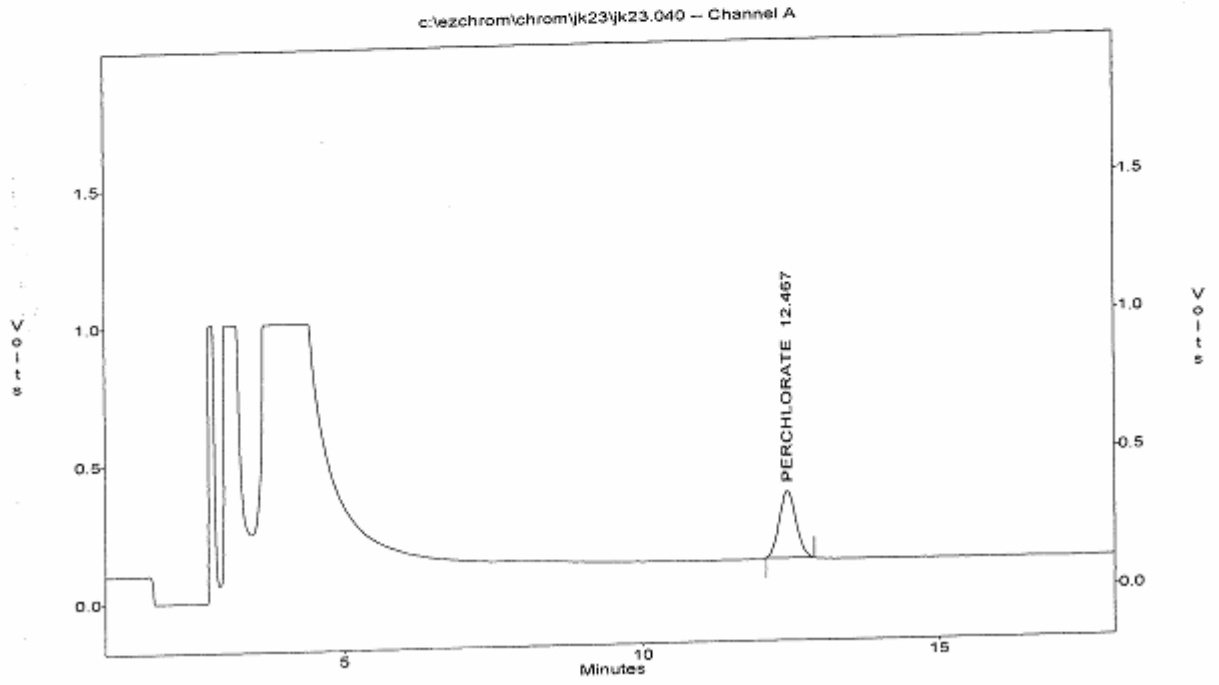
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.040
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : PCK007WC
Acquired : Nov 24, 2021 04:09:19
Printed : Nov 24, 2021 08:34:10
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.47	4759995	241982	180791.531	25.783



REPORT ID: 21K208

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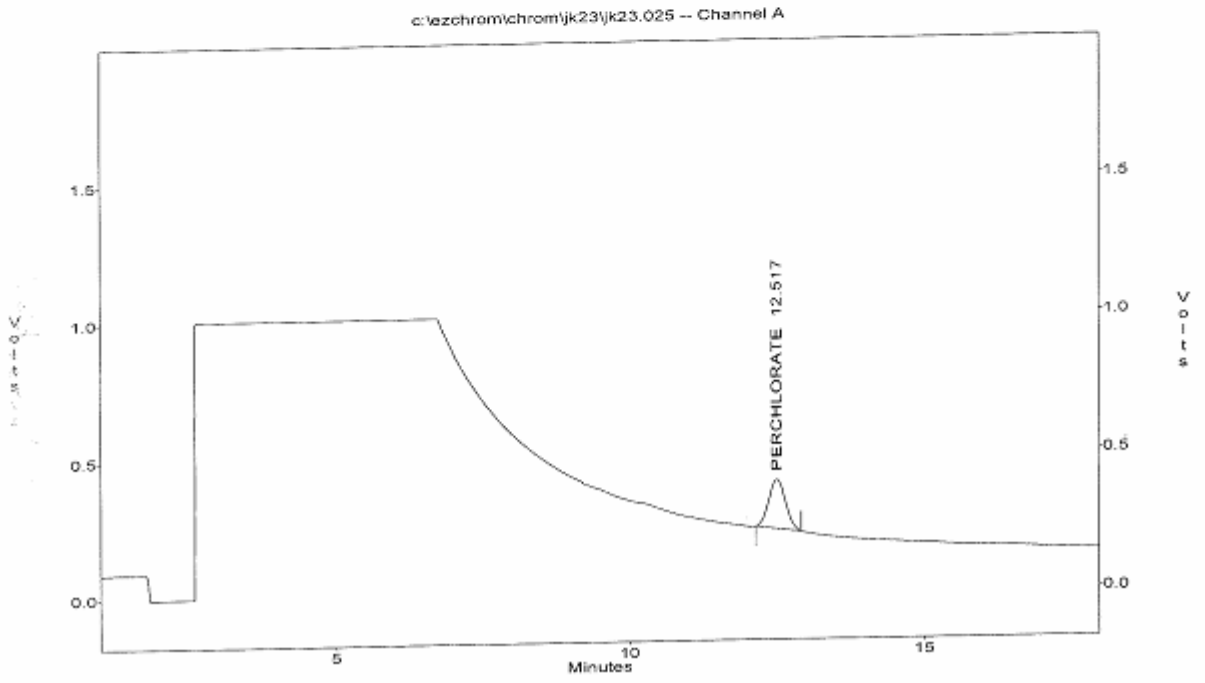
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.025
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-03M
Acquired : Nov 23, 2021 22:53:59
Printed : Nov 24, 2021 08:26:28
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.52	3499991	177634	180791.531	19.026



REPORT ID: 21K208

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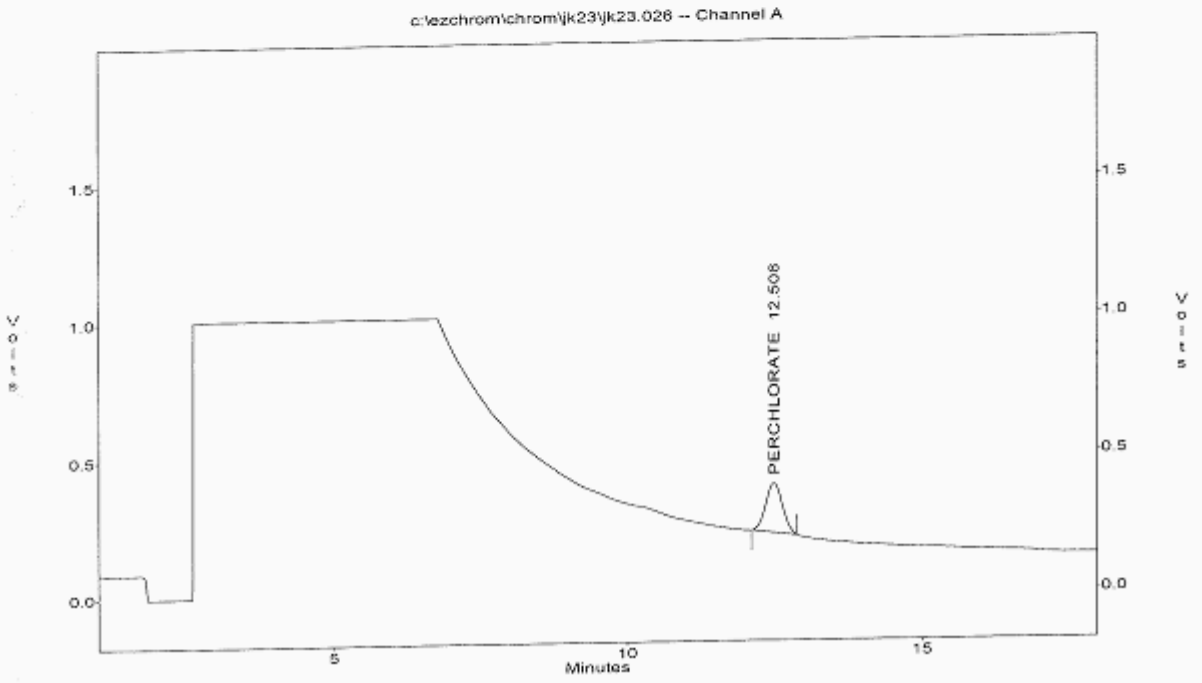
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.026
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-03S
Acquired : Nov 23, 2021 23:15:00
Printed : Nov 24, 2021 08:27:01
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.51	3522441	178861	180791.531	19.146



REPORT ID: 21K208

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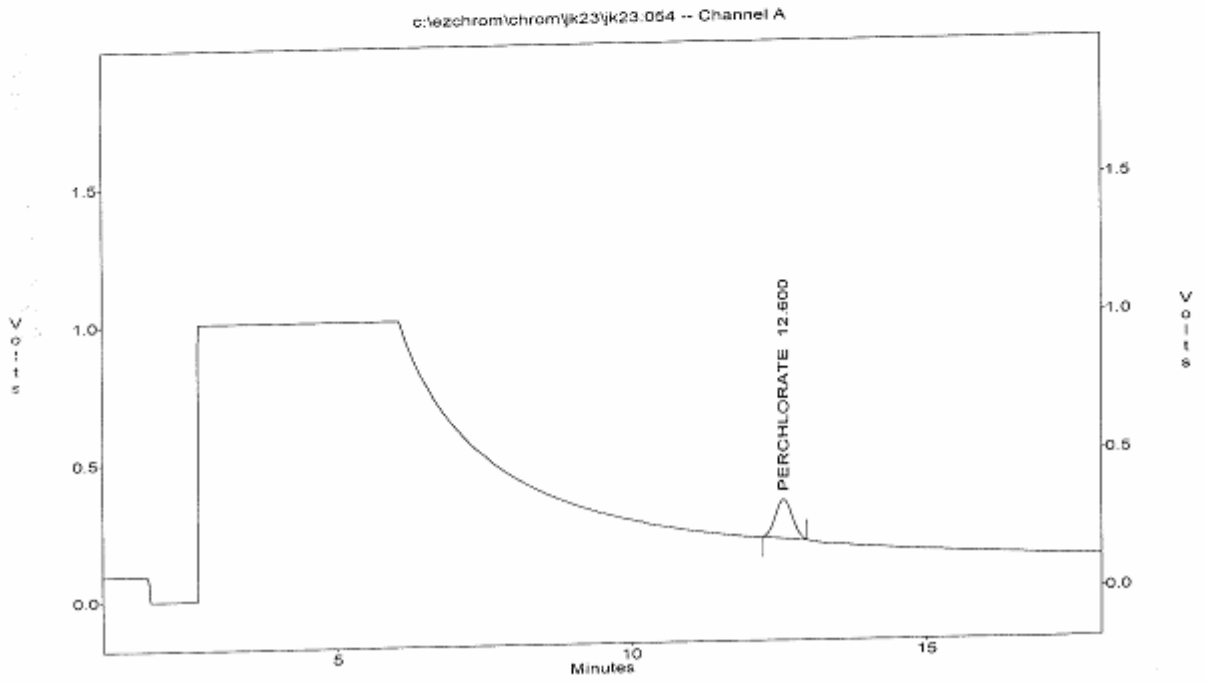
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.054
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-08M
Acquired : Nov 24, 2021 09:03:35
Printed : Nov 24, 2021 10:22:43
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	2807293	141340	180791.531	15.311



REPORT ID: 21K208

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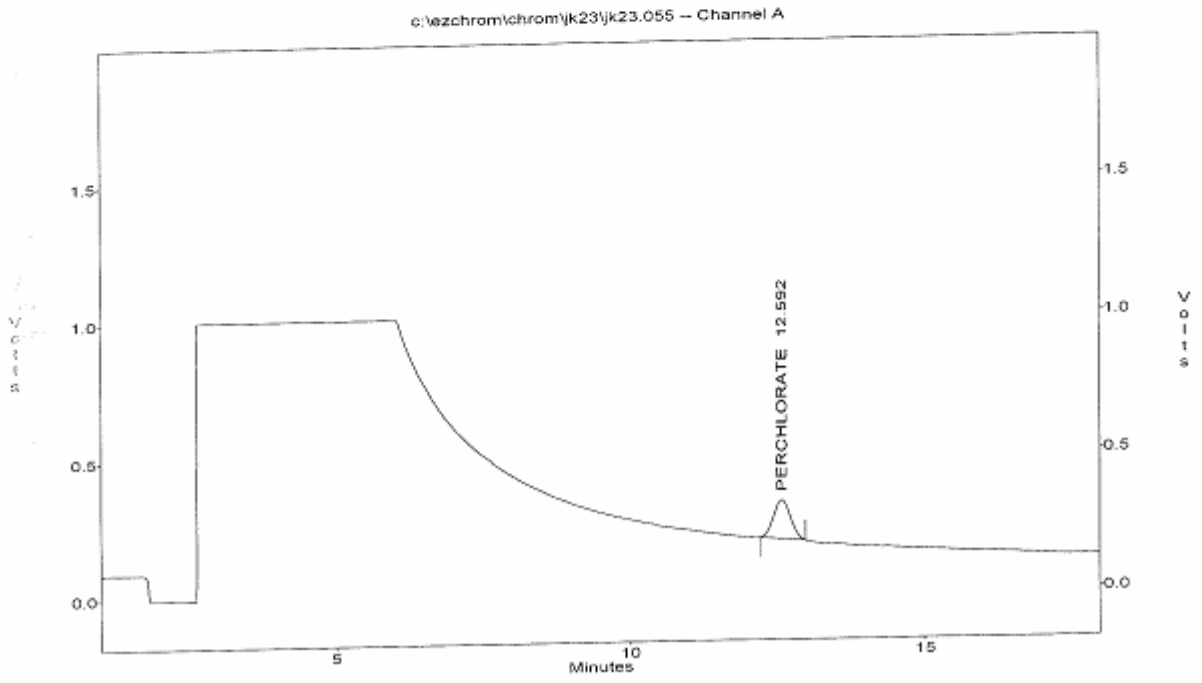
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.055
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-08S
Acquired : Nov 24, 2021 09:24:36
Printed : Nov 24, 2021 10:23:00
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	BSTD Conc.(ppb)
1	PERCHLORATE	12.59	2778182	140303	180791.531	15.155



REPORT ID: 21K208

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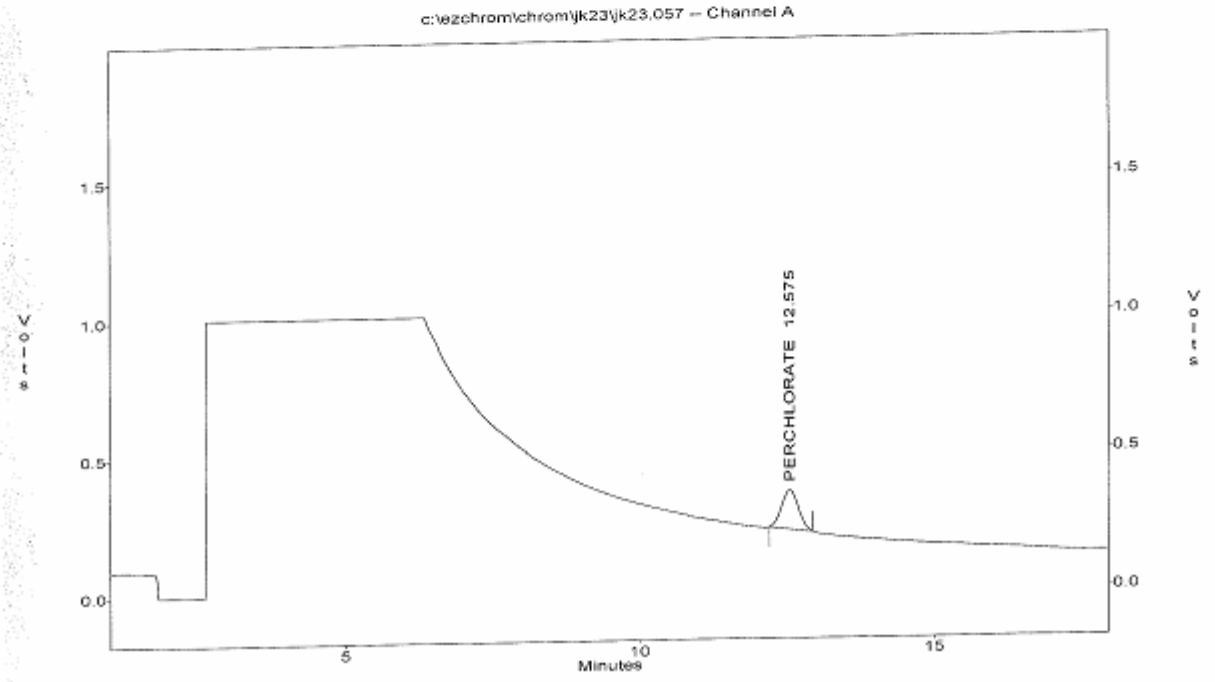
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.057
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-09M
Acquired : Nov 24, 2021 10:06:38
Printed : Dec 09, 2021 09:24:59
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2780910	141341	180791.531	15.169



REPORT ID: 21K208

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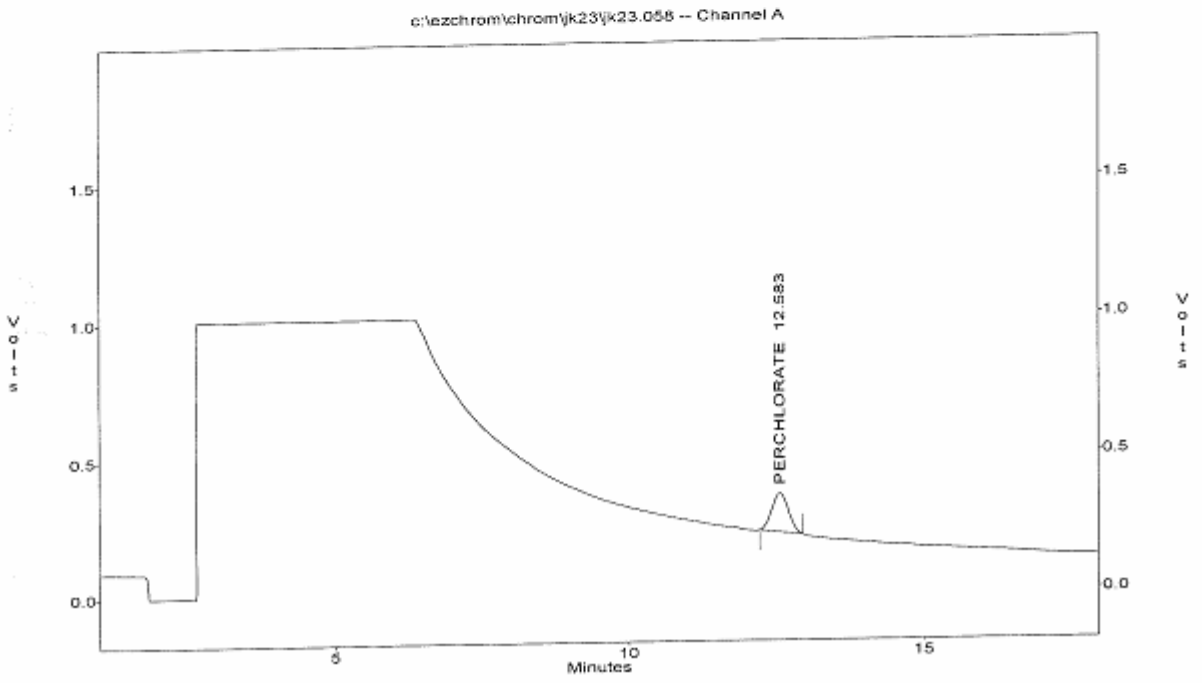
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.058
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-09S
Acquired : Nov 24, 2021 10:27:39
Printed : Nov 24, 2021 11:32:32
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.58	2735108	141194	180791.531	14.924



REPORT ID: 21K208

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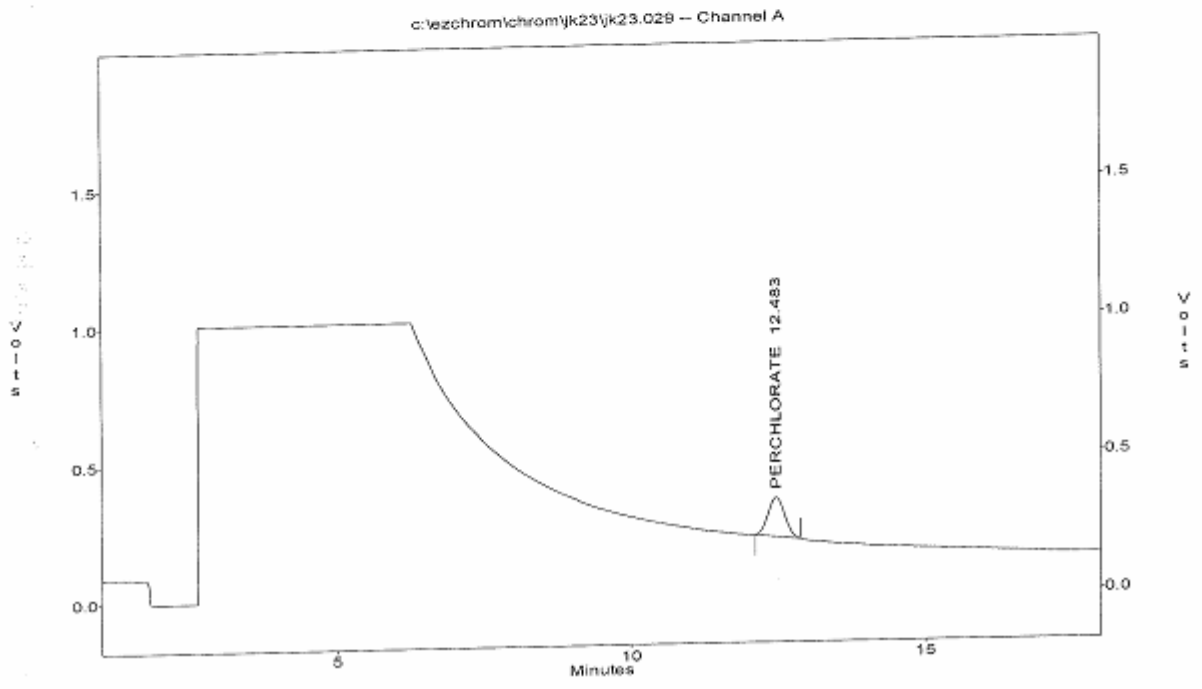
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.029
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-10M
Acquired : Nov 24, 2021 00:18:05
Printed : Nov 24, 2021 08:27:48
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.48	2784091	141654	180791.531	15.186



REPORT ID: 21K208

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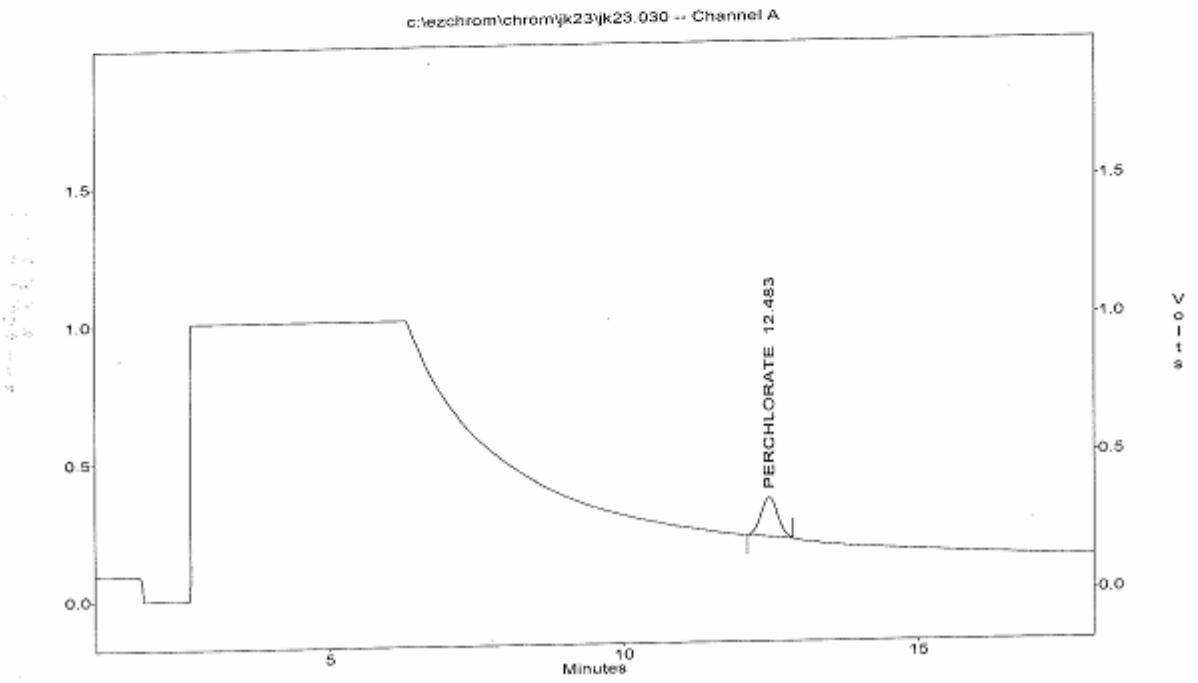
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.030
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : K208-10S
Acquired : Nov 24, 2021 00:39:06
Printed : Nov 24, 2021 08:28:24
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.48	2780485	142155	180791.531	15.167



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INITIAL CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK09001	IB	P	IC57K08	11/08/2115:49	1
JK09002	S0	P	IC57K08	11/08/2116:11	1
JK09003	S1	P	IC57K08	11/08/2116:33	1
JK09004	S2	P	IC57K08	11/08/2116:54	1
JK09005	S3	P	IC57K08	11/08/2117:16	1
JK09006	S4	P	IC57K08	11/08/2117:39	1
JK09007	S5	P	IC57K08	11/08/2118:00	1
JK09008	ICV	P	IC57K08	11/08/2118:21	1
JK09009	ICB	P	IC57K08	11/08/2118:43	1

IC57K08.MET

11/15/01

REPORT ID: 21K208

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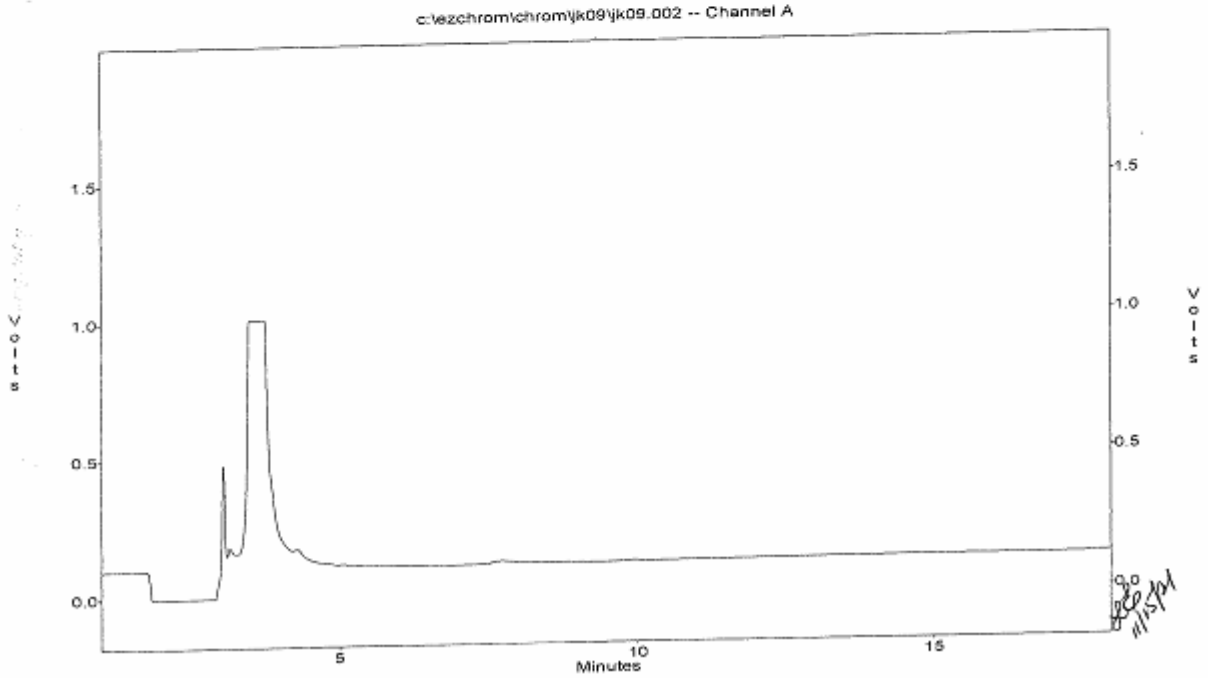
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.002
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : SO
Acquired : Nov 08, 2021 16:11:10
Printed : Nov 08, 2021 19:34:19
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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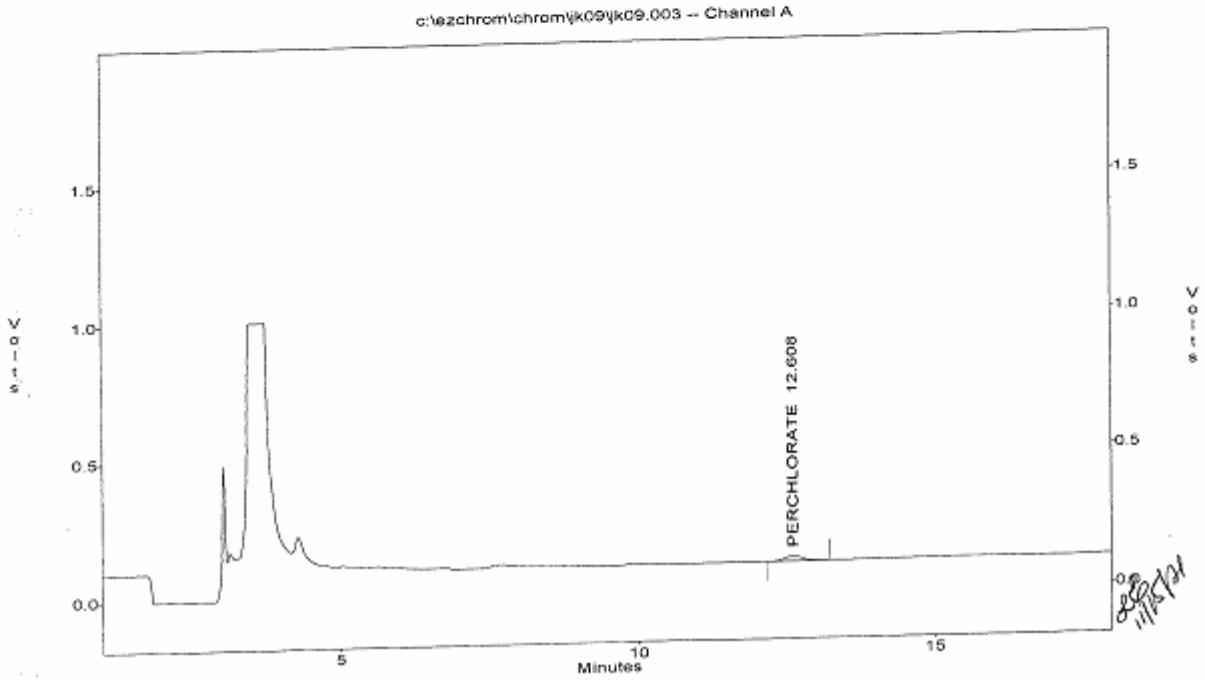
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.003
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S1
Acquired : Nov 08, 2021 16:33:04
Printed : Nov 08, 2021 19:12:09
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.61	359317	17804	180791.547	2.000



REPORT ID: 21K208

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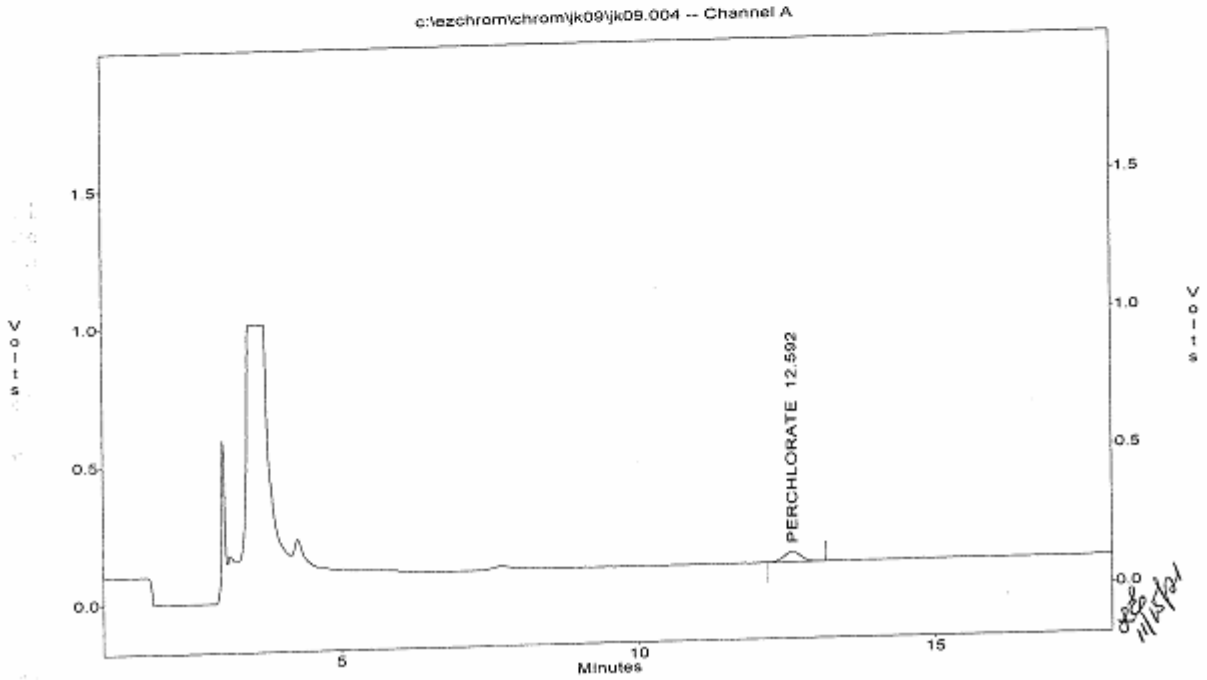
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.004
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S2
Acquired : Nov 08, 2021 16:54:36
Printed : Nov 08, 2021 19:12:20
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.59	714637	36031	180791.547	4.000



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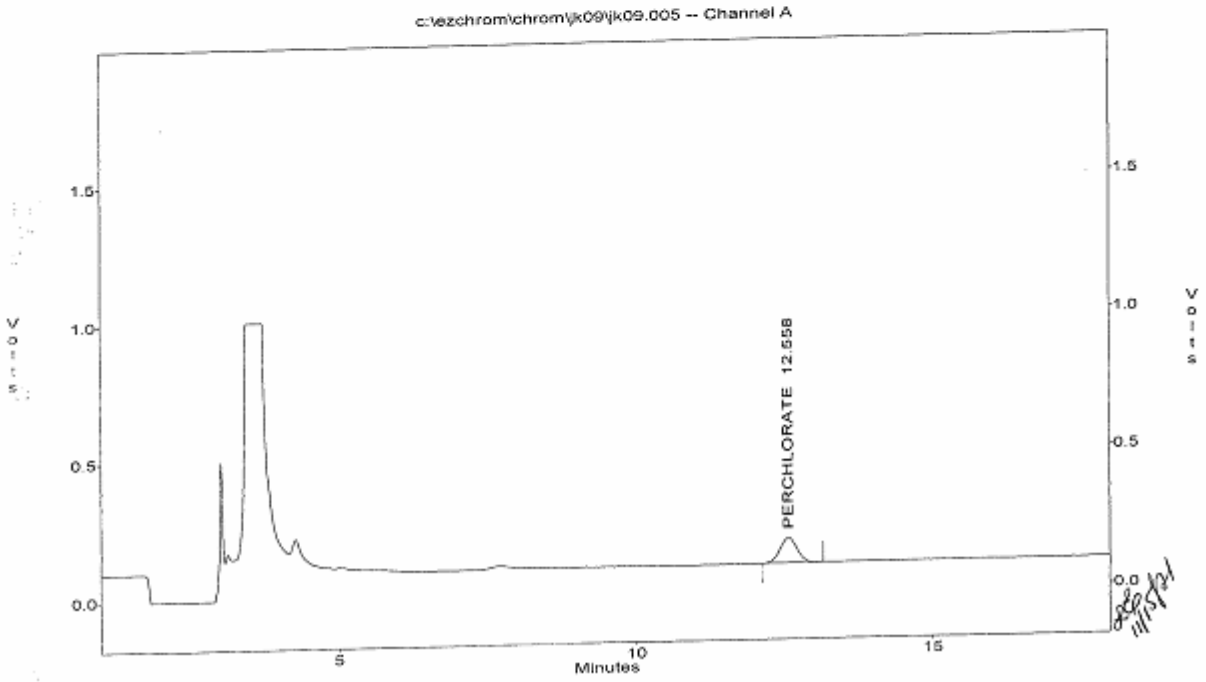
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.005
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S3
Acquired : Nov 08, 2021 17:16:32
Printed : Nov 08, 2021 19:12:41
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.56	1765407	89646	180791.547	10.000



REPORT ID: 21K208

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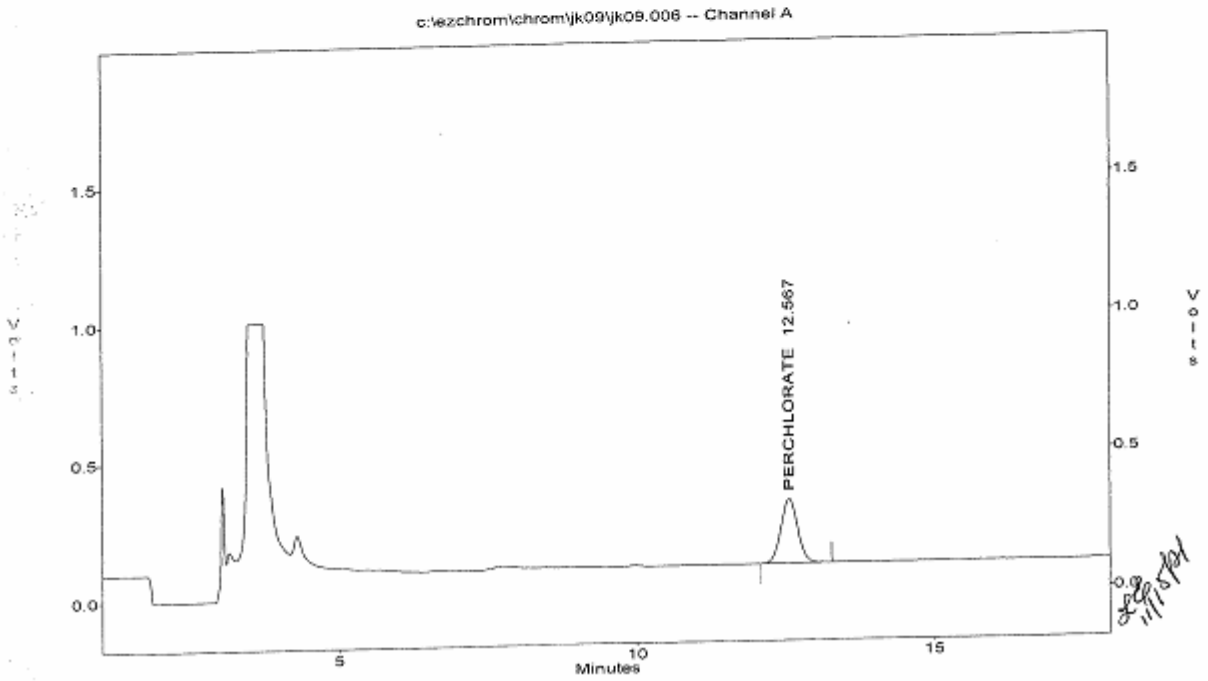
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S4
Acquired : Nov 08, 2021 17:39:04
Printed : Nov 08, 2021 19:29:46
User : YCabal

Channel A Results

#	Peak Name	R.T. (min)	AREA	HEIGHT	Ave. CF	ESTD Conc. (ppb)
1	PERCHLORATE	12.57	4556696	231062	180791.547	25.000



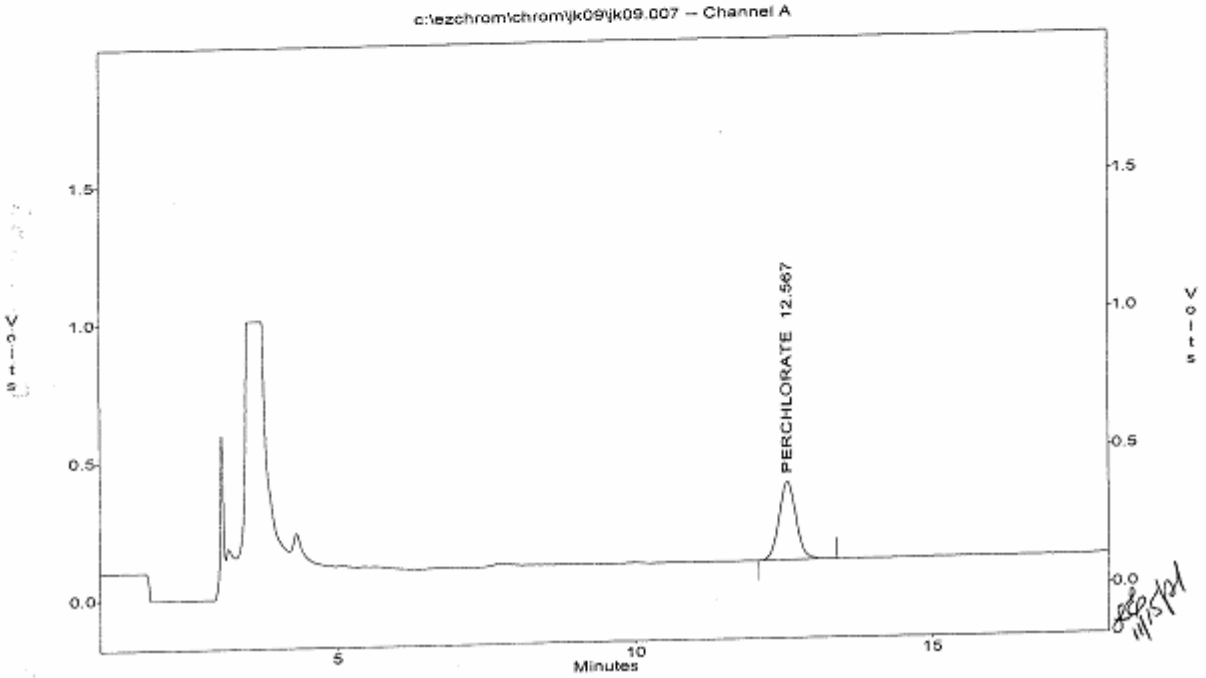
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.007
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : S5
Acquired : Nov 08, 2021 18:00:45
Printed : Nov 08, 2021 19:13:04
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	5604943	282313	180791.547	30.000



REPORT ID: 21K208

* - Replicate Not Used

Method : c:\ezchrom\methods\ic57k08.met
Printed : Nov 08, 2021 19:26:43
Channel : A
Peak : PERCHLORATE

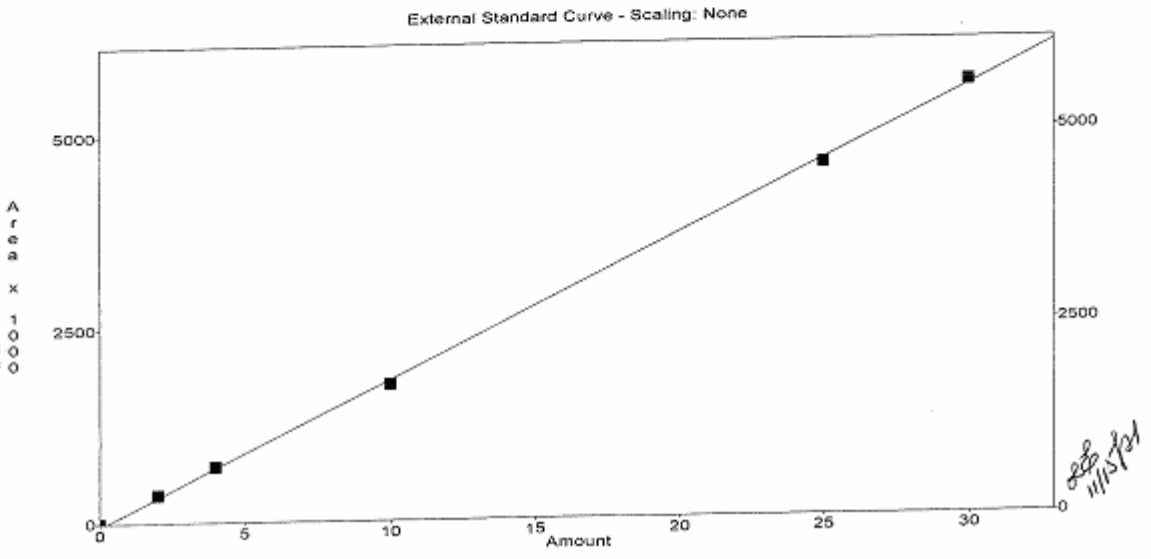
Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
											0
2	359317	2	179658.50	359317							0
3	714637	4	178659.25	714637							0
4	1765407	10	176540.70	1765407							0
5	4556696	25	182267.84	4556696							0
6	5604943	30	186831.44	5604943							

Calib Flag: Replace

Average RF: 180792
RF StdDev: 3964.74
RF %RSD: 2.187

RF Definition: Area / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 5.36295e-006 x Area + 0.255269
R^2 = 0.999512



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SECOND SOURCE VERIFICATION

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK09001	IB	P	.000	11/08/2115:49	1
JK09002	S0	P	.000	11/08/2116:11	1
JK09003	S1	P	2	11/08/2116:33	1
JK09004	S2	P	4	11/08/2116:54	1
JK09005	S3	P	10	11/08/2117:16	1
JK09006	S4	P	25	11/08/2117:39	1
JK09007	S5	P	30	11/08/2118:00	1
JK09008	ICV	P	94.2%	11/08/2118:21	1
JK09009	ICB	P	.000	11/08/2118:43	1

IC57K08.MET

REPORT ID: 21K208

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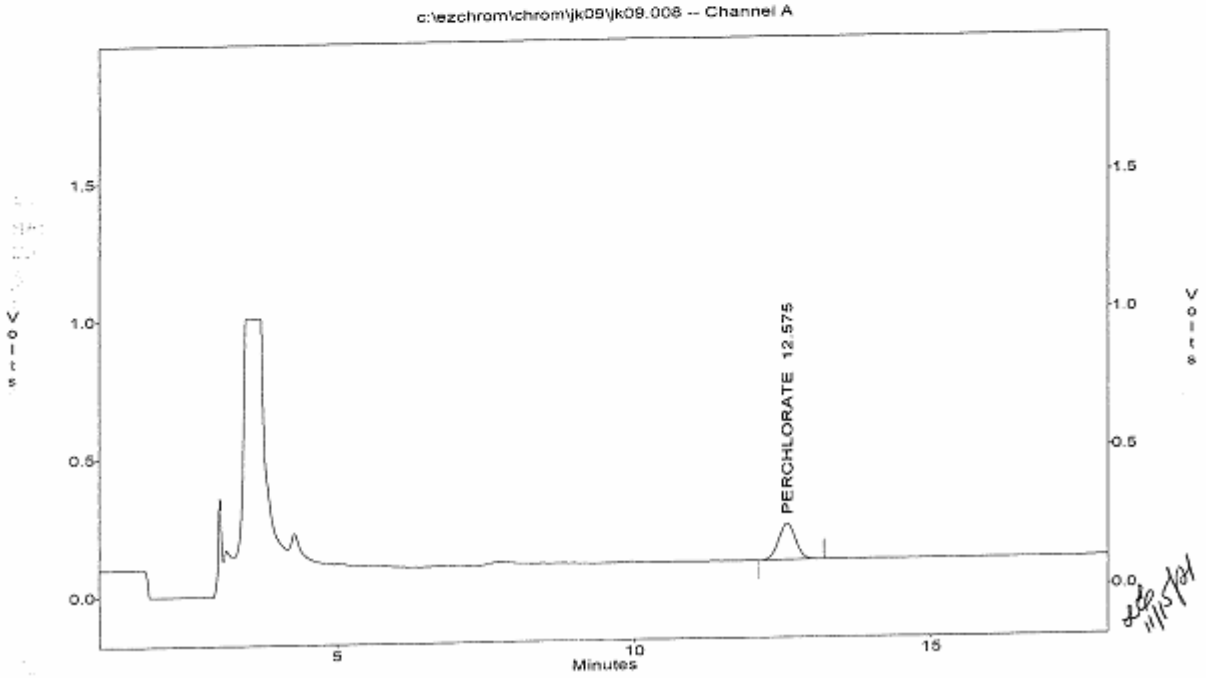
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.008
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICV
Acquired : Nov 08, 2021 18:21:57
Printed : Nov 09, 2021 15:52:29
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.57	2587922	131134	180791.531	14.134



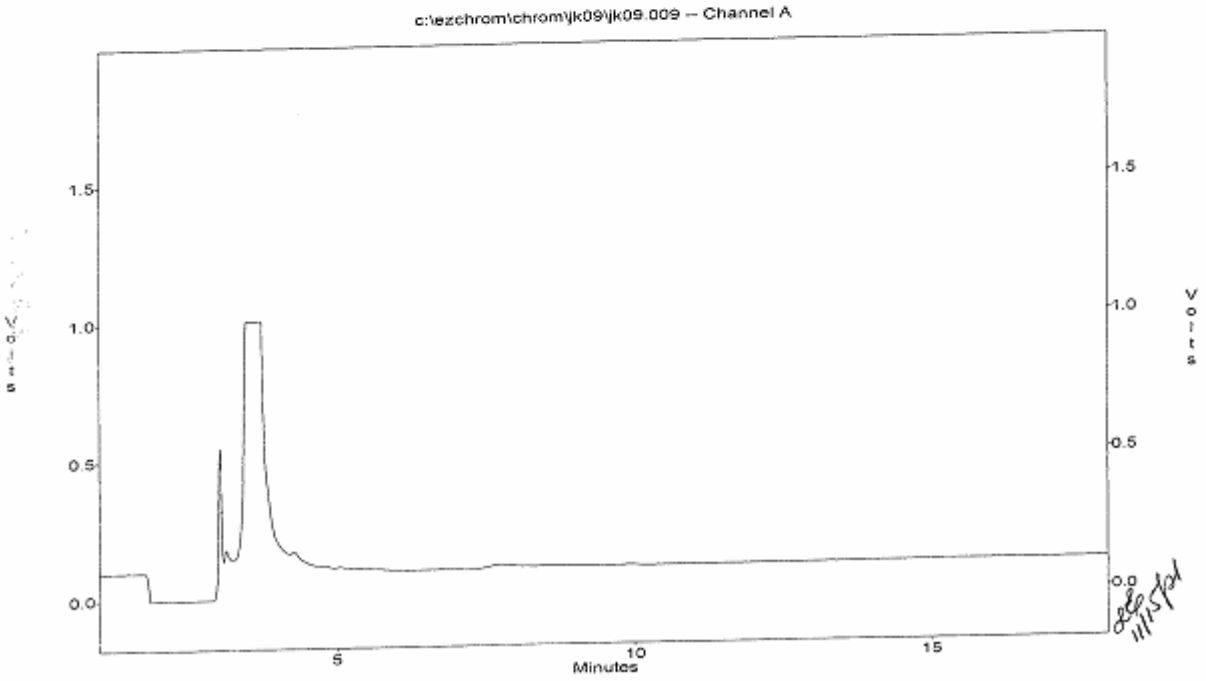
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk09\jk09.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : ICB
Acquired : Nov 08, 2021 18:43:25
Printed : Nov 08, 2021 19:34:27
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.58	0	0	0.000	0.000



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DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : PACE ANALYTICAL
Project : 2135051
SDG : 21K208
Method : METHOD E314.0
Parameter: Perchlorate

LFID	LSID	%Rec	AnalysisDateTime
21JK23009	CCV68-15	100	11/23/2115:42
21JK23020	CCV69-30	106	11/23/2121:08
21JK23031	CCV70-15	107	11/24/2101:00
21JK23036	CCV71-30	106	11/24/2102:45
21JK23041	CCV72-15	104	11/24/2104:30
21JK23052	CCV73-30	110	11/24/2108:21
21JK23063	CCV74-15	108	11/24/2112:12
21JK23071	CCV75-30	109	11/24/2115:12
21JK23041	CCV72-15	104	11/24/2104:30
21JK23052	CCV73-30	110	11/24/2108:21
21JK23063	CCV74-15	108	11/24/2112:12

CCV Acceptance Criteria: 85-115%

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IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JK23001	RINSE	P	IC57K08	11/23/2112:47	1
JK23002	RINSE	P	IC57K08	11/23/2113:08	1
JK23003	RINSE	P	IC57K08	11/23/2113:26	1
JK23004	IPCS	P	IC57K08	11/23/2113:48	1
JK23005	PCK006WB	P	IC57K08	11/23/2114:10	1
JK23006	MRLK2301	P	IC57K08	11/23/2114:31	1
JK23007	PCK006WL	P	IC57K08	11/23/2114:53	1
JK23008	PCK006WC	P	IC57K08	11/23/2115:14	1
JK23009	CCV68-15	P	IC57K08	11/23/2115:42	1
JK23010	K207-01	P	IC57K08	11/23/2116:14	1
JK23011	K207-02	P	IC57K08	11/23/2116:51	1
JK23012	K207-03	P	IC57K08	11/23/2117:57	1
JK23013	K207-04	P	IC57K08	11/23/2118:25	1
JK23014	K207-05	P	IC57K08	11/23/2119:02	1
JK23015	K207-06	P	IC57K08	11/23/2119:23	1
JK23016	K207-07	P	IC57K08	11/23/2119:44	1
JK23017	K207-08	P	IC57K08	11/23/2120:05	1
JK23018	K207-09	P	IC57K08	11/23/2120:26	1
JK23019	K207-10	P	IC57K08	11/23/2120:47	1
JK23020	CCV69-30	P	IC57K08	11/23/2121:08	1
JK23021	K207-11	P	IC57K08	11/23/2121:29	1
JK23022	K208-01	P	IC57K08	11/23/2121:50	1
JK23023	K208-02	P	IC57K08	11/23/2122:11	1
JK23024	K208-03	P	IC57K08	11/23/2122:32	1
JK23025	K208-03M	P	IC57K08	11/23/2122:53	1
JK23026	K208-03S	P	IC57K08	11/23/2123:15	1
JK23027	K208-04	P	IC57K08	11/23/2123:36	1
JK23028	K208-10	P	IC57K08	11/23/2123:57	1
JK23029	K208-10M	P	IC57K08	11/24/2100:18	1
JK23030	K208-10S	P	IC57K08	11/24/2100:39	1
JK23031	CCV70-15	P	IC57K08	11/24/2101:00	1
JK23032	K208-05	P	IC57K08	11/24/2101:21	1
JK23033	K208-06	P	IC57K08	11/24/2101:42	1
JK23034	K208-07	P	IC57K08	11/24/2102:03	1
JK23035	K209-01	P	IC57K08	11/24/2102:24	1
JK23036	CCV71-30	P	IC57K08	11/24/2102:45	1
JK23037	PCK007WB	P	IC57K08	11/24/2103:06	1
JK23038	MRLK2302	P	IC57K08	11/24/2103:27	1
JK23039	PCK007WL	P	IC57K08	11/24/2103:48	1
JK23040	PCK007WC	P	IC57K08	11/24/2104:09	1
JK23041	CCV72-15	P	IC57K08	11/24/2104:30	1
JK23042	K209-02	P	IC57K08	11/24/2104:51	1
JK23043	K209-03	P	IC57K08	11/24/2105:12	1
JK23044	K209-04	P	IC57K08	11/24/2105:33	1
JK23045	K209-05	P	IC57K08	11/24/2105:54	1
JK23046	K209-06	P	IC57K08	11/24/2106:15	1
JK23047	K209-07	P	IC57K08	11/24/2106:36	1
JK23048	K209-08	P	IC57K08	11/24/2106:57	1
JK23049	K209-09	P	IC57K08	11/24/2107:18	1
JK23050	K209-10	P	IC57K08	11/24/2107:39	1
JK23051	K209-11	P	IC57K08	11/24/2108:00	1
JK23052	CCV73-30	P	IC57K08	11/24/2108:21	1
JK23053	K208-08	P	IC57K08	11/24/2108:42	1
JK23054	K208-08M	P	IC57K08	11/24/2109:03	1
JK23055	K208-08S	P	IC57K08	11/24/2109:24	1
JK23056	K208-09	P	IC57K08	11/24/2109:45	1
JK23057	K208-09M	P	IC57K08	11/24/2110:06	1
JK23058	K208-09S	P	IC57K08	11/24/2110:27	1
JK23059	K217-01	P	IC57K08	11/24/2110:48	1
JK23060	K217-02	P	IC57K08	11/24/2111:09	1
JK23061	K217-03	P	IC57K08	11/24/2111:30	1
JK23062	K212-01	*	IC57K08	11/24/2111:51	1
JK23063	CCV74-15	P	IC57K08	11/24/2112:12	1
JK23064	K212-02	*	IC57K08	11/24/2112:33	1
JK23065	K212-03	P	IC57K08	11/24/2112:54	1
JK23066	K212-04	*	IC57K08	11/24/2113:15	1
JK23067	K212-05	P	IC57K08	11/24/2113:36	1
JK23068	K212-011	P	IC57K08	11/24/2113:57	5
JK23069	K212-021	P	IC57K08	11/24/2114:30	20
JK23070	K212-041	P	IC57K08	11/24/2114:51	20
JK23071	CCV75-30	P	IC57K08	11/24/2115:12	1

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IC RESULT FORM CalVersion: PCHLO314.K08/JK09(2021)

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JK23001	RINSE	P	.000	11/23/2112:47	1
JK23002	RINSE	P	.000	11/23/2113:08	1
JK23003	RINSE	P	.000	11/23/2113:26	1
JK23004	IPCS	P	100%	11/23/2113:48	1
JK23005	PCK006WB	P	.000	11/23/2114:10	1
JK23006	MRLK2301	P	106%	11/23/2114:31	1
JK23007	PCK006WL	P	25.7	11/23/2114:53	1
JK23008	PCK006WC	P	25.4	11/23/2115:14	1
JK23009	CCV68-15	P	100%	11/23/2115:42	1
JK23010	K207-01	P	.000	11/23/2116:14	1
JK23011	K207-02	P	.000	11/23/2116:51	1
JK23012	K207-03	P	.000	11/23/2117:57	1
JK23013	K207-04	P	.000	11/23/2118:25	1
JK23014	K207-05	P	.000	11/23/2119:02	1
JK23015	K207-06	P	.000	11/23/2119:23	1
JK23016	K207-07	P	15	11/23/2119:44	1
JK23017	K207-08	P	15.8	11/23/2120:05	1
JK23018	K207-09	P	1.05	11/23/2120:26	1
JK23019	K207-10	P	.000	11/23/2120:47	1
JK23020	CCV69-30	P	106%	11/23/2121:08	1
JK23021	K207-11	P	.000	11/23/2121:29	1
JK23022	K208-01	P	3.48	11/23/2121:50	1
JK23023	K208-02	P	3.7	11/23/2122:11	1
JK23024	K208-03	P	3.98	11/23/2122:32	1
JK23025	K208-03M	P	19	11/23/2122:53	1
JK23026	K208-03S	P	19.1	11/23/2123:15	1
JK23027	K208-04	P	3.6	11/23/2123:36	1
JK23028	K208-10	P	.000	11/23/2123:57	1
JK23029	K208-10M	P	15.2	11/24/2100:18	1
JK23030	K208-10S	P	15.2	11/24/2100:39	1
JK23031	CCV70-15	P	107%	11/24/2101:00	1
JK23032	K208-05	P	3.49	11/24/2101:21	1
JK23033	K208-06	P	.000	11/24/2101:42	1
JK23034	K208-07	P	.000	11/24/2102:03	1
JK23035	K209-01	P	.000	11/24/2102:24	1
JK23036	CCV71-30	P	106%	11/24/2102:45	1
JK23037	PCK007WB	P	.000	11/24/2103:06	1
JK23038	MRLK2302	P	94.9%	11/24/2103:27	1
JK23039	PCK007WL	P	25.6	11/24/2103:48	1
JK23040	PCK007WC	P	25.8	11/24/2104:09	1
JK23041	CCV72-15	P	104%	11/24/2104:30	1
JK23042	K209-02	P	.000	11/24/2104:51	1
JK23043	K209-03	P	.000	11/24/2105:12	1
JK23044	K209-04	P	.000	11/24/2105:33	1
JK23045	K209-05	P	.000	11/24/2105:54	1
JK23046	K209-06	P	.000	11/24/2106:15	1
JK23047	K209-07	P	2.93	11/24/2106:36	1
JK23048	K209-08	P	2.91	11/24/2106:57	1
JK23049	K209-09	P	3.78	11/24/2107:18	1
JK23050	K209-10	P	2.57	11/24/2107:39	1
JK23051	K209-11	P	.000	11/24/2108:00	1
JK23052	CCV73-30	P	110%	11/24/2108:21	1
JK23053	K208-08	P	.000	11/24/2108:42	1
JK23054	K208-08M	P	15.3	11/24/2109:03	1
JK23055	K208-08S	P	15.2	11/24/2109:24	1
JK23056	K208-09	P	.000	11/24/2109:45	1
JK23057	K208-09M	P	15.2	11/24/2110:06	1
JK23058	K208-09S	P	14.9	11/24/2110:27	1
JK23059	K217-01	P	.000	11/24/2110:48	1
JK23060	K217-02	P	.000	11/24/2111:09	1
JK23061	K217-03	P	.000	11/24/2111:30	1
JK23062	K212-01	*	51.9E	11/24/2111:51	1
JK23063	CCV74-15	P	108%	11/24/2112:12	1
JK23064	K212-02	*	149E	11/24/2112:33	1
JK23065	K212-03	P	.000	11/24/2112:54	1
JK23066	K212-04	*	120E	11/24/2113:15	1
JK23067	K212-05	P	.000	11/24/2113:36	1
JK23068	K212-011	P	50.7	11/24/2113:57	5
JK23069	K212-021	P	395	11/24/2114:30	20
JK23070	K212-041	P	198	11/24/2114:51	20
JK23071	CCV75-30	P	109%	11/24/2115:12	1

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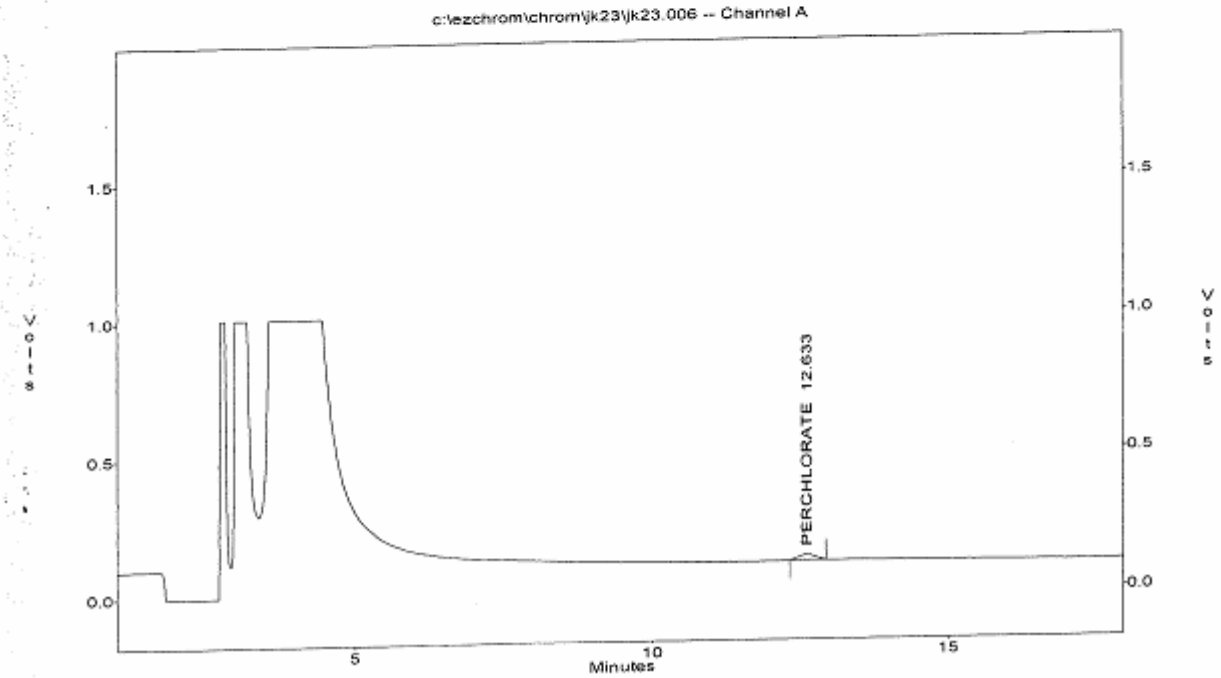
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.006
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2301
Acquired : Nov 23, 2021 14:31:23
Printed : Nov 24, 2021 07:57:02
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.63	346434	18782	180791.531	2.113



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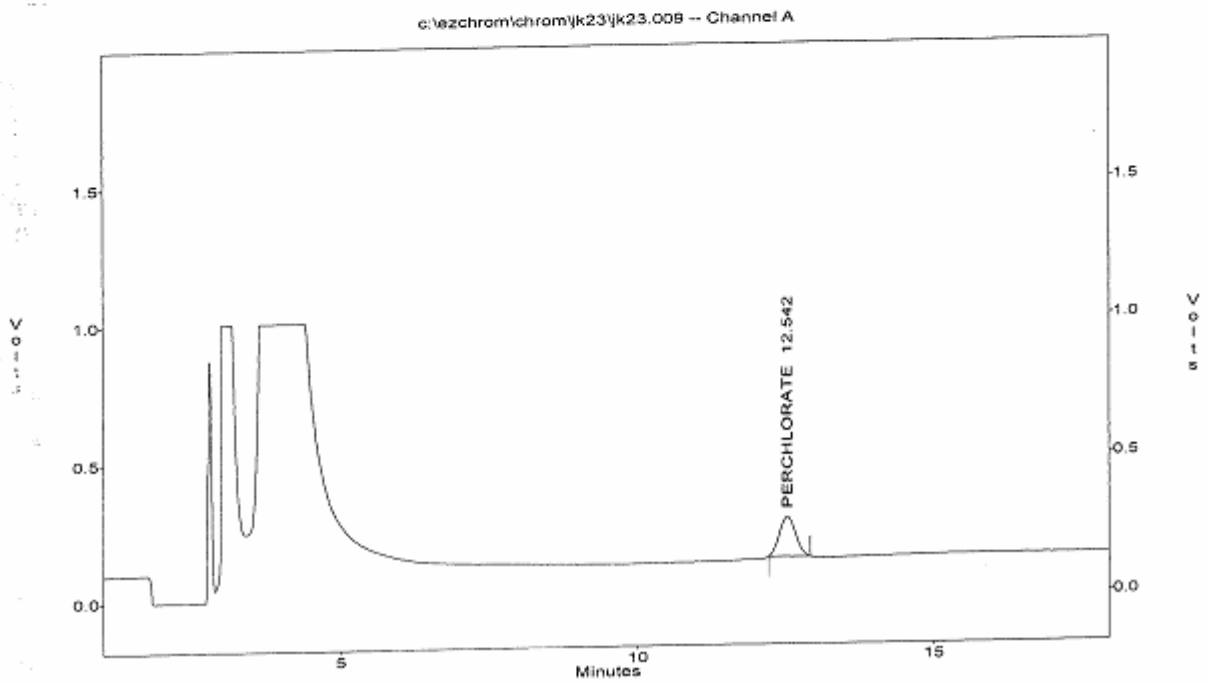
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.009
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV68-15
Acquired : Nov 23, 2021 15:42:13
Printed : Nov 24, 2021 07:58:16
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.54	2762225	144116	180791.531	15.069



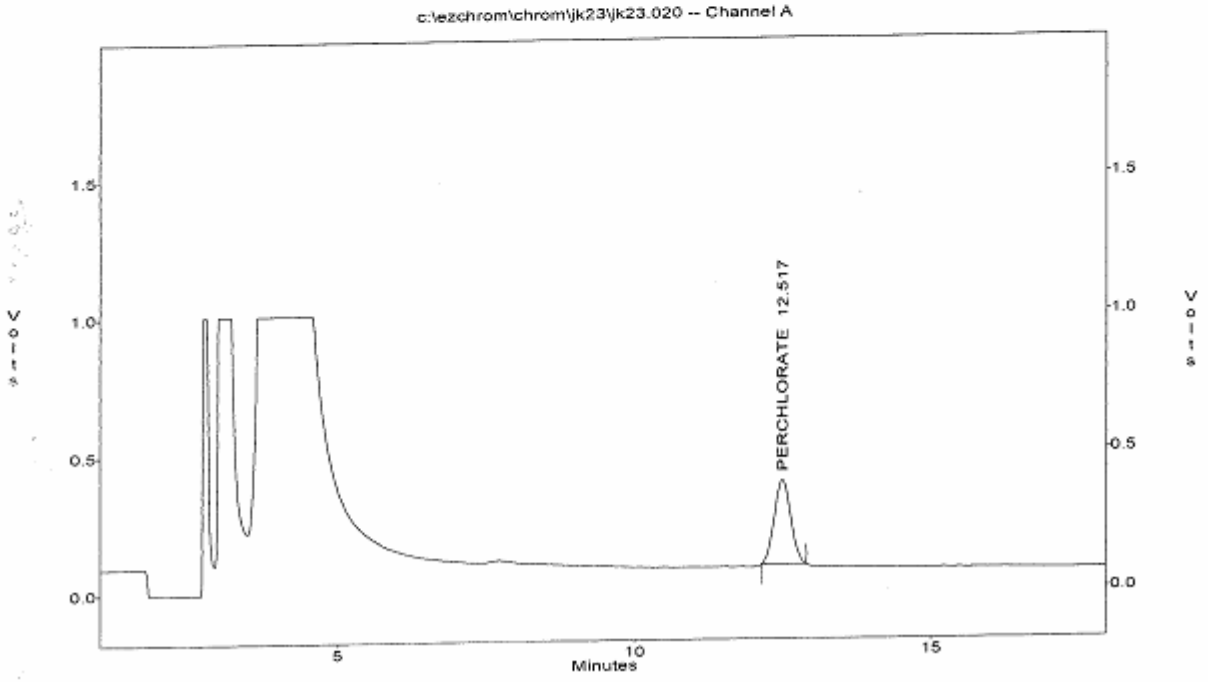
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.020
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV69-30
Acquired : Nov 23, 2021 21:08:52
Printed : Nov 24, 2021 08:23:15
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.52	5898038	304157	180791.531	31.886



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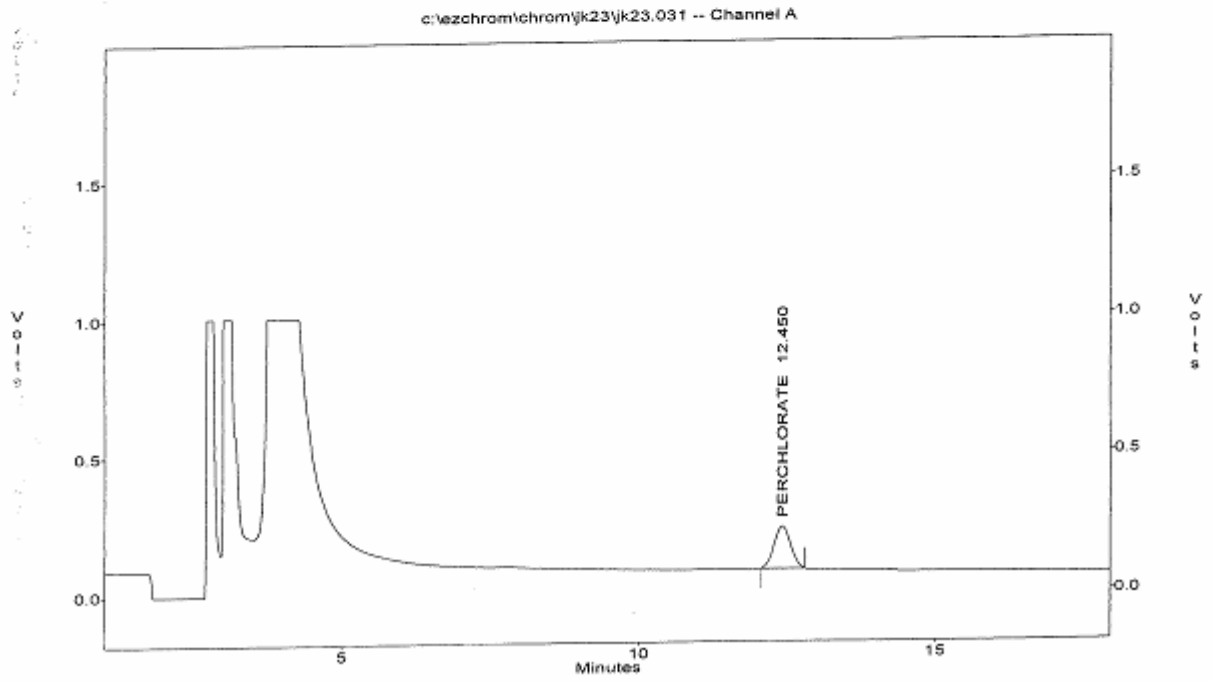
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.031
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV70-15
Acquired : Nov 24, 2021 01:00:07
Printed : Nov 24, 2021 08:29:23
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.45	2932552	151139	180791.531	15.982



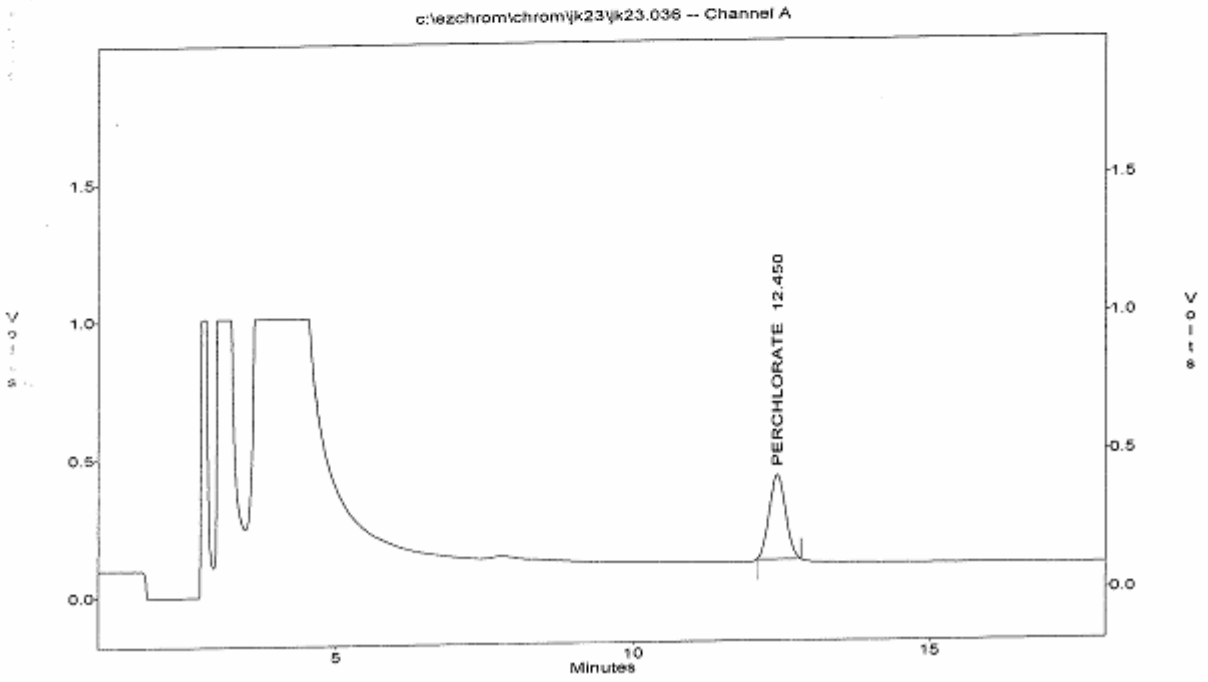
REPORT ID: 21K208

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.036
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV71-30
Acquired : Nov 24, 2021 02:45:13
Printed : Nov 24, 2021 08:31:55
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.45	5890114	306134	180791.531	31.844



REPORT ID: 21K208

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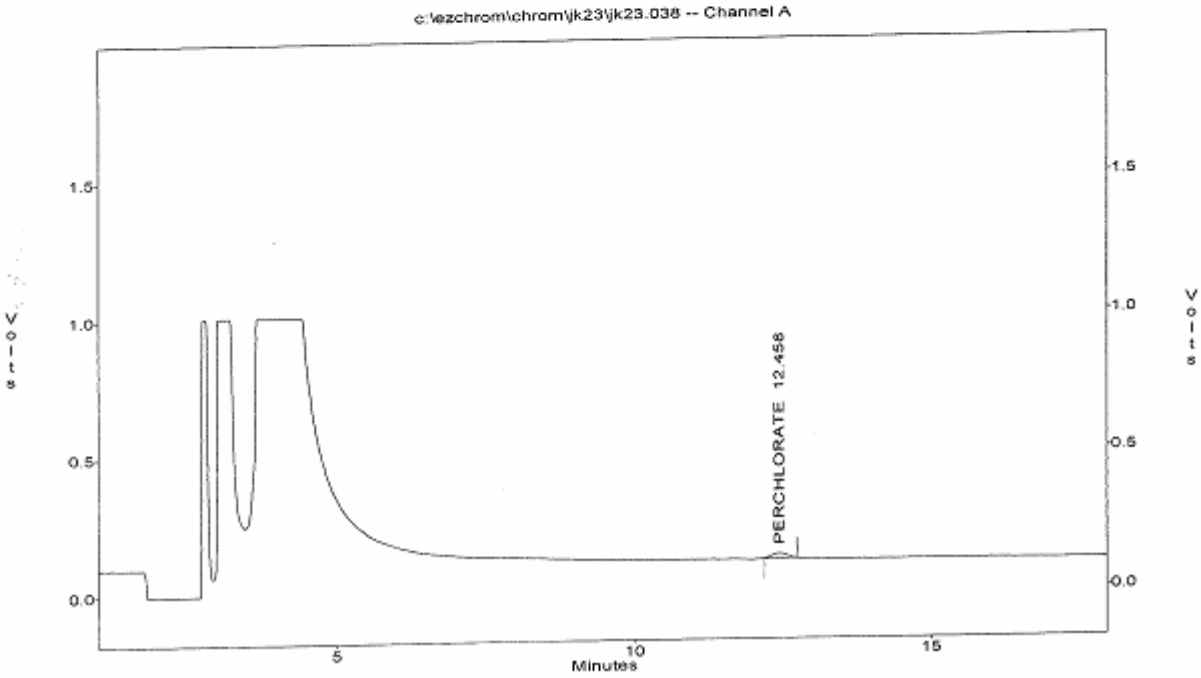
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.038
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : MRLK2302
Acquired : Nov 24, 2021 03:27:16
Printed : Nov 24, 2021 08:32:28
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.46	306402	17506	180791.531	1.898



REPORT ID: 21K208

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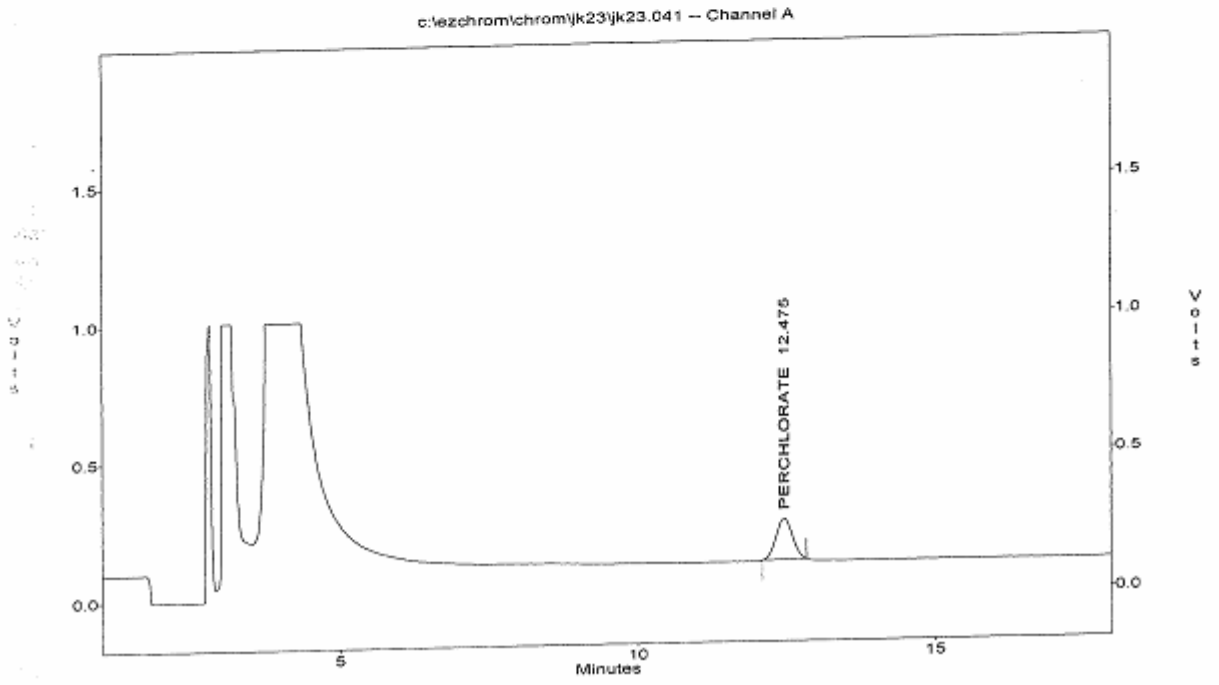
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.041
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV72-15
Acquired : Nov 24, 2021 04:30:20
Printed : Nov 24, 2021 08:35:06
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.48	2862419	148185	180791.531	15.606



REPORT ID: 21K208

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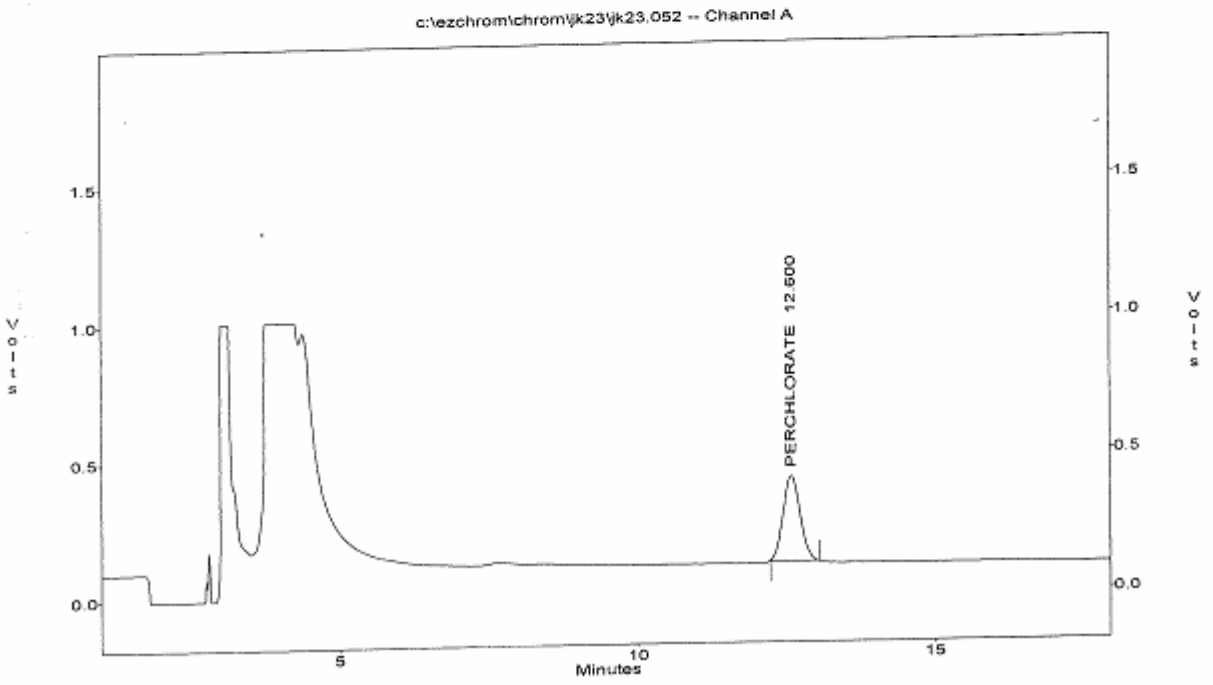
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.052
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV73-30
Acquired : Nov 24, 2021 08:21:33
Printed : Nov 24, 2021 10:21:55
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.60	6123149	306902	180791.531	33.093



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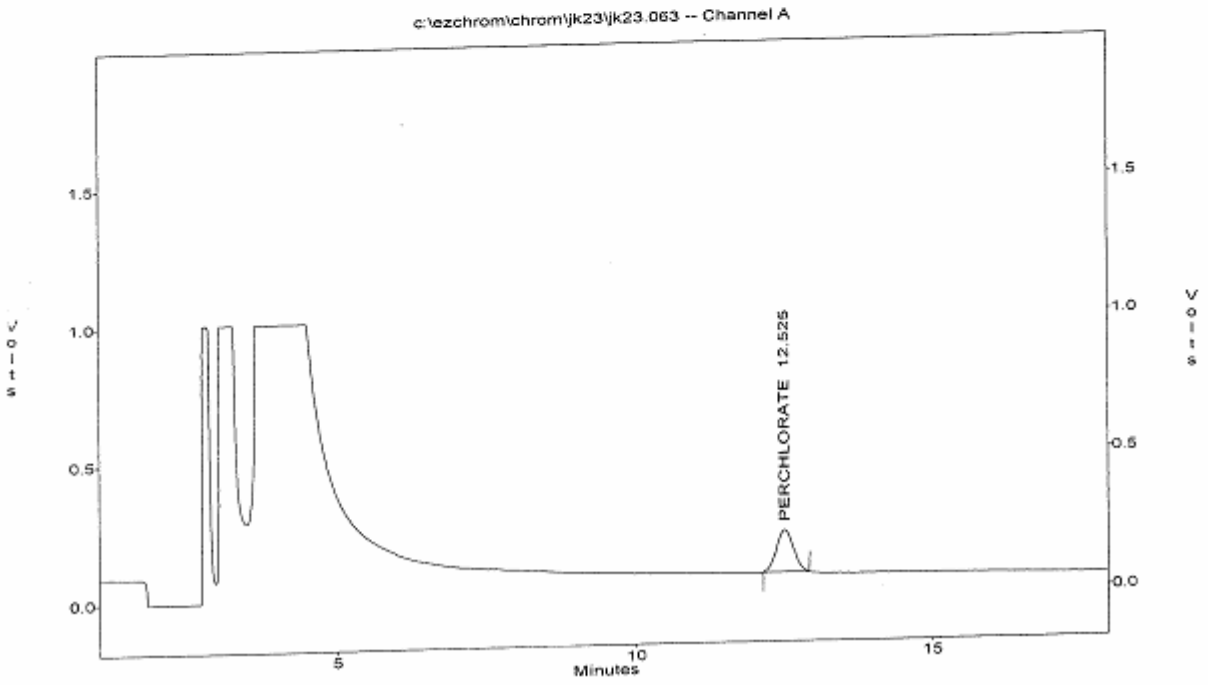
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jk23\jk23.063
Method : c:\ezchrom\methods\ic57k08.met
Sample ID : CCV74-15
Acquired : Nov 24, 2021 12:12:45
Printed : Nov 24, 2021 15:32:39
User : YCabal

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
1	PERCHLORATE	12.52	2974984	150737	180791.531	16.210



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ANALYTICAL LOG(S)

REPORT ID: 21K208

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EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

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Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwRI-02-18-04

Reagent Water ID #: SwIA-611-03-01

Guard II	ID	NA
Ba		v
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
Swi-02-09-17	999	999
Swi-02-09-19	99,927	100,800
CMC Reading (Acceptance criteria: ± 30)		
Swi-02-09-02	1412	1410

Temperature: 25 °C Thermometer ID: 181179499

Comments:

Linear Range (ppb): S_0 - 0
S_1 - 2.0
S_2 - 4.0
S_3 - 10.0
S_4 - 25.0
S_5 - 30.0
ICV - 15.0

Column: Dionex Ion Pac AS16 (4x250mm) # 170110144
Guard Column: Dionex Ion Pac AG16 (4x50mm) # 181011214
Flow: 1.50mL/min Sample Loop: 1.0mL
Suppressor: Dionex AERS 500 (4mm) # 170111085

	Snapseal container
0.45 µm filter lot #:	4 oz; lot #; 355200102
0.2 µm filter lot #:	1.5 oz; lot #;

Book #:	A57-038
Instrument No.:	57
CMC Instrument No.:	29
Pipette ID:	SW9A-04-17
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	JK09
Method File:	IC57 K08
Analytical Batch:	-

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID	
ICAL	Sw48-003-04-01
ICV	Sw48-008-04-02
CCV-15	-
CCV-30	-
LCS	-
IPC	-
MRL	-
MS	-

MCT Ref. MCT H2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: YC

Date: 11/8/21

REPORT ID: 21K208

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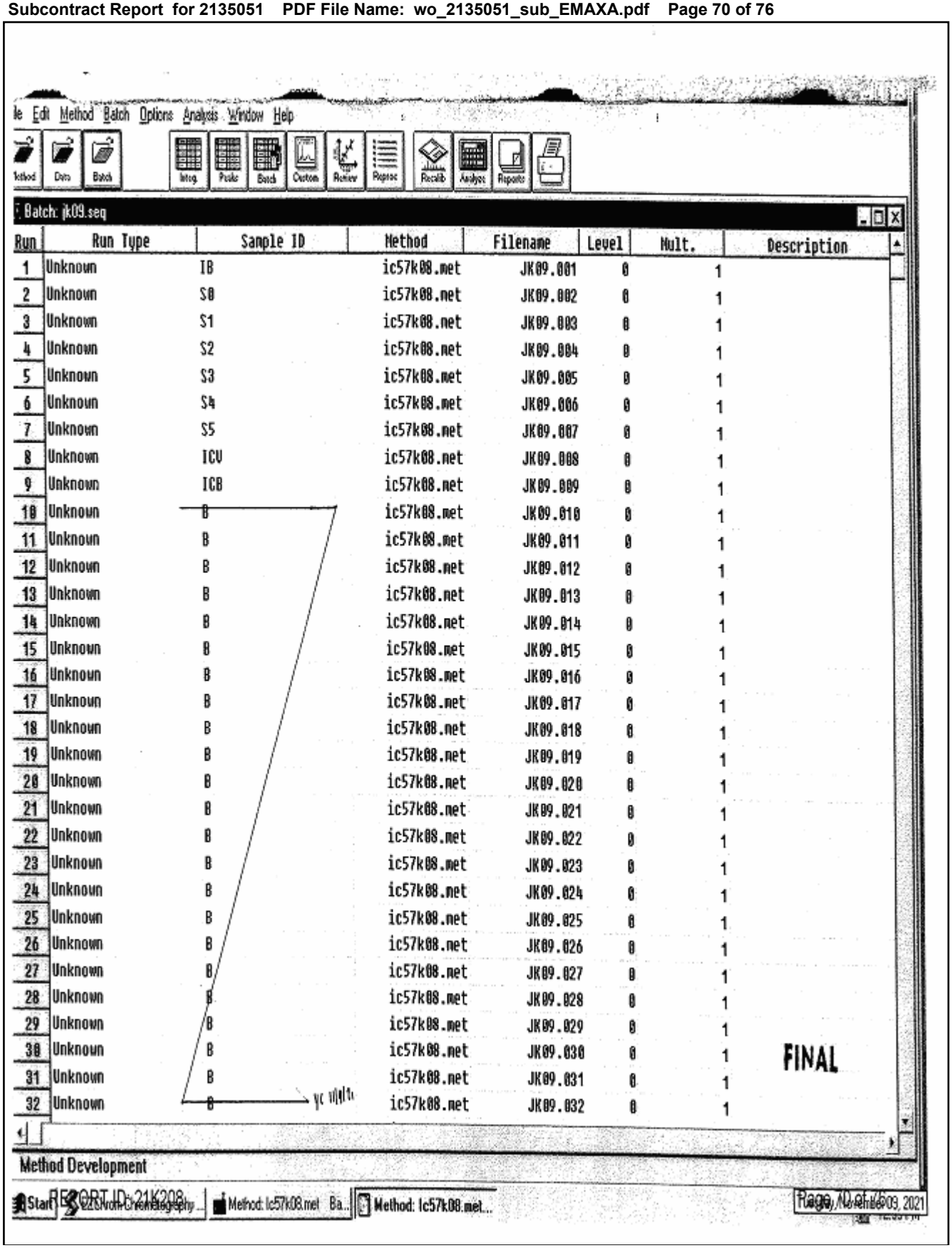

le Edit Method Batch Options Analysis Window Help

Batch: jk09.seq

Run	Run Type	Sample ID	Method	Filename	Level	Mult.	Description
1	Unknown	IB	ic57k08.met	JK09.001	0	1	
2	Unknown	S0	ic57k08.met	JK09.002	0	1	
3	Unknown	S1	ic57k08.met	JK09.003	0	1	
4	Unknown	S2	ic57k08.met	JK09.004	0	1	
5	Unknown	S3	ic57k08.met	JK09.005	0	1	
6	Unknoun	S4	ic57k08.met	JK09.006	0	1	
7	Unknown	S5	ic57k08.met	JK09.007	0	1	
8	Unknown	ICV	ic57k08.met	JK09.008	0	1	
9	Unknown	ICB	ic57k08.met	JK09.009	0	1	
10	Unknown	B	ic57k08.met	JK09.010	0	1	
11	Unknown	B	ic57k08.met	JK09.011	0	1	
12	Unknown	B	ic57k08.met	JK09.012	0	1	
13	Unknown	B	ic57k08.met	JK09.013	0	1	
14	Unknown	B	ic57k08.met	JK09.014	0	1	
15	Unknown	B	ic57k08.met	JK09.015	0	1	
16	Unknown	B	ic57k08.met	JK09.016	0	1	
17	Unknown	B	ic57k08.met	JK09.017	0	1	
18	Unknown	B	ic57k08.met	JK09.018	0	1	
19	Unknown	B	ic57k08.met	JK09.019	0	1	
20	Unknown	B	ic57k08.met	JK09.020	0	1	
21	Unknown	B	ic57k08.met	JK09.021	0	1	
22	Unknown	B	ic57k08.met	JK09.022	0	1	
23	Unknown	B	ic57k08.met	JK09.023	0	1	
24	Unknoun	B	ic57k08.met	JK09.024	0	1	
25	Unknown	B	ic57k08.met	JK09.025	0	1	
26	Unknown	B	ic57k08.met	JK09.026	0	1	
27	Unknown	B	ic57k08.met	JK09.027	0	1	
28	Unknown	B	ic57k08.met	JK09.028	0	1	
29	Unknown	B	ic57k08.met	JK09.029	0	1	
30	Unknoun	B	ic57k08.met	JK09.030	0	1	
31	Unknown	B	ic57k08.met	JK09.031	0	1	
32	Unknown	B	ic57k08.met	JK09.032	0	1	

FINAL

Method Development

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

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Note: For samples and relavent QCs/Standards analyzed, refer to attached analytical sequence.

Eluent: NaOH (5.54 g) → 2 L Reagent Water SwK1-02-18-04

Reagent Water ID #: RWI-21-004

Guard II	ID	NA
Ba		✓
Ag		✓
H		✓

Conductivity Meter Calibration

Conductivity Meter ID: D4

Standard ID	TV (µS/cm)	Reading (µS/cm)
SWI-02-09-17	999	999
SWI-02-09-19	99927	100,000
CMC Reading (Acceptance criteria: ± 30)		
SWI-02-09-04	1412	1411

Temperature: 25 °C Thermometer ID:

Comments:

PCK006W: K207; K208; ~~K209~~ K209 VC111123121
• MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of sample.

PCK007W: K209; K208; K217; K212
• MS/MSD: Used 0.15mL (15ppb) of SW4B-003-03-27 to a volume of 10mL of Sample.

Snapseal container

0.45 µm filter lot #: 210890103 4 oz; lot #; 35520012

0.2 µm filter lot #: - 1.5 oz; lot #; 20200009

Book #: A57-038
Instrument No.: 57
CMC Instrument No.: 29
Pipette ID: SW9A-04-17
A42762405
SW9A-04-052
Balance ID: 10601202
Analytical Sequence: JK23
Method File: ICS7K08
Analytical Batch: PCK006W/PCK007W

SOP #	Rev. #
☐ EMAX-300M	4
☑ EMAX-314.0	5
☐ EMAX-	

STANDARDS ID		
ICAL	-	
ICV	-	
CCV-15	SW4B-003-04-11	
CCV-30		-08
LCS		-12
IPC		-06
MRL	↓	-10
MS	SW4B-003-03-27	

MCT Ref. MCT H 2021

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZ-CHROM	
☐	

Analyzed By: VC

Date: 11/23/21

REPORT ID: 21K208

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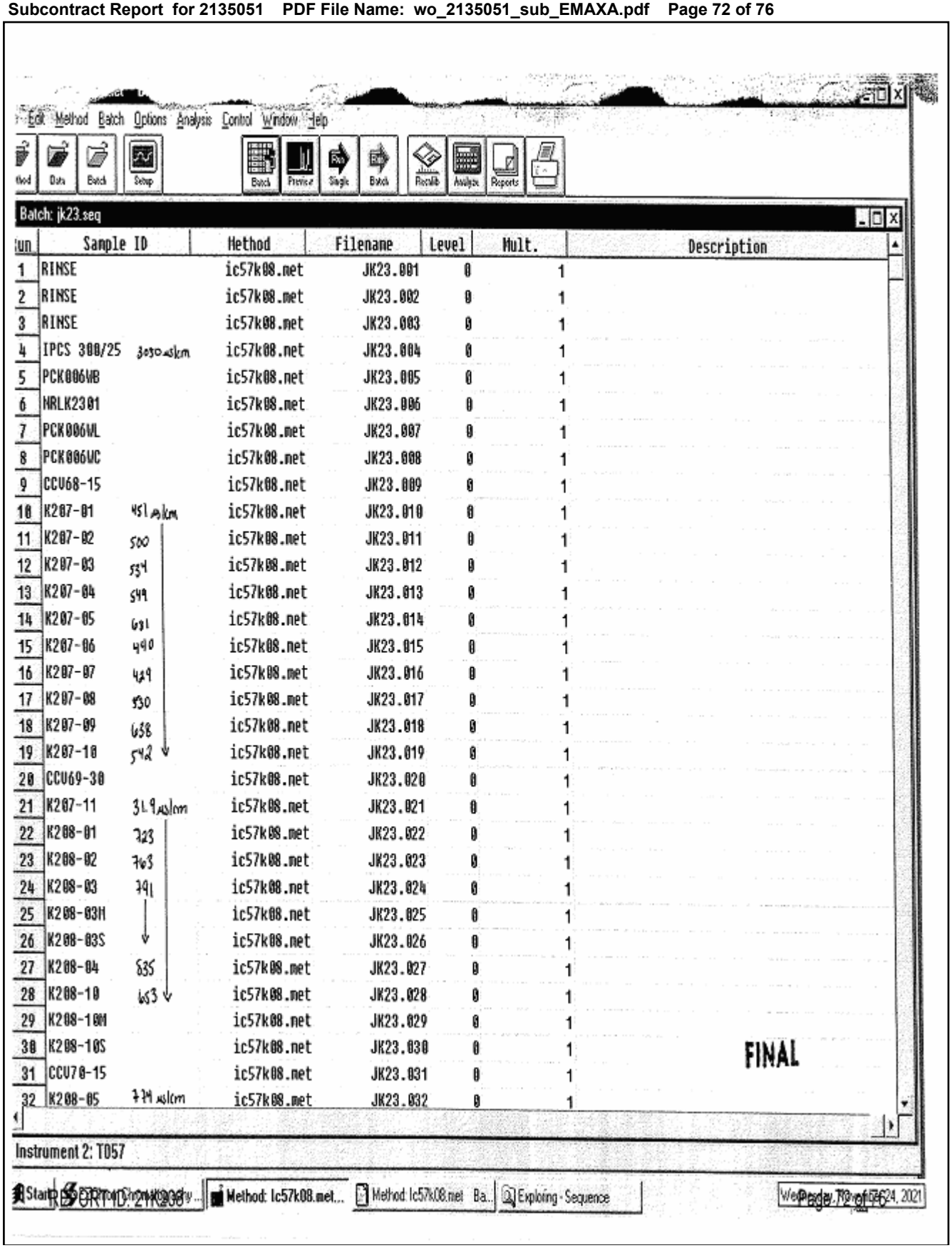

Edit Method Batch Options Analysis Control Window Help

Batch: jk23.seq

Run	Sample ID		Method	Filename	Level	Mult.	Description
1	RINSE		ic57k08.met	JK23.001	0	1	
2	RINSE		ic57k08.met	JK23.002	0	1	
3	RINSE		ic57k08.met	JK23.003	0	1	
4	IPCS 300/25	3030 ug/kg	ic57k08.met	JK23.004	0	1	
5	PCK006WB		ic57k08.met	JK23.005	0	1	
6	NRLK2301		ic57k08.met	JK23.006	0	1	
7	PCK006WL		ic57k08.met	JK23.007	0	1	
8	PCK006WC		ic57k08.met	JK23.008	0	1	
9	CCV68-15		ic57k08.met	JK23.009	0	1	
10	K207-01	451 ug/kg	ic57k08.met	JK23.010	0	1	
11	K207-02	500	ic57k08.met	JK23.011	0	1	
12	K207-03	554	ic57k08.met	JK23.012	0	1	
13	K207-04	549	ic57k08.met	JK23.013	0	1	
14	K207-05	681	ic57k08.met	JK23.014	0	1	
15	K207-06	490	ic57k08.met	JK23.015	0	1	
16	K207-07	459	ic57k08.met	JK23.016	0	1	
17	K207-08	530	ic57k08.met	JK23.017	0	1	
18	K207-09	638	ic57k08.met	JK23.018	0	1	
19	K207-10	542	ic57k08.met	JK23.019	0	1	
20	CCV69-30		ic57k08.met	JK23.020	0	1	
21	K207-11	319 ug/kg	ic57k08.met	JK23.021	0	1	
22	K208-01	723	ic57k08.met	JK23.022	0	1	
23	K208-02	763	ic57k08.met	JK23.023	0	1	
24	K208-03	791	ic57k08.met	JK23.024	0	1	
25	K208-03M		ic57k08.met	JK23.025	0	1	
26	K208-03S		ic57k08.met	JK23.026	0	1	
27	K208-04	835	ic57k08.met	JK23.027	0	1	
28	K208-10	653	ic57k08.met	JK23.028	0	1	
29	K208-10M		ic57k08.met	JK23.029	0	1	
30	K208-10S		ic57k08.met	JK23.030	0	1	
31	CCV70-15		ic57k08.met	JK23.031	0	1	
32	K208-05	734 ug/kg	ic57k08.met	JK23.032	0	1	

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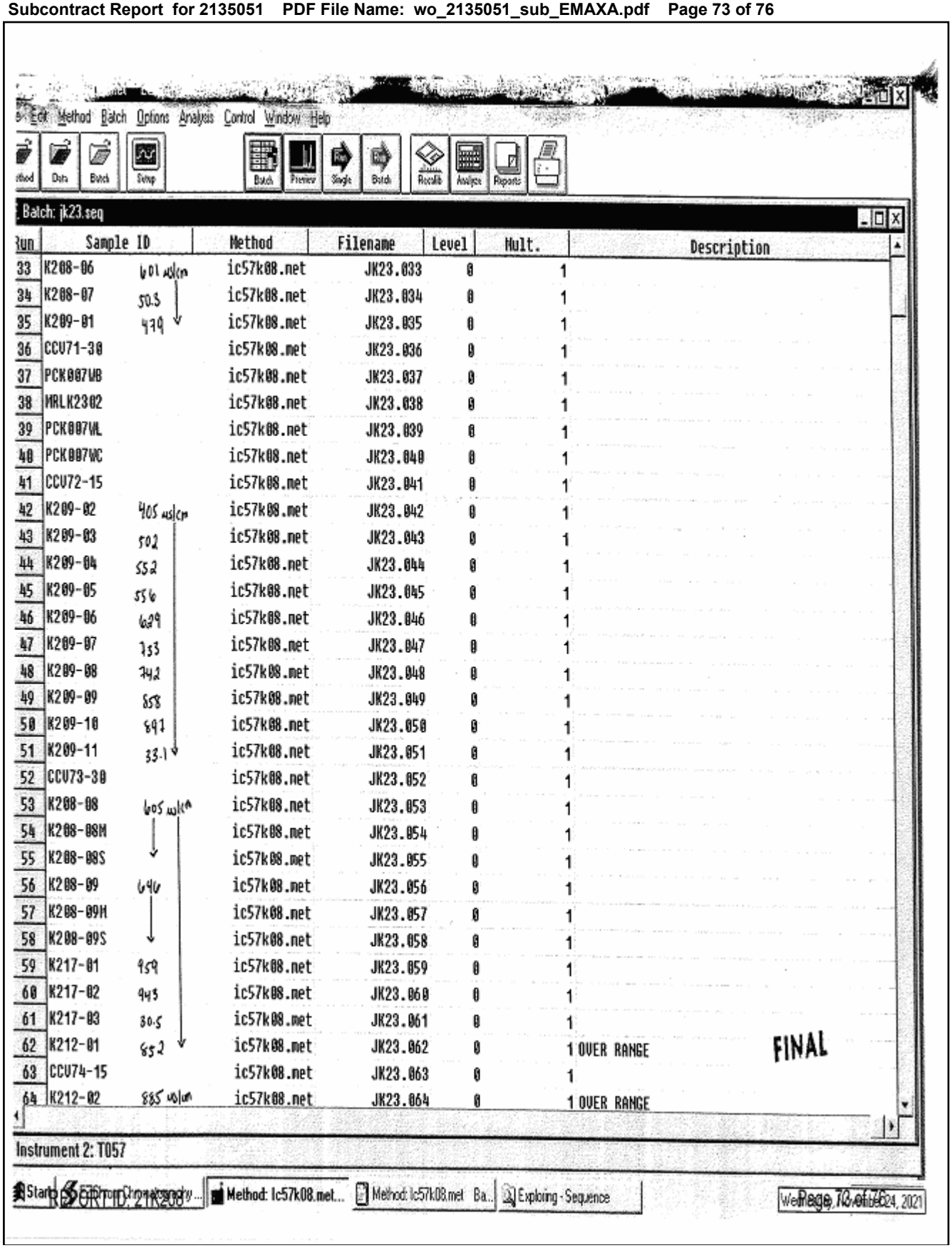
Instrument 2: T057

Method: ic57k08.met... Method: ic57k08.met Ba... Exploring - Sequence

REPORT ID: 21K208 Page 2 of 26



Edit Method Batch Options Analysis Control Window Help

Batch: jk23.seq

Run	Sample ID		Method	Filename	Level	Mult.	Description
33	K208-06	601 ug/cm	ic57k08.net	JK23.033	0	1	
34	K208-07	50.3	ic57k08.net	JK23.034	0	1	
35	K209-01	479	ic57k08.net	JK23.035	0	1	
36	CCV71-30		ic57k08.net	JK23.036	0	1	
37	PCK007WB		ic57k08.net	JK23.037	0	1	
38	MRLK2302		ic57k08.net	JK23.038	0	1	
39	PCK007WL		ic57k08.net	JK23.039	0	1	
40	PCK007WC		ic57k08.net	JK23.040	0	1	
41	CCV72-15		ic57k08.net	JK23.041	0	1	
42	K209-02	405 ug/cm	ic57k08.net	JK23.042	0	1	
43	K209-03	502	ic57k08.net	JK23.043	0	1	
44	K209-04	55.2	ic57k08.net	JK23.044	0	1	
45	K209-05	556	ic57k08.net	JK23.045	0	1	
46	K209-06	629	ic57k08.net	JK23.046	0	1	
47	K209-07	753	ic57k08.net	JK23.047	0	1	
48	K209-08	742	ic57k08.net	JK23.048	0	1	
49	K209-09	858	ic57k08.net	JK23.049	0	1	
50	K209-10	891	ic57k08.net	JK23.050	0	1	
51	K209-11	33.1	ic57k08.net	JK23.051	0	1	
52	CCV73-30		ic57k08.net	JK23.052	0	1	
53	K208-08	605 ug/cm	ic57k08.net	JK23.053	0	1	
54	K208-08M		ic57k08.net	JK23.054	0	1	
55	K208-08S		ic57k08.net	JK23.055	0	1	
56	K208-09	640	ic57k08.net	JK23.056	0	1	
57	K208-09M		ic57k08.net	JK23.057	0	1	
58	K208-09S		ic57k08.net	JK23.058	0	1	
59	K217-01	959	ic57k08.net	JK23.059	0	1	
60	K217-02	945	ic57k08.net	JK23.060	0	1	
61	K217-03	80.5	ic57k08.net	JK23.061	0	1	
62	K212-01	85.2	ic57k08.net	JK23.062	0	1	OVER RANGE
63	CCV74-15		ic57k08.net	JK23.063	0	1	
64	K212-02	885 ug/cm	ic57k08.net	JK23.064	0	1	OVER RANGE

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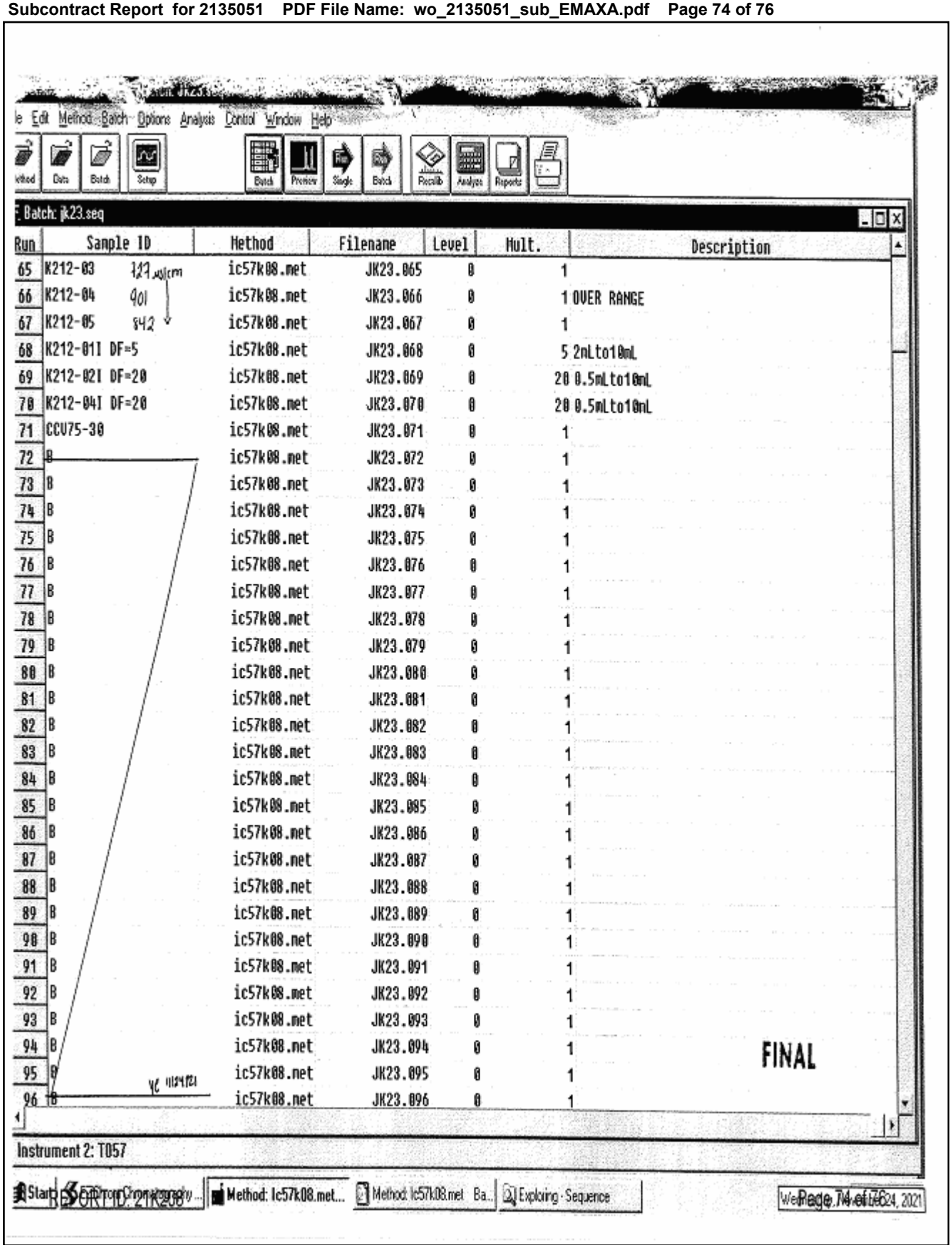
Instrument 2: T057

REPORT ID: 21K208

Method: ic57k08.met... Method: ic57k08.met Ba... Exploring - Sequence

Wednesday, October 24, 2021



Batch: jk23.seq

Run	Sample ID	Method	Filename	Level	Mult.	Description
65	K212-03 121 ug/cm	ic57k08.met	JK23.065	0	1	
66	K212-04 401	ic57k08.met	JK23.066	0	1	OVER RANGE
67	K212-05 842	ic57k08.met	JK23.067	0	1	
68	K212-01I DF=5	ic57k08.met	JK23.068	0	5	2mLto10mL
69	K212-02I DF=20	ic57k08.met	JK23.069	0	20	0.5mLto10mL
70	K212-04I DF=20	ic57k08.met	JK23.070	0	20	0.5mLto10mL
71	CCV75-30	ic57k08.met	JK23.071	0	1	
72	B	ic57k08.met	JK23.072	0	1	
73	B	ic57k08.met	JK23.073	0	1	
74	B	ic57k08.met	JK23.074	0	1	
75	B	ic57k08.met	JK23.075	0	1	
76	B	ic57k08.met	JK23.076	0	1	
77	B	ic57k08.met	JK23.077	0	1	
78	B	ic57k08.met	JK23.078	0	1	
79	B	ic57k08.met	JK23.079	0	1	
80	B	ic57k08.met	JK23.080	0	1	
81	B	ic57k08.met	JK23.081	0	1	
82	B	ic57k08.met	JK23.082	0	1	
83	B	ic57k08.met	JK23.083	0	1	
84	B	ic57k08.met	JK23.084	0	1	
85	B	ic57k08.met	JK23.085	0	1	
86	B	ic57k08.met	JK23.086	0	1	
87	B	ic57k08.met	JK23.087	0	1	
88	B	ic57k08.met	JK23.088	0	1	
89	B	ic57k08.met	JK23.089	0	1	
90	B	ic57k08.met	JK23.090	0	1	
91	B	ic57k08.met	JK23.091	0	1	
92	B	ic57k08.met	JK23.092	0	1	
93	B	ic57k08.met	JK23.093	0	1	
94	B	ic57k08.met	JK23.094	0	1	
95	B	ic57k08.met	JK23.095	0	1	
96	B	ic57k08.met	JK23.096	0	1	

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RETENTION TIME WINDOW

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RETENTION TIME WINDOW
METHOD 314.0

Lab Name:	EMAX	**METHOD:**	EMAX-314.0
Instrument ID:	DX500IC57	**IC COLUMN:**	AS16/AG16
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
PERCHLORATE	**12.58**	12.33	12.82	**0.246**

IC57K08.MET

REPORT ID: 21K208

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Pace Analytical
ENVIRONMENTAL SCIENCES

Tidewater Inc. - Powell	**Reported:** 12/15/2021 16:29
3761 Attucks Drive	Project: JPL- GW Monitoring Wells-CLP
Powell, OH 43065	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
Q01	Sample precision is not within the control limits.
Q03	Matrix spike recovery(s) was(were) not within the control limits.
V11	The Continuing Calibration Verification (CCV) recovery was not within established control limits.