

**Quandary Consultants**

Sample Delivery Group: L1373149

Samples Received: 07/01/2021

Project Number:

Description:

Report To: Asher Weinberg  
55 E. 4th Avenue  
Denver, CO 80203

Entire Report Reviewed By:



Chris Ward  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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# SAMPLE SUMMARY

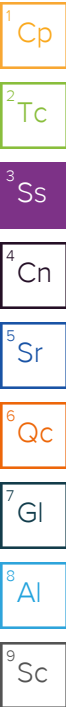
## MW-1 L1373149-01 GW

Collected by  
Erin Bailey

Collected date/time  
06/30/21 11:51

Received date/time  
07/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Microbiology by Method BART	WG1698630	1	07/13/21 11:12	07/13/21 11:12	BPS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1700683	1	07/06/21 13:58	07/06/21 15:08	VRP	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1699993	1	07/05/21 03:49	07/05/21 03:49	ARD	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1710430	1	07/23/21 04:00	07/23/21 10:23	MCG	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1698525	1	07/02/21 04:45	07/02/21 04:45	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1700814	1	07/08/21 16:00	07/08/21 16:00	GJA	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG1701294	1	07/08/21 02:33	07/08/21 02:33	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1698455	1	07/02/21 03:37	07/02/21 03:37	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1698455	5	07/02/21 04:33	07/02/21 04:33	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1704249	1	07/14/21 07:58	07/14/21 19:29	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015C	WG1701409	1	07/10/21 05:07	07/10/21 05:07	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1701129	1	07/08/21 07:29	07/08/21 07:29	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1699719	1	07/04/21 20:04	07/04/21 20:04	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG1703835	1	07/12/21 15:24	07/14/21 23:25	TJD	Mt. Juliet, TN



## MW-2 L1373149-02 GW

Collected by  
Erin Bailey

Collected date/time  
06/30/21 13:20

Received date/time  
07/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Microbiology by Method BART	WG1698630	1	07/13/21 11:12	07/13/21 11:12	BPS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1700683	1	07/06/21 13:58	07/06/21 15:08	VRP	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1699993	1	07/05/21 03:53	07/05/21 03:53	ARD	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1710430	1	07/23/21 04:00	07/23/21 10:24	MCG	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1698525	1	07/02/21 04:45	07/02/21 04:45	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1700814	1	07/08/21 16:00	07/08/21 16:00	GJA	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG1701294	1	07/08/21 02:33	07/08/21 02:33	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1698455	1	07/02/21 04:51	07/02/21 04:51	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1698455	5	07/02/21 05:09	07/02/21 05:09	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1704249	1	07/14/21 07:58	07/14/21 19:32	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015C	WG1701409	1	07/10/21 05:29	07/10/21 05:29	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1701129	1	07/08/21 07:33	07/08/21 07:33	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1699719	1	07/04/21 20:25	07/04/21 20:25	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG1700835	1	07/08/21 20:18	07/09/21 19:10	DMG	Mt. Juliet, TN

## MW-3 L1373149-03 GW

Collected by  
Erin Bailey

Collected date/time  
06/30/21 14:34

Received date/time  
07/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Microbiology by Method BART	WG1698630	1	07/13/21 11:12	07/13/21 11:12	BPS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG1700680	1	07/06/21 12:36	07/06/21 13:52	VRP	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1699993	1	07/05/21 03:57	07/05/21 03:57	ARD	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG1710430	1	07/23/21 04:00	07/23/21 10:25	MCG	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1698525	1	07/02/21 04:45	07/02/21 04:45	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1700814	1	07/08/21 16:00	07/08/21 16:00	GJA	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG1701294	1	07/08/21 02:33	07/08/21 02:33	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1698455	1	07/02/21 05:28	07/02/21 05:28	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1698455	5	07/02/21 06:05	07/02/21 06:05	ELN	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1704249	1	07/14/21 07:58	07/14/21 19:35	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015C	WG1701409	1	07/10/21 05:56	07/10/21 05:56	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1701126	1	07/08/21 09:36	07/08/21 09:36	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1699719	1	07/04/21 20:45	07/04/21 20:45	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG1700835	1	07/08/21 20:18	07/09/21 19:26	DMG	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward  
Project Manager

## Project Narrative

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The following reactions were observed on one or more samples within this SDG.

BC Brown Cloudy  
BL Blackened Liquid  
BR Brown Ring  
CL Cloudy Growth  
FO Foam  
BB Blackened Base  
BT Blackening around Ball  
SR Slime Ring around Ball  
PB Pale Blue Glow in UV Light

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## Microbiology by Method BART

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Iron Related Bacteria	Present		1	07/13/2021 11:12	WG1698630
Slime Forming Bacteria	Present		1	07/13/2021 11:12	WG1698630
Sulfate Reducing Bacteria	Present		1	07/13/2021 11:12	WG1698630

## Sample Narrative:

L1373149-01 WG1698630: IRB Approximate Population=35,000 CFU/mL. Reactions=FO/BC/BR/BL.

L1373149-01 WG1698630: SLYM Approximate Population=67,000 CFU/mL. Reactions=PB/CL/SR.

L1373149-01 WG1698630: SRB Approximate Population=75 CFU/mL. Reactions=BB.

## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	908		20.0	1	07/06/2021 15:08	<a href="#">WG1700683</a>

## Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	312		20.0	1	07/05/2021 03:49	<a href="#">WG1699993</a>
Alkalinity,Bicarbonate	312		20.0	1	07/05/2021 03:49	<a href="#">WG1699993</a>
Alkalinity,Carbonate	ND		20.0	1	07/05/2021 03:49	<a href="#">WG1699993</a>

## Sample Narrative:

L1373149-01 WG1699993: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.173		0.100	1	07/23/2021 10:23	<a href="#">WG1710430</a>

## Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphate,Ortho	ND		0.0300	1	07/02/2021 04:45	<a href="#">WG1698525</a>

## Wet Chemistry by Method 9040C

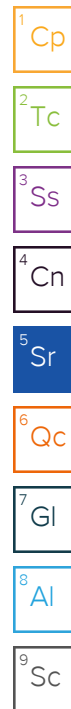
Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.22	<a href="#">T8</a>	1	07/08/2021 16:00	<a href="#">WG1700814</a>

## Sample Narrative:

L1373149-01 WG1700814: 8.22 at 22.2C

## Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1450		10.0	1	07/08/2021 02:33	<a href="#">WG1701294</a>



## Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	07/02/2021 03:37	<a href="#">WG1698455</a>
Chloride	157		5.00	5	07/02/2021 04:33	<a href="#">WG1698455</a>
Fluoride	2.42		0.150	1	07/02/2021 03:37	<a href="#">WG1698455</a>
Nitrate as (N)	7.28		0.100	1	07/02/2021 03:37	<a href="#">WG1698455</a>
Nitrite as (N)	ND		0.100	1	07/02/2021 03:37	<a href="#">WG1698455</a>
Sulfate	203		25.0	5	07/02/2021 04:33	<a href="#">WG1698455</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0733		0.00500	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Boron	0.320		0.200	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Calcium	108		1.00	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Iron	2.12		0.100	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Magnesium	37.0		1.00	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Manganese	0.188		0.0100	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Potassium	6.44		2.00	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Selenium	ND		0.0100	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Sodium	151		3.00	1	07/14/2021 19:29	<a href="#">WG1704249</a>
Strontium	2.35		0.0100	1	07/14/2021 19:29	<a href="#">WG1704249</a>

## Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/10/2021 05:07	<a href="#">WG1701409</a>
(S) <i>o,a,a</i> - <i>trifluorotoluene</i> (FID)	98.2		78.0-120		07/10/2021 05:07	<a href="#">WG1701409</a>

## Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methane	ND		0.0100	1	07/08/2021 07:29	<a href="#">WG1701129</a>
Ethane	ND		0.0130	1	07/08/2021 07:29	<a href="#">WG1701129</a>
Propane	ND		0.0190	1	07/08/2021 07:29	<a href="#">WG1701129</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/04/2021 20:04	<a href="#">WG1699719</a>
Toluene	ND		0.00100	1	07/04/2021 20:04	<a href="#">WG1699719</a>
Ethylbenzene	ND		0.00100	1	07/04/2021 20:04	<a href="#">WG1699719</a>
Total Xylenes	ND		0.00300	1	07/04/2021 20:04	<a href="#">WG1699719</a>
(S) <i>Toluene-d8</i>	102		80.0-120		07/04/2021 20:04	<a href="#">WG1699719</a>
(S) <i>4-Bromofluorobenzene</i>	89.1		77.0-126		07/04/2021 20:04	<a href="#">WG1699719</a>
(S) <i>1,2-Dichloroethane-d4</i>	102		70.0-130		07/04/2021 20:04	<a href="#">WG1699719</a>

## Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(WY) Diesel Range Organics	ND		0.100	1	07/14/2021 23:25	<a href="#">WG1703835</a>
(S) <i>o</i> - <i>Terphenyl</i>	28.7	J2	52.0-156		07/14/2021 23:25	<a href="#">WG1703835</a>

## Sample Narrative:

L1373149-01 WG1703835: Duplicate Analysis performed due to surrogate failure. Results confirm.

## Microbiology by Method BART

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Iron Related Bacteria	Present		1	07/13/2021 11:12	WG1698630
Slime Forming Bacteria	Present		1	07/13/2021 11:12	WG1698630
Sulfate Reducing Bacteria	Present		1	07/13/2021 11:12	WG1698630

## Sample Narrative:

L1373149-02 WG1698630: IRB Approximate Population=35,000 CFU/mL. Reactions=FO/BC/BR.

L1373149-02 WG1698630: SLYM Approximate Population=67,000 CFU/mL. Reactions=PB/SR/CL.

L1373149-02 WG1698630: SRB Approximate Population=500 CFU/mL. Reactions=BB/BT.

## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1220		25.0	1	07/06/2021 15:08	<a href="#">WG1700683</a>

## Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	433		20.0	1	07/05/2021 03:53	<a href="#">WG1699993</a>
Alkalinity,Bicarbonate	433		20.0	1	07/05/2021 03:53	<a href="#">WG1699993</a>
Alkalinity,Carbonate	ND		20.0	1	07/05/2021 03:53	<a href="#">WG1699993</a>

## Sample Narrative:

L1373149-02 WG1699993: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	ND		0.100	1	07/23/2021 10:24	<a href="#">WG1710430</a>

## Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphate,Ortho	ND		0.0300	1	07/02/2021 04:45	<a href="#">WG1698525</a>

## Wet Chemistry by Method 9040C

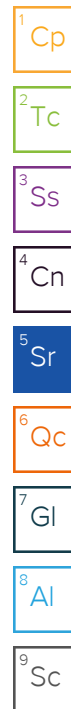
Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.10	<a href="#">T8</a>	1	07/08/2021 16:00	<a href="#">WG1700814</a>

## Sample Narrative:

L1373149-02 WG1700814: 8.1 at 22.3C

## Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1980		10.0	1	07/08/2021 02:33	<a href="#">WG1701294</a>





## Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	07/02/2021 04:51	<a href="#">WG1698455</a>
Chloride	260		5.00	5	07/02/2021 05:09	<a href="#">WG1698455</a>
Fluoride	2.56		0.150	1	07/02/2021 04:51	<a href="#">WG1698455</a>
Nitrate as (N)	10.2		0.500	5	07/02/2021 05:09	<a href="#">WG1698455</a>
Nitrite as (N)	ND		0.100	1	07/02/2021 04:51	<a href="#">WG1698455</a>
Sulfate	244		25.0	5	07/02/2021 05:09	<a href="#">WG1698455</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0748		0.00500	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Boron	0.471		0.200	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Calcium	144		1.00	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Iron	0.199		0.100	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Magnesium	73.9		1.00	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Manganese	0.360		0.0100	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Potassium	5.82		2.00	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Selenium	ND		0.0100	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Sodium	184		3.00	1	07/14/2021 19:32	<a href="#">WG1704249</a>
Strontium	3.52		0.0100	1	07/14/2021 19:32	<a href="#">WG1704249</a>

## Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/10/2021 05:29	<a href="#">WG1701409</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.2		78.0-120		07/10/2021 05:29	<a href="#">WG1701409</a>

## Volatile Organic Compounds (GC) by Method RSK175

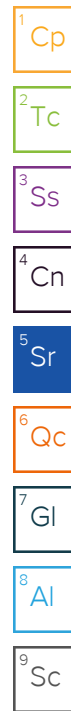
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methane	ND		0.0100	1	07/08/2021 07:33	<a href="#">WG1701129</a>
Ethane	ND		0.0130	1	07/08/2021 07:33	<a href="#">WG1701129</a>
Propane	ND		0.0190	1	07/08/2021 07:33	<a href="#">WG1701129</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/04/2021 20:25	<a href="#">WG1699719</a>
Toluene	ND		0.00100	1	07/04/2021 20:25	<a href="#">WG1699719</a>
Ethylbenzene	ND		0.00100	1	07/04/2021 20:25	<a href="#">WG1699719</a>
Total Xylenes	ND		0.00300	1	07/04/2021 20:25	<a href="#">WG1699719</a>
(S) Toluene-d8	105		80.0-120		07/04/2021 20:25	<a href="#">WG1699719</a>
(S) 4-Bromofluorobenzene	87.5		77.0-126		07/04/2021 20:25	<a href="#">WG1699719</a>
(S) 1,2-Dichloroethane-d4	99.9		70.0-130		07/04/2021 20:25	<a href="#">WG1699719</a>

## Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(WY) Diesel Range Organics	ND		0.100	1	07/09/2021 19:10	<a href="#">WG1700835</a>
(S) <i>o</i> -Terphenyl	72.6		52.0-156		07/09/2021 19:10	<a href="#">WG1700835</a>





## Microbiology by Method BART

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Iron Related Bacteria	Present		1	07/13/2021 11:12	WG1698630
Slime Forming Bacteria	Present		1	07/13/2021 11:12	WG1698630
Sulfate Reducing Bacteria	Absent		1	07/13/2021 11:12	WG1698630

## Sample Narrative:

L1373149-03 WG1698630: IRB Approximate Population=35,000 CFU/mL. Reactions=FO/BC/BR/BL.

L1373149-03 WG1698630: SLYM Approximate Population=13,000 CFU/mL. Reactions=PB/SR/CL.

## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	940		20.0	1	07/06/2021 13:52	<a href="#">WG1700680</a>

## Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	334		20.0	1	07/05/2021 03:57	<a href="#">WG1699993</a>
Alkalinity,Bicarbonate	334		20.0	1	07/05/2021 03:57	<a href="#">WG1699993</a>
Alkalinity,Carbonate	ND		20.0	1	07/05/2021 03:57	<a href="#">WG1699993</a>

## Sample Narrative:

L1373149-03 WG1699993: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	ND		0.100	1	07/23/2021 10:25	<a href="#">WG1710430</a>

## Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphate,Ortho	ND		0.0300	1	07/02/2021 04:45	<a href="#">WG1698525</a>

## Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.15	<a href="#">T8</a>	1	07/08/2021 16:00	<a href="#">WG1700814</a>

## Sample Narrative:

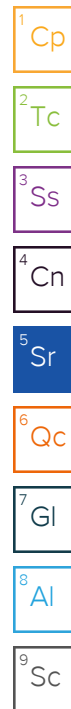
L1373149-03 WG1700814: 8.15 at 22.2C

## Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1480		10.0	1	07/08/2021 02:33	<a href="#">WG1701294</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	07/02/2021 05:28	<a href="#">WG1698455</a>
Chloride	182		5.00	5	07/02/2021 06:05	<a href="#">WG1698455</a>
Fluoride	2.16		0.150	1	07/02/2021 05:28	<a href="#">WG1698455</a>



## Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	3.40		0.100	1	07/02/2021 05:28	<a href="#">WG1698455</a>
Nitrite as (N)	ND		0.100	1	07/02/2021 05:28	<a href="#">WG1698455</a>
Sulfate	197		25.0	5	07/02/2021 06:05	<a href="#">WG1698455</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0849		0.00500	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Boron	0.333		0.200	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Calcium	140		1.00	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Iron	0.591		0.100	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Magnesium	41.6		1.00	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Manganese	0.0708		0.0100	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Potassium	5.03		2.00	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Selenium	ND		0.0100	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Sodium	118		3.00	1	07/14/2021 19:35	<a href="#">WG1704249</a>
Strontium	3.53		0.0100	1	07/14/2021 19:35	<a href="#">WG1704249</a>

## Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/10/2021 05:56	<a href="#">WG1701409</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	97.9		78.0-120		07/10/2021 05:56	<a href="#">WG1701409</a>

## Volatile Organic Compounds (GC) by Method RSK175

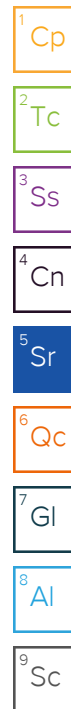
Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methane	ND		0.0100	1	07/08/2021 09:36	<a href="#">WG1701126</a>
Ethane	ND		0.0130	1	07/08/2021 09:36	<a href="#">WG1701126</a>
Propane	ND		0.0190	1	07/08/2021 09:36	<a href="#">WG1701126</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/04/2021 20:45	<a href="#">WG1699719</a>
Toluene	ND		0.00100	1	07/04/2021 20:45	<a href="#">WG1699719</a>
Ethylbenzene	ND		0.00100	1	07/04/2021 20:45	<a href="#">WG1699719</a>
Total Xylenes	ND		0.00300	1	07/04/2021 20:45	<a href="#">WG1699719</a>
(S) <i>Toluene-d8</i>	105		80.0-120		07/04/2021 20:45	<a href="#">WG1699719</a>
(S) <i>4-Bromofluorobenzene</i>	87.4		77.0-126		07/04/2021 20:45	<a href="#">WG1699719</a>
(S) <i>1,2-Dichloroethane-d4</i>	98.4		70.0-130		07/04/2021 20:45	<a href="#">WG1699719</a>

## Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(WY) Diesel Range Organics	ND		0.100	1	07/09/2021 19:26	<a href="#">WG1700835</a>
(S) <i>o</i> -Terphenyl	64.2		52.0-156		07/09/2021 19:26	<a href="#">WG1700835</a>



Method Blank (MB)

(MB) R3677716-1 07/06/21 13:52

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		10.0	10.0

L1371560-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1371560-02 07/06/21 13:52 • (DUP) R3677716-3 07/06/21 13:52

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	3360	3450	1	2.70		5

L1371560-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1371560-09 07/06/21 13:52 • (DUP) R3677716-4 07/06/21 13:52

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	3210	3390	1	5.52	J3	5

Laboratory Control Sample (LCS)

(LCS) R3677716-2 07/06/21 13:52

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Dissolved Solids	8800	8810	100	77.4-123	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3677713-1 07/06/21 15:08

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		10.0	10.0

L1373117-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1373117-03 07/06/21 15:08 • (DUP) R3677713-3 07/06/21 15:08

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	696	689	1	0.963		5

L1373149-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1373149-01 07/06/21 15:08 • (DUP) R3677713-4 07/06/21 15:08

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	908	902	1	0.663		5

Laboratory Control Sample (LCS)

(LCS) R3677713-2 07/06/21 15:08

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Dissolved Solids	8800	8890	101	77.4-123	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3675504-1 07/05/21 03:46

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1373171-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1373171-05 07/05/21 04:14 • (DUP) R3675504-2 07/05/21 04:19

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	171	175	1	1.99		20
Alkalinity,Bicarbonate	171	175	1	1.99		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1373175-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1373175-06 07/05/21 04:44 • (DUP) R3675504-4 07/05/21 04:47

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	227	237	1	4.09		20
Alkalinity,Bicarbonate	227	237	1	4.09		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3675504-3 07/05/21 04:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Alkalinity	100	104	104	90.0-110	

Sample Narrative:  
LCS: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3683132-1 07/23/21 10:20

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Phosphorus,Total	U		0.0350	0.100

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1375413-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1375413-01 07/23/21 10:44 • (DUP) R3683132-7 07/23/21 10:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Phosphorus,Total	10.3	9.85	5	4.47		20

L1376039-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1376039-01 07/23/21 10:42 • (DUP) R3683132-6 07/23/21 10:43

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Phosphorus,Total	4.71	4.88	1	3.55		20

Laboratory Control Sample (LCS)

(LCS) R3683132-2 07/23/21 10:21

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Phosphorus,Total	3.16	2.87	91.0	81.2-118	

L1376033-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1376033-01 07/23/21 10:29 • (MS) R3683132-4 07/23/21 10:30 • (MSD) R3683132-5 07/23/21 10:32

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Phosphorus,Total	2.50	ND	2.40	2.41	93.6	94.0	1	90.0-110			0.416	20



Method Blank (MB)

(MB) R3674777-1 07/02/21 04:42

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Phosphate,Ortho	U		0.0140	0.0300

L1373074-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1373074-01 07/02/21 04:43 • (DUP) R3674777-3 07/02/21 04:44

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Phosphate,Ortho	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3674777-2 07/02/21 04:42

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Phosphate,Ortho	0.245	0.249	102	85.0-115	

L1373074-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1373074-02 07/02/21 04:44 • (MS) R3674777-4 07/02/21 04:44 • (MSD) R3674777-5 07/02/21 04:44

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Phosphate,Ortho	0.500	0.0310	0.522	0.534	98.2	101	1	80.0-120			2.27	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1373549-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1373549-01 07/08/21 16:00 • (DUP) R3677197-3 07/08/21 16:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	6.90	6.89	1	0.145		1

Sample Narrative:

OS: 6.9 at 23C

DUP: 6.89 at 23C

Laboratory Control Sample (LCS)

(LCS) R3677197-1 07/08/21 16:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.05 at 23.5C

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3676821-1 07/08/21 02:33

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

L1372519-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1372519-01 07/08/21 02:33 • (DUP) R3676821-3 07/08/21 02:33

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	4620	4600	1	0.434		20

L1372519-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1372519-17 07/08/21 02:33 • (DUP) R3676821-4 07/08/21 02:33

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2230	2230	1	0.134		20

Laboratory Control Sample (LCS)

(LCS) R3676821-2 07/08/21 02:33

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	911	101	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3676119-1 07/01/21 20:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate	U		0.0480	0.100
Nitrite	U		0.0420	0.100
Sulfate	U		0.594	5.00

L1373074-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1373074-01 07/01/21 22:58 • (DUP) R3676119-3 07/01/21 23:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.000	E	15
Chloride	292	292	1	0.105		15
Fluoride	ND	ND	1	2.53		15
Nitrate	0.239	0.233	1	2.84		15
Nitrite	ND	ND	1	0.000		15
Sulfate	39.1	39.0	1	0.207		15

L1373149-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1373149-03 07/02/21 05:28 • (DUP) R3676119-5 07/02/21 05:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.188		15
Fluoride	2.16	2.17	1	0.347		15
Nitrate	3.40	3.40	1	0.109		15
Nitrite	ND	ND	1	0.000		15

L1373149-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1373149-03 07/02/21 06:05 • (DUP) R3676119-6 07/02/21 06:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	182	182	5	0.0378		15
Sulfate	197	197	5	0.0940		15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3676119-2 07/01/21 20:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromide	40.0	39.8	99.4	80.0-120	
Chloride	40.0	40.3	101	80.0-120	
Fluoride	8.00	8.22	103	80.0-120	
Nitrate	8.00	8.28	104	80.0-120	
Nitrite	8.00	8.23	103	80.0-120	
Sulfate	40.0	41.0	103	80.0-120	

L1373074-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1373074-02 07/01/21 23:53 • (MS) R3676119-4 07/02/21 00:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	50.0	ND	19.0	38.0	1	80.0-120	J6
Chloride	50.0	467	440	0.000	1	80.0-120	E V
Fluoride	5.00	ND	4.18	82.1	1	80.0-120	
Nitrate	5.00	9.64	13.2	70.2	1	80.0-120	E J6
Nitrite	5.00	ND	4.15	81.9	1	80.0-120	
Sulfate	50.0	77.6	91.2	27.2	1	80.0-120	J6

L1373112-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1373112-01 07/02/21 09:09 • (MS) R3676119-7 07/02/21 09:27 • (MSD) R3676119-8 07/02/21 09:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	50.0	ND	ND	ND	138	137	100	80.0-120	J5	J5	0.382	15
Chloride	50.0	41900	37800	38900	0.000	0.000	100	80.0-120	E V	E V	2.76	15
Fluoride	5.00	ND	ND	ND	151	152	100	80.0-120	J5	J5	1.19	15
Nitrate	5.00	10.9	13.2	13.8	44.9	57.2	100	80.0-120	J6	J6	4.59	15
Nitrite	5.00	ND	ND	ND	148	151	100	80.0-120	J5	J5	2.20	15
Sulfate	50.0	ND	ND	ND	6.03	16.0	100	80.0-120	J6	J6	2.81	15

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3679309-1 07/14/21 13:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Strontium	U		0.000640	0.0100

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R3679309-2 07/14/21 13:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.04	104	80.0-120	
Boron	1.00	1.02	102	80.0-120	
Calcium	10.0	10.6	106	80.0-120	
Iron	10.0	10.5	105	80.0-120	
Magnesium	10.0	10.6	106	80.0-120	
Manganese	1.00	1.07	107	80.0-120	
Potassium	10.0	10.3	103	80.0-120	
Selenium	1.00	1.04	104	80.0-120	
Sodium	10.0	10.6	106	80.0-120	
Strontium	1.00	1.06	106	80.0-120	

L1371463-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1371463-01 07/14/21 13:23 • (MS) R3679309-4 07/14/21 13:29 • (MSD) R3679309-5 07/14/21 13:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.0689	1.09	1.08	102	101	1	75.0-125			0.827	20
Boron	1.00	ND	1.09	1.08	102	101	1	75.0-125			0.986	20
Calcium	10.0	48.9	59.0	58.4	102	96.0	1	75.0-125			1.02	20
Iron	10.0	ND	10.4	10.3	103	102	1	75.0-125			1.23	20
Magnesium	10.0	10.2	20.4	20.1	103	99.2	1	75.0-125			1.66	20
Manganese	1.00	ND	1.05	1.04	105	104	1	75.0-125			1.02	20
Potassium	10.0	5.49	15.7	15.5	102	100	1	75.0-125			0.870	20

L1371463-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1371463-01 07/14/21 13:23 • (MS) R3679309-4 07/14/21 13:29 • (MSD) R3679309-5 07/14/21 13:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Selenium	1.00	ND	1.06	1.05	106	105	1	75.0-125			0.847	20
Sodium	10.0	21.0	31.2	30.8	101	97.4	1	75.0-125			1.30	20
Strontium	1.00	0.326	1.39	1.37	106	105	1	75.0-125			0.927	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3678372-2 07/10/21 03:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0506	⬇	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	97.2			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3678372-1 07/10/21 02:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.54	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			104	78.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3676941-2 07/08/21 08:29

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Propane	U		0.00548	0.0190

L1372640-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1372640-01 07/08/21 09:18 • (DUP) R3676941-3 07/08/21 09:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Methane	ND	ND	1	0.000		20
Ethane	ND	ND	1	0.000		20
Propane	ND	ND	1	0.000		20

L1373177-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1373177-02 07/08/21 10:14 • (DUP) R3676941-4 07/08/21 10:19

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Methane	ND	ND	1	0.000		20
Ethane	ND	ND	1	0.000		20
Propane	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3676941-1 07/08/21 08:24 • (LCSD) R3676941-5 07/08/21 10:24

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Methane	0.0678	0.0746	0.0734	110	108	85.0-115			1.62	20
Ethane	0.129	0.137	0.131	106	102	85.0-115			4.48	20
Propane	0.186	0.194	0.186	104	100	85.0-115			4.21	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3676882-2 07/08/21 05:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Propane	U		0.00548	0.0190

L1373081-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1373081-02 07/08/21 05:56 • (DUP) R3676882-3 07/08/21 06:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ethane	ND	ND	1	0.000		20
Propane	ND	ND	1	0.000		20

L1373149-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1373149-02 07/08/21 07:33 • (DUP) R3676882-4 07/08/21 07:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	ND	ND	1	0.000		20
Ethane	ND	ND	1	0.000		20
Propane	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3676882-1 07/08/21 05:20 • (LCSD) R3676882-7 07/08/21 08:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methane	0.0678	0.0708	0.0731	104	108	85.0-115			3.20	20
Ethane	0.129	0.129	0.131	100	102	85.0-115			1.54	20
Propane	0.186	0.184	0.187	98.9	101	85.0-115			1.62	20

L1373093-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1373093-04 07/08/21 05:33 • (MS) R3676882-5 07/08/21 07:53 • (MSD) R3676882-6 07/08/21 07:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methane	0.0678	1.21	1.44	1.45	339	354	1	85.0-115	V	V	0.692	20
Ethane	0.129	ND	0.154	0.167	119	129	1	85.0-115	J5	J5	8.10	20

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

L1373093-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1373093-04 07/08/21 05:33 • (MS) R3676882-5 07/08/21 07:53 • (MSD) R3676882-6 07/08/21 07:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Propane	0.186	ND	0.223	0.239	120	128	1	85.0-115	<u>J5</u>	<u>J5</u>	6.93	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3677231-2 07/04/21 13:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	106			80.0-120
(S) 4-Bromofluorobenzene	91.0			77.0-126
(S) 1,2-Dichloroethane-d4	96.9			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3677231-1 07/04/21 11:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00422	84.4	70.0-123	
Ethylbenzene	0.00500	0.00466	93.2	79.0-123	
Toluene	0.00500	0.00430	86.0	79.0-120	
Xylenes, Total	0.0150	0.0130	86.7	79.0-123	
(S) Toluene-d8			102	80.0-120	
(S) 4-Bromofluorobenzene			91.4	77.0-126	
(S) 1,2-Dichloroethane-d4			96.6	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3679808-1 07/09/21 18:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
(WY) Diesel Range Organics	0.0999	⬇	0.0294	0.100
(S) o-Terphenyl	65.0			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3679808-2 07/09/21 18:21 • (LCSD) R3679808-3 07/09/21 18:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(WY) Diesel Range Organics	1.50	1.38	1.25	92.0	83.3	50.0-150			9.89	20
(S) o-Terphenyl				72.0	65.5	52.0-156				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3679040-1 07/13/21 20:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
(WY) Diesel Range Organics	U		0.0294	0.100
(S) o-Terphenyl	76.5			52.0-156

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3679040-2 07/14/21 00:04 • (LCSD) R3679040-3 07/14/21 00:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(WY) Diesel Range Organics	1.50	1.14	1.16	76.0	77.3	50.0-150			1.74	20
(S) o-Terphenyl				103	101	52.0-156				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

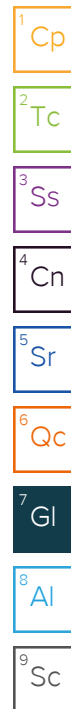
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

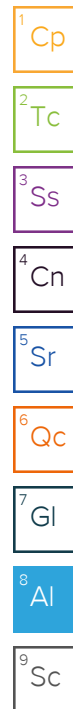
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



[illegible]



Company Name/Address:

**Quandary Consultants**55 E. 4th Avenue  
Denver, CO 80203

Billing Information:

Ali Castro  
55 E. 4th Avenue  
Denver, CO 80203Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page \_\_\_\_ of \_\_\_\_



12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

Report to:

Asher Weinberg

Email To: aweinberg@quandaryconsultants.com

Project Description:

City/State  
Collected:

Please Circle:

PT MT CT ET

Phone: 720-598-8660

Client Project #

Lab Project #

QUACONDCO-P145039

Collected by (print):

Erin Bailey

Site/Facility ID #

P.O. #

Collected by (signature):

**Rush?** (Lab MUST Be Notified)

\_\_\_ Same Day \_\_\_ Five Day  
\_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
\_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
\_\_\_ Three Day

Quote #

Date Results Needed

Immediately

Packed on Ice N \_\_\_ Y ☒No.  
of  
Cntrs

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

MW-1

Grab

DW

6/30/21 11:51 15

MW-2

Grab

DW

6/30/21 13:20 1

MW-3

Grab

DW

6/30/21 14:34 1

DW

\* Matrix:

SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks: Total Metals= Ca, Fe, Mg, Mn, K, Na, Ba, B, Se, Sr

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:

\_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking #

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes/No

HCL / MeOH  
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp 22.00 °C Bottles Received: 45

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 7/1/21 Time: 0900

Hold:

Condition:

NCF / OK

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N  
COC Signed/Accurate: ☒ Y ☐ N  
Bottles arrive intact: ☒ Y ☐ N  
Correct bottles used: ☒ Y ☐ N  
Sufficient volume sent: ☒ Y ☐ N  
If Applicable  
VOA Zero Headspace: ☒ Y ☐ N  
Preservation Correct/Checked: ☒ Y ☐ N  
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

If preservation required by Login: Date/Time