

Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

July 03, 2019

Joe Guarino Town of Babylon 281 Phelps Lane North Babylon, NY 11703

RE: Project: WELL CLUSTER 26,27,28, ROUTINE Pace Project No.: 7092927

Dear Joe Guarino:

Enclosed are the analytical results for sample(s) received by the laboratory on June 10, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

for las

Jennifer Aracri jennifer.aracri@pacelabs.com (631)694-3040 Project Manager

Enclosures





Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

# CERTIFICATIONS

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

# Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

Minnesota Dept of Ag Certifcation #: via MN 027-053-137

# Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747 New York Certification #: 10478 Primary Accrediting Body New Jersey Certification #: NY158 Pennsylvania Certification #: 68-00350 Connecticut Certification #: PH-0435 Maryland Certification #: 208 Rhode Island Certification #: LAO00340 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987



# SAMPLE ANALYTE COUNT

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7092927001 GM-26	GM-26	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	KM1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
092927002	GM-26I	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	KM1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
092927003	GM-27	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	KM1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV



# SAMPLE ANALYTE COUNT

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7092927004	GM-27I	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	KM1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
092927005	GM-28	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	KM1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
092927006	GM-28I	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	KM1	1	PACE-MV



# SAMPLE ANALYTE COUNT

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Lab ID Sample ID		Method	Analysts	Analytes Reported	Laboratory	
		SM22 2340C	AK1	1	PACE-MV	
		SM22 2540C	KS1	1	PACE-MV	
		EPA 410.4	JCA	1	PACE-MV	
		SM22 5210B	VNS	1	PACE-MV	
		EPA 300.0	BNK	3	PACE-MV	
		EPA 351.2	SDO	1	PACE-MV	
		EPA 353.2	SDO	2	PACE-MV	
		EPA 353.2	SDO	1	PACE-MV	
		SM22 4500 NH3 H	BNK	1	PACE-MV	
		SM22 5310B	KM1	1	PACE-MV	
7092927007	DUP	EPA 6010C	JMW	8	PACE-MV	
		EPA 8270D by SIM	STB	2	PASI-M	
		EPA 180.1	KM1	1	PACE-MV	
		SM22 2320B	KM1	1	PACE-MV	
		SM22 2340C	AK1	1	PACE-MV	
		SM22 2540C	KS1	1	PACE-MV	
		EPA 410.4	JCA	1	PACE-MV	
		SM22 5210B	VNS	1	PACE-MV	
		EPA 300.0	BNK	3	PACE-MV	
		EPA 351.2	SDO	1	PACE-MV	
		EPA 353.2	SDO	2	PACE-MV	
		EPA 353.2	SDO	1	PACE-MV	
		SM22 4500 NH3 H	BNK	1	PACE-MV	
		SM22 5310B	KM1	1	PACE-MV	



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

## Method: EPA 6010C Description: 6010 MET ICP

Client: Town of Babylon Date: July 03, 2019

## General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

## Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

# Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 117458

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092645001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
  - MS (Lab ID: 556156)

• Manganese

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

## Method: EPA 8270D by SIM

Description:8270D MSSV 14 Dioxane By SIMClient:Town of BabylonDate:July 03, 2019

## General Information:

7 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

## Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

## Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

## Surrogates:

All surrogates were within QC limits with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 613318

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 3314706)
- 1,4-Dioxane (SIM)
- LCS (Lab ID: 3314707)
  - 1,4-Dioxane (SIM)

## Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

# Method: EPA 180.1 Description: 180.1 Turbidity Client: Town of Babylon Date: July 03, 2019

## **General Information:**

7 samples were analyzed for EPA 180.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Method:	SM22 2320B
<b>Description:</b>	2320B Alkalinity
Client:	Town of Babylon
Date:	July 03, 2019

## **General Information:**

7 samples were analyzed for SM22 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

 Method:
 SM22 2340C

 Description:
 2340C Hardness, Total

 Client:
 Town of Babylon

 Date:
 July 03, 2019

## **General Information:**

7 samples were analyzed for SM22 2340C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

#### Method: SM22 2540C

Description:2540C Total Dissolved SolidsClient:Town of BabylonDate:July 03, 2019

## General Information:

7 samples were analyzed for SM22 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## QC Batch: 117745

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092852006,7092927004

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
  - MS (Lab ID: 557801)
    - Total Dissolved Solids

## Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

## QC Batch: 118003

- D6: The precision between the sample and sample duplicate exceeded laboratory control limits.
  - DUP (Lab ID: 559705)
    - Total Dissolved Solids

## Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

# Method: EPA 410.4

Description:410.4 CODClient:Town of BabylonDate:July 03, 2019

## General Information:

7 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

# QC Batch: 117776

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 557835)
  - Chemical Oxygen Demand

## Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Method:	SM22 5210B
Description:	5210B BOD, 5 day
Client:	Town of Babylon
Date:	July 03, 2019

## **General Information:**

7 samples were analyzed for SM22 5210B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with SM22 5210B with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

 Method:
 EPA 300.0

 Description:
 300.0 IC Anions 28 Days

 Client:
 Town of Babylon

 Date:
 July 03, 2019

## General Information:

7 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 119193

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092454017

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

- MS (Lab ID: 566431)
  - Bromide
  - Sulfate

# **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

#### Method: EPA 351.2

Description:351.2 Total Kjeldahl NitrogenClient:Town of BabylonDate:July 03, 2019

## General Information:

7 samples were analyzed for EPA 351.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 119029

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7093248002,7093311002

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
  - MS (Lab ID: 565864)
    - Nitrogen, Kjeldahl, Total

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

#### Method: EPA 353.2

Description:353.2 Nitrogen, NO2/NO3 unpresClient:Town of BabylonDate:July 03, 2019

## General Information:

7 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 117112

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092928001

- M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
  - MS (Lab ID: 554677)
    - Nitrate-Nitrite (as N)

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Method:EPA 353.2Description:353.2 Nitrogen, NO2Client:Town of BabylonDate:July 03, 2019

## General Information:

7 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## QC Batch: 117107

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092854001,7092926001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 554581)
  - Nitrite as N

## Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Method:	SM22 4500 NH3 H
<b>Description:</b>	4500 Ammonia Water
Client:	Town of Babylon
Date:	July 03, 2019

## **General Information:**

7 samples were analyzed for SM22 4500 NH3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 119106

- B: Analyte was detected in the associated method blank.
  - BLANK for HBN 119106 [WETA/190 (Lab ID: 566010)
    - Nitrogen, Ammonia

# Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

# Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

## Additional Comments:



Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Method:	SM22 5310B
<b>Description:</b>	5310B TOC as NPOC
Client:	Town of Babylon
Date:	July 03, 2019

## **General Information:**

7 samples were analyzed for SM22 5310B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

7092927

Sample: GM-26	Lab ID: 7092	927001	Collected: 06/10/1	19 09:32	Received: 06	5/10/19 15:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Methe	od: EPA 60	10C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:21	7440-43-9	
Calcium	64600	ug/L	200	1	06/12/19 12:00	06/21/19 15:21	7440-70-2	
Iron	21300	ug/L	20.0	1		06/21/19 15:21		
Lead	189	ug/L	5.0	1		06/21/19 15:21		
Magnesium	6410 400	ug/L	200 10.0	1 1		06/21/19 15:21 06/21/19 15:21		
Manganese Potassium	17500	ug/L ug/L	5000	1		06/21/19 15:21		
Sodium	45200	ug/L	5000	1		06/21/19 15:21		
8270D MSSV 14 Dioxane By SIM	Analytical Meth	od: EPA 82	70D by SIM Prepara	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM)	<0.25	ug/L	0.25	1	06/17/19 12:55	06/21/19 14:47	123-91-1	
<i>Surrogates</i> 1,4-Dioxane-d8 (S)	48	%.	30-125	1	06/17/19 12:55	06/21/19 14:47		
180.1 Turbidity	Analytical Methe	od: EPA 18	0.1					
Turbidity	19.0	NTU	5.0	5		06/11/19 15:40		
2320B Alkalinity	Analytical Methe	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	112	mg/L	1.0	1		06/21/19 13:31		
2340C Hardness, Total	Analytical Methe	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	175	mg/L	5.0	1		06/19/19 16:41		
2540C Total Dissolved Solids	Analytical Methe	od: SM22 2	2540C					
Total Dissolved Solids	426	mg/L	20.0	1		06/14/19 11:27		
410.4 COD	Analytical Methe	od: EPA 41	0.4 Preparation Met	thod: EF	PA 410.4			
Chemical Oxygen Demand	10.2	mg/L	10.0	1	06/14/19 09:46	06/14/19 12:12		
5210B BOD, 5 day	Analytical Methe	od: SM22 5	5210B Preparation N	Method:	SM22 5210B			
BOD, 5 day	1.0J	mg/L	2.0	1	06/11/19 15:00	06/16/19 09:53		
300.0 IC Anions 28 Days	Analytical Methe	od: EPA 30	0.0					
Bromide	0.58	mg/L	0.50	1		06/24/19 20:11	24959-67-9	
Chloride	79.8	mg/L	10.0	5		06/25/19 18:29	16887-00-6	
Sulfate	80.8	mg/L	25.0	5		06/25/19 18:29	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	1.2 Preparation Met	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	<0.50	mg/L	0.50	1	06/24/19 06:09	06/24/19 12:37	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Mether	od: EPA 35	3.2					
Nitrate as N	6.0	mg/L	0.50	10		06/10/19 22:51		
Nitrate-Nitrite (as N)	6.0	mg/L	0.50	10		06/10/19 22:51	7727-37-9	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: GM-26	Lab ID: 7092	927001	Collected: 06/10/1	9 09:32	Received: 06	6/10/19 15:00 N	latrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
353.2 Nitrogen, NO2	Analytical Method: EPA 353.2								
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:08	14797-65-0		
4500 Ammonia Water	Analytical Metho	od: SM22 4	4500 NH3 H						
Nitrogen, Ammonia	0.084J	mg/L	0.10	1		06/24/19 13:30	7664-41-7	В	
5310B TOC as NPOC	Analytical Method: SM22 5310B								
Total Organic Carbon	3.9J	mg/L	5.0	1		06/12/19 17:28	7440-44-0		



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

7092927

Sample: GM-26I	Lab ID: 7092	2927002	Collected: 06/10/2	19 09:25	5 Received: 06	6/10/19 15:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	010C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:23	7440-43-9	
Calcium	40800	ug/L	200	1	06/12/19 12:00	06/21/19 15:23	7440-70-2	
Iron	7280	ug/L	20.0	1	06/12/19 12:00	06/21/19 15:23	7439-89-6	
Lead	28.7	ug/L	5.0	1		06/21/19 15:23		
Magnesium	3440	ug/L	200	1		06/21/19 15:23		
Manganese	75.9	ug/L	10.0	1		06/21/19 15:23		
Potassium	12600	ug/L	5000	1		06/21/19 15:23		
Sodium	33000	ug/L	5000	1		06/21/19 15:23	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Meth	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	<0.25	ug/L	0.25	1	06/17/19 12:55	06/21/19 14:27	123-91-1	
1,4-Dioxane-d8 (S)	47	%.	30-125	1	06/17/19 12:55	06/21/19 14:27		
180.1 Turbidity	Analytical Meth	od: EPA 18	30.1					
Turbidity	10.2	NTU	5.0	5		06/11/19 15:41		
2320B Alkalinity	Analytical Meth	od: SM22	2320B					
Alkalinity, Total as CaCO3	52.5	mg/L	1.0	1		06/21/19 13:38		
2340C Hardness, Total	Analytical Meth	od: SM22	2340C					
Tot Hardness asCaCO3 (SM 2340B	100	mg/L	5.0	1		06/19/19 16:42		
2540C Total Dissolved Solids	Analytical Meth	od: SM22	2540C					
Total Dissolved Solids	340	mg/L	20.0	1		06/14/19 11:27		
410.4 COD	Analytical Meth	iod: EPA 41	10.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	<10.0	mg/L	10.0	1	06/18/19 09:22	06/18/19 11:40		
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B			
BOD, 5 day	1.0J	mg/L	2.0	1	06/11/19 15:00	06/16/19 09:55		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide	0.53	mg/L	0.50	1		06/24/19 20:28	24959-67-9	
Chloride	72.5	mg/L	10.0	5		06/25/19 18:46		
Sulfate	59.3	mg/L	25.0	5		06/25/19 18:46	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 3	51.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	<0.50	mg/L	0.50	1	06/24/19 06:09	06/24/19 12:38	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 38	53.2					
Nitrate as N	4.1	mg/L	0.50	10		06/10/19 22:55	14797-55-8	
Nitrate-Nitrite (as N)	4.1	mg/L	0.50	10		06/10/19 22:55	7727-37-9	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: GM-26I	Lab ID: 7092	927002	Collected: 06/10/	19 09:25	Received: 06	6/10/19 15:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
353.2 Nitrogen, NO2	Analytical Method: EPA 353.2								
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:10	0 14797-65-0		
4500 Ammonia Water	Analytical Meth	od: SM22 4	500 NH3 H						
Nitrogen, Ammonia	0.066J	mg/L	0.10	1		06/24/19 13:31	1 7664-41-7	В	
5310B TOC as NPOC	Analytical Method: SM22 5310B								
Total Organic Carbon	1.8	mg/L	1.0	1		06/12/19 17:43	3 7440-44-0		



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

7092927

Sample: GM-27	Lab ID: 7092	2927003	Collected: 06/10/	19 10:40	0 Received: 06	6/10/19 15:00 N	latrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP	Analytical Meth	Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:30	7440-43-9		
Calcium	55500	ug/L	200	1	06/12/19 12:00	06/21/19 15:30	7440-70-2		
Iron	3660	ug/L	20.0	1	06/12/19 12:00	06/21/19 15:30	7439-89-6		
Lead	13.8	ug/L	5.0	1		06/21/19 15:30			
Magnesium	9180	ug/L	200	1		06/21/19 15:30			
Manganese Potassium	153 43400	ug/L	10.0 5000	1 1		06/21/19 15:30 06/21/19 15:30			
Sodium	200000	ug/L ug/L	5000	1		06/21/19 15:30			
		-				00/21/19 13:30	7440-25-5		
8270D MSSV 14 Dioxane By SIM	-		270D by SIM Prepar						
1,4-Dioxane (SIM) <i>Surrogates</i>	0.32	ug/L	0.25	1	06/17/19 12:55	06/21/19 15:06	123-91-1		
1,4-Dioxane-d8 (S)	44	%.	30-125	1	06/17/19 12:55	06/21/19 15:06			
180.1 Turbidity	Analytical Meth	nod: EPA 18	30.1						
Turbidity	6.5	NTU	5.0	5		06/11/19 15:41			
2320B Alkalinity	Analytical Meth	nod: SM22	2320B						
Alkalinity, Total as CaCO3	284	mg/L	1.0	1		06/21/19 13:52			
2340C Hardness, Total	Analytical Meth	nod: SM22	2340C						
Tot Hardness asCaCO3 (SM 2340B	180	mg/L	5.0	1		06/19/19 16:42			
2540C Total Dissolved Solids	Analytical Meth	nod: SM22	2540C						
Total Dissolved Solids	874	mg/L	20.0	1		06/14/19 11:27			
410.4 COD	Analytical Meth	nod: EPA 41	10.4 Preparation Me	thod: El	PA 410.4				
Chemical Oxygen Demand	154	mg/L	10.0	1	06/18/19 09:22	06/18/19 11:40			
5210B BOD, 5 day	Analytical Meth	nod: SM22	5210B Preparation N	Method:	SM22 5210B				
BOD, 5 day	32.5	mg/L	10.0	5	06/11/19 15:00	06/16/19 09:57			
300.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	0.0						
Bromide	2.4	mg/L	0.50	1		06/24/19 20:44	24959-67-9		
Chloride	442	mg/L	40.0	20		06/25/19 19:02	16887-00-6		
Sulfate	<5.0	mg/L	5.0	1		06/24/19 20:44	14808-79-8		
351.2 Total Kjeldahl Nitrogen	Analytical Meth	nod: EPA 38	51.2 Preparation Me	thod: El	PA 351.2				
Nitrogen, Kjeldahl, Total	33.7	mg/L	2.5	5	06/24/19 06:09	06/24/19 13:27	7727-37-9		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	nod: EPA 38	53.2						
Nitrate as N	0.030J	mg/L	0.050	1		06/10/19 22:56	14797-55-8		
Nitrate-Nitrite (as N)	<0.050	mg/L	0.050	1		06/10/19 22:56	7727-37-9		



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: GM-27	Lab ID: 7092	927003	Collected: 06/10/1	9 10:40	Received: 06	6/10/19 15:00 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Metho	od: EPA 353	3.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:11	14797-65-0	
4500 Ammonia Water	Analytical Metho	od: SM22 4	500 NH3 H					
Nitrogen, Ammonia	32.0	mg/L	1.0	10		06/24/19 13:33	7664-41-7	
5310B TOC as NPOC	Analytical Metho	od: SM22 5	310B					
Total Organic Carbon	43.1	mg/L	1.0	1		06/12/19 18:13	7440-44-0	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

o.: 7092927

Sample: GM-27I	Lab ID: 7092	927004	Collected: 06/10/1	19 10:44	Received: 06	6/10/19 15:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Metho	od: EPA 60	010C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:32	7440-43-9	
Calcium	72800	ug/L	200	1		06/21/19 15:32		
Iron	1920	ug/L	20.0	1		06/21/19 15:32		
Lead	<5.0	ug/L	5.0	1		06/21/19 15:32		
Magnesium	4680 85.9	ug/L	200 10.0	1 1		06/21/19 15:32 06/21/19 15:32		
Manganese Potassium	38700	ug/L ug/L	5000	1		06/21/19 15:32		
Sodium	175000	ug/L	5000	1		06/21/19 15:32		
8270D MSSV 14 Dioxane By SIM	Analytical Metho	od: EPA 82	270D by SIM Prepara	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM)	0.26	ug/L	0.25	1	06/17/19 12:55	06/21/19 15:26	123-91-1	
<i>Surrogates</i> 1,4-Dioxane-d8 (S)	45	%.	30-125	1	06/17/19 12:55	06/21/19 15:26		
180.1 Turbidity	Analytical Metho	od: EPA 18	30.1					
Turbidity	23.0	NTU	5.0	5		06/11/19 15:41		
2320B Alkalinity	Analytical Metho	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	200	mg/L	1.0	1		06/21/19 14:03		
2340C Hardness, Total	Analytical Metho	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	190	mg/L	5.0	1		06/19/19 17:15		
2540C Total Dissolved Solids	Analytical Metho	od: SM22 2	2540C					
Total Dissolved Solids	900	mg/L	20.0	1		06/14/19 11:39		M1
410.4 COD	Analytical Metho	od: EPA 41	10.4 Preparation Met	thod: EF	PA 410.4			
Chemical Oxygen Demand	83.0	mg/L	10.0	1	06/18/19 09:22	06/18/19 11:40		
5210B BOD, 5 day	Analytical Metho	od: SM22	5210B Preparation N	/lethod:	SM22 5210B			
BOD, 5 day	21.7	mg/L	4.0	2	06/11/19 15:00	06/16/19 09:59		
300.0 IC Anions 28 Days	Analytical Metho	od: EPA 30	0.0					
Bromide	2.0	mg/L	0.50	1		06/24/19 21:01	24959-67-9	
Chloride	424	mg/L	40.0	20		06/25/19 19:19	16887-00-6	
Sulfate	<5.0	mg/L	5.0	1		06/24/19 21:01	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Metho	od: EPA 35	51.2 Preparation Met	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	19.3	mg/L	1.0	10	06/24/19 06:09	06/24/19 13:28	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Metho	od: EPA 35	53.2					
Nitrate as N	0.044J	mg/L	0.050	1		06/10/19 22:57		
Nitrate-Nitrite (as N)	0.044J	mg/L	0.050	1		06/10/19 22:57	7727-37-9	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: GM-27I	Lab ID: 7092	927004	Collected: 06/10/1	9 10:44	Received: 0	6/10/19 15:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 353	3.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:12	2 14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22 4	500 NH3 H					
Nitrogen, Ammonia	17.5	mg/L	1.0	10		06/24/19 13:34	4 7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22 5	310B					
Total Organic Carbon	25.5	mg/L	1.0	1		06/12/19 18:30	0 7440-44-0	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

7092927

Sample: GM-28	Lab ID: 7092	927005	Collected: 06/10/2	19 12:03	B Received: 06	6/10/19 15:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Metho	od: EPA 60	010C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:35	7440-43-9	
Calcium	248000	ug/L	200	1		06/21/19 15:35		
Iron	8540	ug/L	20.0	1		06/21/19 15:35		
Lead	10.9	ug/L	5.0	1		06/21/19 15:35		
Magnesium	54400	ug/L	200	1		06/21/19 15:35		
Manganese	1670	ug/L	10.0	1		06/21/19 15:35		
Potassium	51200	ug/L	5000	1		06/21/19 15:35		
Sodium	186000	ug/L	5000	1		06/21/19 15:35	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Metho	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.38	ug/L	0.25	1		06/21/19 16:24	123-91-1	
1,4-Dioxane-d8 (S)	45	%.	30-125	1	06/17/19 12:55	06/21/19 16:24		
180.1 Turbidity	Analytical Metho	od: EPA 18	30.1					
Turbidity	65.0	NTU	5.0	5		06/11/19 15:41		
2320B Alkalinity	Analytical Metho	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	984	mg/L	1.0	1		06/21/19 14:39		
2340C Hardness, Total	Analytical Metho	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	880	mg/L	5.0	1		06/19/19 17:15		
2540C Total Dissolved Solids	Analytical Metho	od: SM22 2	2540C					
Total Dissolved Solids	1530	mg/L	20.0	1		06/14/19 11:41		
410.4 COD	Analytical Metho	od: EPA 41	10.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	109	mg/L	10.0	1	06/18/19 09:22	06/18/19 11:41		
5210B BOD, 5 day	Analytical Metho	od: SM22	5210B Preparation N	Method:	SM22 5210B			
BOD, 5 day	11.9	mg/L	4.0	2	06/11/19 15:00	06/16/19 10:20		
300.0 IC Anions 28 Days	Analytical Metho	od: EPA 30	0.0					
Bromide	1.3	mg/L	0.50	1		06/24/19 21:51	24959-67-9	
Chloride	256	mg/L	20.0	10		06/25/19 19:36	16887-00-6	
Sulfate	216	mg/L	50.0	10		06/25/19 19:36		
351.2 Total Kjeldahl Nitrogen	Analytical Metho	od: EPA 35	51.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	20.9	mg/L	1.0	10	06/24/19 06:09	06/24/19 13:29	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Metho	od: EPA 35	53.2					
Nitrate as N	0.042J	mg/L	0.050	1		06/10/19 22:59	14797-55-8	
Nitrate-Nitrite (as N)	0.042J	mg/L	0.050	1		06/10/19 22:59	7727-37-9	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: GM-28	Lab ID: 7092	927005	Collected: 06/10/	19 12:03	Received: 0	6/10/19 15:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Metho	od: EPA 35	3.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:13	3 14797-65-0	
4500 Ammonia Water	Analytical Metho	od: SM22 4	4500 NH3 H					
Nitrogen, Ammonia	18.2	mg/L	1.0	10		06/24/19 13:3	5 7664-41-7	
5310B TOC as NPOC	Analytical Metho	od: SM22 {	5310B					
Total Organic Carbon	35.9	mg/L	1.0	1		06/12/19 19:10	6 7440-44-0	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

7092927

Sample: GM-28I	Lab ID: 7092	927006	Collected: 06/10/2	19 11:45	Received: 06	5/10/19 15:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	010C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:37	7440-43-9	
Calcium	39600	ug/L	200	1	06/12/19 12:00	06/21/19 15:37	7440-70-2	
Iron	4070	ug/L	20.0	1	06/12/19 12:00	06/21/19 15:37	7439-89-6	
Lead	14.6	ug/L	5.0	1		06/21/19 15:37		
Magnesium	4310	ug/L	200	1		06/21/19 15:37		
Manganese	292	ug/L	10.0	1		06/21/19 15:37		
Potassium	62600	ug/L	5000	1		06/21/19 15:37		
Sodium	114000	ug/L	5000	1		06/21/19 15:37	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Meth	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.25J	ug/L	0.25	1	06/17/19 12:55	06/21/19 16:05	123-91-1	
1,4-Dioxane-d8 (S)	42	%.	30-125	1	06/17/19 12:55	06/21/19 16:05		
180.1 Turbidity	Analytical Meth	od: EPA 18	30.1					
Turbidity	20.0	NTU	5.0	5		06/11/19 15:41		
2320B Alkalinity	Analytical Meth	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	149	mg/L	1.0	1		06/21/19 14:49		
2340C Hardness, Total	Analytical Meth	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	100	mg/L	5.0	1		06/19/19 17:16		
2540C Total Dissolved Solids	Analytical Meth	od: SM22 2	2540C					
Total Dissolved Solids	596	mg/L	20.0	1		06/17/19 09:48		
410.4 COD	Analytical Meth	od: EPA 41	0.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	45.5	mg/L	10.0	1	06/18/19 09:22	06/18/19 11:41		
5210B BOD, 5 day	Analytical Meth	od: SM22 8	5210B Preparation N	lethod:	SM22 5210B			
BOD, 5 day	13.3	mg/L	4.0	2	06/11/19 15:01	06/16/19 10:23		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide	1.7	mg/L	0.50	1		06/24/19 22:08	24959-67-9	
Chloride	251	mg/L	20.0	10		06/25/19 19:53	16887-00-6	
Sulfate	31.5	mg/L	5.0	1		06/24/19 22:08	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	51.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	12.2	mg/L	1.0	10	06/24/19 06:09	06/24/19 13:30	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	53.2					
Nitrate as N	0.029J	mg/L	0.050	1		06/10/19 23:00	14797-55-8	
Nitrate-Nitrite (as N)	<0.050	mg/L	0.050	1		06/10/19 23:00	7727-37-9	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: GM-28I	Lab ID: 7092	927006	Collected: 06/10/	19 11:45	Received: 06	6/10/19 15:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Methe	od: EPA 35	3.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:14	4 14797-65-0	
4500 Ammonia Water	Analytical Methe	od: SM22 4	1500 NH3 H					
Nitrogen, Ammonia	11.4	mg/L	1.0	10		06/24/19 13:36	6 7664-41-7	
5310B TOC as NPOC	Analytical Methe	od: SM22 5	5310B					
Total Organic Carbon	12.7	mg/L	1.0	1		06/12/19 19:34	4 7440-44-0	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.:

7092927

Sample: DUP	Lab ID: 7092	927007	Collected: 06/10/1	19 10:44	Received: 06	5/10/19 15:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Metho	od: EPA 60	10C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	06/12/19 12:00	06/21/19 15:39	7440-43-9	
Calcium	74000	ug/L	200	1	06/12/19 12:00	06/21/19 15:39	7440-70-2	
Iron	1980	ug/L	20.0	1	06/12/19 12:00	06/21/19 15:39	7439-89-6	
Lead	<5.0	ug/L	5.0	1		06/21/19 15:39		
Magnesium	4760	ug/L	200	1		06/21/19 15:39		
Manganese	87.2	ug/L	10.0	1		06/21/19 15:39		
Potassium	39800	ug/L	5000	1		06/21/19 15:39		
Sodium	176000	ug/L	5000	1		06/21/19 15:39	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Metho	od: EPA 82	70D by SIM Prepara	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.26	ug/L	0.25	1		06/21/19 15:45	123-91-1	
1,4-Dioxane-d8 (S)	45	%.	30-125	1	06/17/19 12:55	06/21/19 15:45		
180.1 Turbidity	Analytical Metho	od: EPA 18	0.1					
Turbidity	12.6	NTU	5.0	5		06/11/19 15:41		
2320B Alkalinity	Analytical Metho	od: SM22 2	320B					
Alkalinity, Total as CaCO3	206	mg/L	1.0	1		06/21/19 15:01		
2340C Hardness, Total	Analytical Metho	od: SM22 2	340C					
Tot Hardness asCaCO3 (SM 2340B	200	mg/L	5.0	1		06/19/19 17:17		
2540C Total Dissolved Solids	Analytical Metho	od: SM22 2	540C					
Total Dissolved Solids	826	mg/L	20.0	1		06/17/19 09:50		
410.4 COD	Analytical Metho	od: EPA 41	0.4 Preparation Met	thod: EF	PA 410.4			
Chemical Oxygen Demand	91.8	mg/L	10.0	1	06/18/19 09:22	06/18/19 11:41		
5210B BOD, 5 day	Analytical Metho	od: SM22 5	210B Preparation N	/lethod:	SM22 5210B			
BOD, 5 day	22.1	mg/L	4.0	2	06/11/19 15:01	06/16/19 10:25		
300.0 IC Anions 28 Days	Analytical Metho	od: EPA 30	0.0					
Bromide	2.0	mg/L	0.50	1		06/24/19 22:25	24959-67-9	
Chloride	455	mg/L	20.0	10		06/25/19 20:09	16887-00-6	
Sulfate	<5.0	mg/L	5.0	1		06/24/19 22:25	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Metho	od: EPA 35	1.2 Preparation Met	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	19.1	mg/L	1.0	10	06/24/19 06:09	06/24/19 13:31	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Metho	od: EPA 35	3.2					
Nitrate as N	0.037J	mg/L	0.050	1		06/10/19 23:06	14797-55-8	
Nitrate-Nitrite (as N)	<0.050	mg/L	0.050	1		06/10/19 23:06	7727-37-9	



# Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Sample: DUP	Lab ID: 7092	927007	Collected: 06/10/7	19 10:44	Received: 0	6/10/19 15:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 35	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/10/19 21:10	6 14797-65-0	
4500 Ammonia Water	Analytical Metho	od: SM22 4	4500 NH3 H					
Nitrogen, Ammonia	17.4	mg/L	1.0	10		06/24/19 13:3	7 7664-41-7	
5310B TOC as NPOC	Analytical Metho	od: SM22 :	5310B					
Total Organic Carbon	25.8	mg/L	1.0	1		06/12/19 19:52	2 7440-44-0	



# **QUALITY CONTROL DATA**

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

QC Batch:	117458
QC Batch Method:	EPA 3005A

 Analysis Method:
 EPA 6010C

 Analysis Description:
 6010 MET Water

Associated Lab Samples: 7092927001, 7092927002, 7092927003, 7092927004, 7092927005, 7092927006, 7092927007

METHOD BLANK: 556153 Associated Lab Samples: 7092927001, 7092927002

7092927001, 7092927002, 7092927003, 7092927004, 7092927005, 7092927006, 7092927007

Matrix: Water

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Cadmium	ug/L	<2.5	2.5	06/21/19 14:34	
Calcium	ug/L	<200	200	06/21/19 14:34	
Iron	ug/L	<20.0	20.0	06/21/19 14:34	
Lead	ug/L	<5.0	5.0	06/21/19 14:34	
Magnesium	ug/L	<200	200	06/21/19 14:34	
Manganese	ug/L	<10.0	10.0	06/21/19 14:34	
Potassium	ug/L	<5000	5000	06/21/19 14:34	
Sodium	ug/L	<5000	5000	06/21/19 14:34	

## LABORATORY CONTROL SAMPLE: 556154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		49.2	98	80-120	
Calcium	ug/L	25000	24800	99	80-120	
Iron	ug/L	2000	1970	99	80-120	
Lead	ug/L	500	501	100	80-120	
Magnesium	ug/L	25000	24500	98	80-120	
Manganese	ug/L	250	246	98	80-120	
Potassium	ug/L	50000	47900	96	80-120	
Sodium	ug/L	50000	49300	99	80-120	

MATRIX SPIKE SAMPLE:	556156			Result         % Rec         Limits         Qualifiers           50         48.1         96         75-125           25000         59400         88         75-125           2000         10100         80         75-125           500         493         99         75-125           25000         44300         94         75-125			
		7092645001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	<0.84	50	48.1	96	75-125	
Calcium	ug/L	37300	25000	59400	88	75-125	
Iron	ug/L	8490	2000	10100	80	75-125	
Lead	ug/L	<4.3	500	493	99	75-125	
Magnesium	ug/L	20700	25000	44300	94	75-125	
Manganese	ug/L	13000	250	12700	-120	75-125 N	11
Potassium	ug/L	2090J	50000	49600	95	75-125	
Sodium	ug/L	23600	50000	72100	97	75-125	
SAMPLE DUPLICATE: 556155							
		7092645001	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

<0.84

ug/L

# **REPORT OF LABORATORY ANALYSIS**

<2.5

Cadmium

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# **QUALITY CONTROL DATA**

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

SAMPLE DUPLICATE: 556155

		7092645001	Dup			
Parameter	Units	Result	Result	RPD	Qualifiers	
Calcium	ug/L	37300	37900	2		
Iron	ug/L	8490	8670	2		
Lead	ug/L	<4.3	<5.0			
Magnesium	ug/L	20700	21000	1		
Manganese	ug/L	13000	13200	2		
Potassium	ug/L	2090J	2100J			
Sodium	ug/L	23600	24100	2		

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# **REPORT OF LABORATORY ANALYSIS**

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# **QUALITY CONTROL DATA**

Project: WELL CLUSTER Pace Project No.: 7092927	26,27,28, ROUTINE										
QC Batch: 613318		Analvsi	s Method:	E	PA 8270	D by SIM					
QC Batch Method: EPA 3510		•	s Descriptio				oxane by S	SIM			
Associated Lab Samples: 7092927	001, 7092927002, 70	-			27005, 7	0929270	06, 709292	27007			
METHOD BLANK: 3314241		М	atrix: Wate	er							
Associated Lab Samples: 7092927	001, 7092927002, 70				27005, 7	0929270	06, 709292	27007			
Deremeter	Units	Blank		porting _imit	<b>A m c</b>	al vac d	Quali	fioro			
Parameter		Result			·	alyzed		ners			
1,4-Dioxane (SIM)	ug/L %.	<	0.25 39	0.25 30-125		'19 11:31 '19 11:31					
1,4-Dioxane-d8 (S)	%.		39	30-125	06/21/	19 11:31					
LABORATORY CONTROL SAMPLE &	& LCSD: 3314242		33	314243							
		Spike	LCS	LCSD	LCS	LCSD	% Rec			Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		RPD	Qualifiers
1,4-Dioxane (SIM)	ug/L	10	7.8	7.3		-	40-125		6	20	
1,4-Dioxane-d8 (S)	%.				39	46	30-125				
LABORATORY CONTROL SAMPLE:	3314706										
		Spike	LCS		LCS	%	6 Rec				
Parameter	Units	Conc.	Result		% Rec	L	imits	Qualif	fiers		
1,4-Dioxane (SIM)	ug/L	10	0	.22J		2	40-125	L2			
1,4-Dioxane-d8 (S)	%.					44	30-125				
LABORATORY CONTROL SAMPLE:	3314707										
- ····································		Spike	LCS		LCS	%	6 Rec				
Parameter	Units	Conc.	Result		% Rec	L	imits	Qualif	fiers		
1,4-Dioxane (SIM)	ug/L	10		0.25		3	40-125	L2			
1,4-Dioxane-d8 (S)	%.					47	30-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



,	WELL CLUSTER 2 7092927	26,27,28, ROUTINE						
QC Batch:	117124		Analysis M	ethod:	EPA 180.1			
QC Batch Method:	EPA 180.1		Analysis De		80.1 Turbidity			
Associated Lab Samp	ples: 70929270	01, 7092927002, 70	92927003, 709	92927004, 7092	927005, 70929	27006, 709292	7007	
METHOD BLANK:	554714		Matrix	x: Water				
Associated Lab Samp	ples: 70929270	01, 7092927002, 70	92927003, 709	92927004, 7092	927005, 70929	27006, 709292	7007	
			Blank	Reporting				
Parame	eter	Units	Result	Limit	Analyzeo	d Qualif	iers	
Turbidity		NTU	<1.0	. 1.0	0 06/11/19 15	5.40		
		NIO	<1.C		00/11/10/10			
LABORATORY CON	TROL SAMPLE:	554715						
LABORATORY CON		554715	Spike	LCS	LCS	% Rec		
							Qualifiers	
LABORATORY CON		554715	Spike	LCS	LCS	% Rec	Qualifiers	
LABORATORY CON Parame Turbidity	eter	554715 Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
LABORATORY CON	eter	554715 Units	Spike Conc. 10	LCS Result 10.3	LCS % Rec	% Rec Limits	Qualifiers	
LABORATORY CON Parame Turbidity SAMPLE DUPLICATE	eter E: 554716	554715 Units NTU	Spike Conc. 10 7092924001	LCS Result 10.3 Dup	LCS % Rec 103	% Rec Limits 90-110		
LABORATORY CON Parame Turbidity	eter E: 554716	554715 Units	Spike Conc. 10	LCS Result 10.3 Dup Result	LCS % Rec 103 RPD	% Rec Limits		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



,	WELL CLUSTER 7092927	26,27,28, ROUTI	NE					
QC Batch:	118848		Analysis Me	thod:	SM22 2320B			
QC Batch Method:	SM22 2320B		Analysis De	scription:	2320B Alkalinity			
Associated Lab Samp	oles: 70929270	01, 7092927002,	7092927003, 7092	2927004, 7092	927005, 709292	7006, 7092927	007	
METHOD BLANK: 5	564805		Matrix	Water				
Associated Lab Samp	oles: 70929270	01, 7092927002,	, 7092927003, 7092 Blank	2927004, 7092 Reporting	927005, 709292	7006, 7092927	007	
Parame	eter	Units	Result	Limit	Analyzed	Qualifie	ers	
Alkalinity, Total as Ca	CO3	mg/L	<1.0	1.	0 06/21/19 12:	45		
LABORATORY CONT	TROL SAMPLE:	564806						
Parame	eter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Alkalinity, Total as Ca	CO3	mg/L	25	25.7	103	85-115		
MATRIX SPIKE SAMI	PLE:	564808						
			7092859001	Spike	MS	MS	% Rec	
Parame	eter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Alkalinity, Total as Ca	CO3	mg/L	31	1.8 25	58.1	105	75-125	
SAMPLE DUPLICATE	E: 564807							
Parame		Units	7092859001	Dup	RPD	Qualifiers		
			Result	Result			_	
Alkalinity, Total as Ca	CO3	mg/L	31.8	32.	4	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: WELL CLUSTER Pace Project No.: 7092927	26,27,28, ROUT	INE					
QC Batch: 118472		Analysis Met		SM22 2340C			
QC Batch Method: SM22 2340C		Analysis Des	•	2340C Hardness			
Associated Lab Samples: 7092927	001, 7092927002	, 7092927003, 7092	2927004, 70929	927005, 709292	7006, 7092927	007	
METHOD BLANK: 562545		Matrix:	Water				
Associated Lab Samples: 7092927	001, 7092927002	, 7092927003, 7092 Blank	2927004, 70929 Reporting	927005, 709292	7006, 7092927	007	
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	<5.0	5.0	06/19/19 13:	35		
LABORATORY CONTROL SAMPLE:	562546						
Parameter	Units		LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	100	100	100	90-110		
MATRIX SPIKE SAMPLE:	562852						
_		7092927007	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Tot Hardness asCaCO3 (SM 2340B	mg/L	20	00 500	695	99	9 75-125	
SAMPLE DUPLICATE: 562853							
Parameter	Units	7092927007 Result	Dup Result	RPD	Qualifiers		
Tot Hardness asCaCO3 (SM 2340B	mg/L	200	200	J	0		

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QC Batch: 117745		Analysis Metho		SM22 2540C			
QC Batch Method: SM22 2540C		Analysis Descr	•	2540C Total Diss	solved Solids		
Associated Lab Samples: 7092927	001, 7092927002, 7	7092927003, 709292	27004, 70929	927005			
METHOD BLANK: 557796		Matrix: V	Vater				
Associated Lab Samples: 7092927	001, 7092927002, 7	7092927003, 709292	27004, 70929	927005			
_		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifiers	S	
Total Dissolved Solids	mg/L	<10.0	10.0	0 06/14/19 10:	42		
LABORATORY CONTROL SAMPLE:	557797						
-			CS	LCS	% Rec		
Parameter	Units		sult	% Rec	Limits 0	Qualifiers	
Total Dissolved Solids	mg/L	500	516	103	85-115		
MATRIX SPIKE SAMPLE:	557799						
		7092852006	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	49.0	300	337	96	75-125	
MATRIX SPIKE SAMPLE:	557801						
		7092927004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	900	600	1660	127	75-125	M1
SAMPLE DUPLICATE: 557798							
Parameter	Units	7092852006 Result	Dup Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	49.0	48.0	0	2	-	
SAMPLE DUPLICATE: 557800							
_		7092927004	Dup	_	_		
Parameter	Units	Result	Result	RPD	Qualifiers	-	
	mg/L	900	860		5		

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Project: WELL CLUSTER Pace Project No.: 7092927	26,27,28, ROUTINI	E					
QC Batch: 118003		Analysis Meth	od: S	M22 2540C			
QC Batch Method: SM22 2540C		Analysis Desc	ription: 2	540C Total Diss	olved Solids		
Associated Lab Samples: 7092927	006, 7092927007						
METHOD BLANK: 559701		Matrix:	Water				
Associated Lab Samples: 7092927	006, 7092927007	Disch	Describer				
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifier	S	
Total Dissolved Solids	mg/L	<10.0	10.0	06/17/19 09:4	42		
LABORATORY CONTROL SAMPLE:	559702						
Parameter	Units		.CS esult	LCS % Rec	% Rec Limits	Qualifiers	
Total Dissolved Solids	mg/L	500	568	114	85-115		
MATRIX SPIKE SAMPLE:	559704						
		7092927006	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	596	600	1130	89	75-125	
MATRIX SPIKE SAMPLE:	559706						
-		7092454017	Spike	MS	MS	% Rec	o ""
Parameter	Units	Result	Conc	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	21	1 300	490	93	75-125	
SAMPLE DUPLICATE: 559703							
Parameter	Units	7092927006 Result	Dup Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	596	602	2	1	_	
SAMPLE DUPLICATE: 559705							
Parameter	Units	7092454017 Result	Dup Result	RPD	Qualifiers		
						_	
Total Dissolved Solids	mg/L	211	223	5 (	6 D6		

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Project: WELL CLUST Pace Project No.: 7092927	ER 26,27,28, ROUTIN	IE					
QC Batch: 117776		Analysis Metho	od: E	PA 410.4			
QC Batch Method: EPA 410.4		Analysis Descr	iption: 4	10.4 COD			
Associated Lab Samples: 70929	27001						
METHOD BLANK: 557830		Matrix: V	Vater				
Associated Lab Samples: 70929	27001						
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers	5	
Chemical Oxygen Demand	mg/L	<10.0	10.0	06/14/19 11:	54		
LABORATORY CONTROL SAMPL	E: 557831						
Parameter	Units		CS sult	LCS % Rec	% Rec Limits C	Qualifiers	
Chemical Oxygen Demand	mg/L	500	509	102	90-110		
MATRIX SPIKE SAMPLE:	557832						
Parameter	Units	7093543001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	10.2	1000	1010	100	90-110	
MATRIX SPIKE SAMPLE:	557834						
Parameter	Units	7092454015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	19.0	1000	969	95	90-110	
SAMPLE DUPLICATE: 557833							
Parameter	Units	7093543001 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	10.2	<10.0	)		-	
SAMPLE DUPLICATE: 557835							
Parameter	Units	7092454015 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	19.0	12.4	4	2 D6	-	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Pace Project No.: 7092927							
QC Batch: 118174		Analysis Metho	od: E	PA 410.4			
QC Batch Method: EPA 410.4		Analysis Descr	iption: 4	10.4 COD			
Associated Lab Samples: 7092	927002, 7092927003,	7092927004, 709292	27005, 70929	927006, 709292	7007		
METHOD BLANK: 560813		Matrix: V	/ater				
Associated Lab Samples: 7092	927002, 7092927003,	7092927004, 709292	27005, 70929	927006, 709292	7007		
_		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifi	ers	
Chemical Oxygen Demand	mg/L	<10.0	10.0	06/18/19 11:3	38		
LABORATORY CONTROL SAMPI	E: 560814						
			CS	LCS	% Rec	0.11	
Parameter	Units		sult	% Rec	Limits	Qualifiers	
Chemical Oxygen Demand	mg/L	500	507	101	90-110		
MATRIX SPIKE SAMPLE:	560815						
		7093748001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chemical Oxygen Demand	mg/L	36.7	1000	1030	99	9 90-110	
MATRIX SPIKE SAMPLE:	560817						
		7092454017	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chemical Oxygen Demand	mg/L	10.2	1000	987	98	3 90-110	
SAMPLE DUPLICATE: 560816							
Parameter	Units	7093748001 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	36.7	41.1	1′	1		
SAMPLE DUPLICATE: 560818							
		7092454017	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	10.2	12.4	20	า		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: WELL CLUSTER Pace Project No.: 7092927	26,27,28, ROUTINE	Ē					
QC Batch: 117293		Analysis M	ethod:	SM22 5210B			
QC Batch Method: SM22 5210B		Analysis D	escription:	5210B BOD, 5	day		
Associated Lab Samples: 70929270	001, 7092927002, 70	092927003, 709	92927004, 7092	927005, 70929	27006, 709292	7007	
METHOD BLANK: 555119		Matri	x: Water				
Associated Lab Samples: 70929270	001, 7092927002, 70	092927003, 709	92927004, 7092	927005, 70929	27006, 709292	7007	
		Blank	Reporting				
Parameter	Units	Result	Limit	Analyze	d Qualif	iers	
BOD, 5 day	mg/L	<2.0	) 2.	0 06/16/19 09	9:10		
LABORATORY CONTROL SAMPLE:	555120						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
						Quaimers	
BOD, 5 day	mg/L	198	208	105	84.5-115.4		
SAMPLE DUPLICATE: 555121							
		7092970001	Dup				
Parameter	Linite	Result	Result	RPD	Qualifiers	<b>`</b>	
Parameter	Units	Result				<b>S</b>	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Proiect:	WELL CLUSTER 26.27.28. ROUTINE

Pace Project No.:	7092927	

QC Batch:	1191	93		Analysi	s Method:
QC Batch Method:	EPA	300.0		Analysi	s Descriptio
Associated Lab Sam	ples:	7092927001	, 7092927002,	7092927003,	70929270

Analysis Description: 300.0 IC Anions 7092927003, 7092927004, 7092927005, 7092927006, 7092927007

EPA 300.0

METHOD BLANK: 566429 Matrix: Water

Associated Lab Samples:	7092927001, 7092927002, 70	92927003, 7092927004,	7092927005, 7092927006	, 7092927007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	<0.50	0.50	06/24/19 18:47	
Chloride	mg/L	<2.0	2.0	06/24/19 18:47	
Sulfate	mg/L	<5.0	5.0	06/24/19 18:47	

#### LABORATORY CONTROL SAMPLE: 566430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	1	1.1	110	90-110	
Chloride	mg/L	10	10.9	109	90-110	
Sulfate	mg/L	10	10.3	103	90-110	

MATRIX SPIKE SAMPLE:	566431						
_		7092454017	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromide	mg/L	1.4	1	1.9	52	80-120	M1
Chloride	mg/L	94.3	50	149	109	80-120	)
Sulfate	mg/L	11.2	10	15.8	47	80-120	) M1

#### SAMPLE DUPLICATE: 566432

		7092454017	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Bromide	mg/L	1.4	1.4	1	
Chloride	mg/L	94.3	92.9	2	
Sulfate	mg/L	11.2	11.2	0	

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Project: WELL CLUSTER Pace Project No.: 7092927	26,27,28, ROUTIN	E					
QC Batch: 119029		Analysis Me	thod: F	PA 351.2			
QC Batch Method: EPA 351.2		Analysis Me		51.2 TKN			
	001, 7092927002, 7	•			7006 709292700	7	
Associated Lab Samples. 1092921	001, 7092927002, 7	092927003, 709.	2927004, 70928	527003, 7092925	1000, 109292100	1	
METHOD BLANK: 565860		Matrix	: Water				
Associated Lab Samples: 7092927	001, 7092927002, 7	092927003, 7092	2927004, 70929	927005, 7092927	7006, 709292700	7	
-		Blank	Reporting		<b>A</b> 11/1		
Parameter	Units	Result	Limit	Analyzed	Qualifiers		
Nitrogen, Kjeldahl, Total	mg/L	<0.10	0.10	06/24/19 12:3	34		
LABORATORY CONTROL SAMPLE:	565861						
		Spike	LCS	LCS	% Rec		
Parameter	Units	Conc.	Result	% Rec	Limits C	ualifiers	
Nitrogen, Kjeldahl, Total	mg/L	4	4.3	107	90-110		
MATRIX SPIKE SAMPLE:	565862						
		7093248002		MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	0.	.92 4	4.7	95	90-110	
MATRIX SPIKE SAMPLE:	565864						
_		7093311002		MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L		1.7 4	6.6	122	90-110	M1
SAMPLE DUPLICATE: 565863							
Parameter	Units	7093248002 Result	Dup Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total	mg/L	0.92	0.89	) 2	4		
SAMPLE DUPLICATE: 565865							
		7093311002	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total	mg/L	1.7	1.9	) 1 <sup>-</sup>	1		

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#### **REPORT OF LABORATORY ANALYSIS**

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Pace Project No.: 7092927	R 26,27,28, ROUTIN	E					
QC Batch: 117107		Analysis Meth	od: E	PA 353.2			
QC Batch Method: EPA 353.2		Analysis Desc		53.2 Nitrite, Un	pres.		
Associated Lab Samples: 7092927	7001, 7092927002, 7	7092927003, 70929	27004, 70929	27005, 709292	27006, 709292700 <sup>-</sup>	7	
METHOD BLANK: 554577		Matrix: V	Nater				
Associated Lab Samples: 7092927	7001, 7092927002, 7	7092927003, 70929 Blank	27004, 70929 Reporting	927005, 709292	7006, 709292700	7	
Parameter	Units	Result	Limit	Analyzed	Qualifiers		
Nitrite as N	mg/L	<0.050	0.050	06/10/19 20:	42		
LABORATORY CONTROL SAMPLE:	554578						
Parameter	Units	•	.CS esult	LCS % Rec	% Rec Limits Q	ualifiers	
Nitrite as N	mg/L	1	1.0	102	90-110		
MATRIX SPIKE SAMPLE:	554579						
_		7092854001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrite as N	mg/L	<0.050	) 0.5	0.48	95	90-110	
MATRIX SPIKE SAMPLE:	554581						
Parameter	Units	7092926001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
		Result					
Nitrite as N	mg/L	<0.050	) 0.5	0.18	37	90-110	M1
SAMPLE DUPLICATE: 554580		7002954004	Dun				
Parameter	Units	7092854001 Result	Dup Result	RPD	Qualifiers		
Nitrite as N	mg/L	<0.050	<0.050	)			
SAMPLE DUPLICATE: 554582							
SAMPLE DUPLICATE: 554582 Parameter	Units	7092926001 Result	Dup Result	RPD	Qualifiers		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



OC Batch: 11711	1	Analysia M	othod:	EDA 252 2			
QC Batch: 11711 QC Batch Method: EPA 3		Analysis M		EPA 353.2			
		Analysis D	•	353.2 Nitrate, U	•		
Associated Lab Samples:	7092927001, 70929270	02, 7092927003, 709	92927004, 7092	927005, 709292	27006		
METHOD BLANK: 554669	)	Matri	x: Water				
Associated Lab Samples:	7092927001, 70929270	02, 7092927003, 709	92927004, 7092	927005, 709292	27006		
_		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifie	rs	
Nitrate-Nitrite (as N)	mg/L	<0.050	0 0.05	0 06/10/19 22:	:25		
LABORATORY CONTROL S	SAMPLE: 554670						
	11.5	Spike	LCS	LCS	% Rec	Qualifia	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Nitrate-Nitrite (as N)	mg/L	1	1.0	103	90-110		
MATRIX SPIKE SAMPLE:	554671						
		709292700		MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L		6.0 5	10.8	95	90-110	
MATRIX SPIKE SAMPLE:	554673						
_		709285400		MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L		4.3 5	9.5	102	90-110	
SAMPLE DUPLICATE: 55	4672						
Parameter	Units	7092927001 Result	Dup Result	RPD	Qualifiers		
Nitrate-Nitrite (as N)	mg/L	6.0	0 5.	7	5	_	
SAMPLE DUPLICATE: 55	4674						
_		7092854001	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers	_	
Nitrate-Nitrite (as N)	mg/L	4.3	3 4.	<u>^</u>	1		

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#### **REPORT OF LABORATORY ANALYSIS**

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•	WELL CLUSTER	26,27,28, ROUTINE						
Pace Project No.:	7092927							
QC Batch:	117112		Analysis Me	thod:	EPA 353.2			
QC Batch Method:	EPA 353.2		Analysis De	scription:	353.2 Nitrate, U	npres.		
Associated Lab Sam	ples: 70929270	007						
METHOD BLANK:	554675		Matrix	Water				
Associated Lab Sam	ples: 70929270	007						
_			Blank	Reporting				
Param	eter	Units	Result	Limit	Analyzeo	l Qualif	ers	
Nitrate-Nitrite (as N)		mg/L	<0.050	0.05	50 06/10/19 23	:03		
LABORATORY CON	TROL SAMPLE:	554676						
			Spike	LCS	LCS	% Rec		
Param	eter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Nitrate-Nitrite (as N)		mg/L	1	1.0	105	90-110		
MATRIX SPIKE SAM	IPLE:	554677						
			7092928001	Spike	MS	MS	% Rec	
Param	eter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)		mg/L	-	7.6 5	7.6	-	1 90-11	0 M6
SAMPLE DUPLICAT	E: 554678							
			7092928001	Dup				
Param	eter	Units	Result	Result	RPD	Qualifiers	;	
Nitrate-Nitrite (as N)		mg/L	7.6	7	.2	5		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



•	WELL CLUSTER 7092927	26,27,28, ROUTI	NE					
QC Batch:	119106		Analysis Me	thod:	SM22 4500 NH3	3 H		
QC Batch Method:	SM22 4500 NH	3 H	Analysis De	scription: 4	4500 Ammonia			
Associated Lab Sam	ples: 7092927	001, 7092927002,	, 7092927003, 7092	2927004, 70929	927005, 709292	27006, 7092927	007	
METHOD BLANK:	566010		Matrix	Water				
Associated Lab Sam	ples: 7092927	001, 7092927002,	, 7092927003, 7092 Blank	2927004, 70929 Reporting	927005, 709292	27006, 7092927	007	
Parame	eter	Units	Result	Limit	Analyzed	Qualifie	ers	
Nitrogen, Ammonia		mg/L	0.020J	0.10	06/24/19 13	:28		
LABORATORY CON	TROL SAMPLE:	566011						
Parame	eter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Nitrogen, Ammonia		mg/L	1	0.94	94	90-110		
MATRIX SPIKE SAM	PLE:	566012						
Parame	eter	Units	7093315001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia		mg/L	14	4.8 10	25.5	107	75-125	
SAMPLE DUPLICATI	E: 566013							
D	oto <i>r</i>	Linita	7093315001	Dup		Qualifiers		
Parame	eter	Units	Result	Result	RPD	Qualifiers		
Nitrogen, Ammonia		mg/L	14.8	14.6	6	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	WELL CLUSTER	26,27,28, ROUTIN	NE					
Pace Project No.:	7092927							
QC Batch:	117347		Analysis Me	ethod:	SM22 5310B			
QC Batch Method:	SM22 5310B		Analysis De	scription:	5310B TOC			
Associated Lab San	nples: 7092927	001, 7092927002,	7092927003, 709	2927004, 709	2927005, 709292	27006, 7092927	007	
METHOD BLANK:	555730		Matrix	: Water				
Associated Lab San	nples: 7092927	001, 7092927002,	,		2927005, 709292	27006, 7092927	007	
Param	neter	Units	Blank Result	Reporting Limit	Analyzed	Qualifie	are	
Total Organic Carbo	'n	mg/L	<1.0	1	.0 06/12/19 15	:41		
LABORATORY CON	NTROL SAMPLE:	555731						
Paran	neter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Total Organic Carbo	n	mg/L	10	9.0	90	85-115		
MATRIX SPIKE SAM	MPLE:	555733						
			7092957011		MS	MS	% Rec	
Paran	neter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Organic Carbo	'n	mg/L		1.1 10	10.5	94	4 75-125	
SAMPLE DUPLICA	TE: 555732							
			7092957011	Dup				
Paran	neter	Units	Result	Result	RPD	Qualifiers		
Total Organic Carbo	n	mg/L	1.1	1	.1	2		

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#### QUALIFIERS

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

#### LABORATORIES

PACE-MV Pace Analytical Services - Melville

PASI-M Pace Analytical Services - Minneapolis

#### ANALYTE QUALIFIERS

- B Analyte was detected in the associated method blank.
- D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
- L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7092927001	GM-26	EPA 3005A	117458	EPA 6010C	117471
7092927002	GM-26I	EPA 3005A	117458	EPA 6010C	117471
092927003	GM-27	EPA 3005A	117458	EPA 6010C	117471
092927004	GM-27I	EPA 3005A	117458	EPA 6010C	117471
092927005	GM-28	EPA 3005A	117458	EPA 6010C	117471
092927006	GM-28I	EPA 3005A	117458	EPA 6010C	117471
092927007	DUP	EPA 3005A	117458	EPA 6010C	117471
092927001	GM-26	EPA 3510	613318	EPA 8270D by SIM	614673
092927002	GM-26I	EPA 3510	613318	EPA 8270D by SIM	614673
092927003	GM-27	EPA 3510	613318	EPA 8270D by SIM	614673
092927004	GM-27I	EPA 3510	613318	EPA 8270D by SIM	614673
092927005	GM-28	EPA 3510	613318	EPA 8270D by SIM	614673
092927006	GM-28I	EPA 3510	613318	EPA 8270D by SIM	614673
092927007	DUP	EPA 3510	613318	EPA 8270D by SIM	614673
092927001	GM-26	EPA 180.1	117124		
092927002	GM-26I	EPA 180.1	117124		
092927003	GM-27	EPA 180.1	117124		
092927004	GM-27I	EPA 180.1	117124		
092927005	GM-28	EPA 180.1	117124		
092927006	GM-28I	EPA 180.1	117124		
092927007	DUP	EPA 180.1	117124		
092927001	GM-26	SM22 2320B	118848		
092927002	GM-26I	SM22 2320B	118848		
092927003	GM-27	SM22 2320B	118848		
092927004	GM-27I	SM22 2320B	118848		
092927005	GM-28	SM22 2320B	118848		
092927006	GM-28	SM22 2320B	118848		
092927007	DUP	SM22 2320B	118848		
092927001	GM-26	SM22 2340C	118472		
092927002	GM-26I	SM22 2340C	118472		
092927002	GM-27	SM22 23400	118472		
092927003	GM-27	SM22 23400 SM22 2340C	118472		
092927004	GM-28	SM22 2340C	118472		
092927005	GM-28	SM22 2340C SM22 2340C	118472		
092927000	DUP	SM22 23400 SM22 2340C	118472		
092927001	GM-26	SM22 2540C	117745		
092927001	GM-26	SM22 2540C SM22 2540C	117745		
092927002	GM-27	SM22 2540C SM22 2540C	117745		
	GM-27 GM-27I	SM22 2540C SM22 2540C			
092927004 092927005	GM-271 GM-28	SM22 2540C SM22 2540C	117745 117745		
7092927006 7092927007	GM-28I DUP	SM22 2540C SM22 2540C	118003 118003		
7092927001	GM-26	EPA 410.4	117776	EPA 410.4	117816
092927002	GM-261	EPA 410.4	118174	EPA 410.4	118224
092927003	GM-27	EPA 410.4	118174	EPA 410.4	118224



#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7092927004	GM-27I	EPA 410.4	118174	EPA 410.4	118224
7092927005	GM-28	EPA 410.4	118174	EPA 410.4	118224
7092927006	GM-28I	EPA 410.4	118174	EPA 410.4	118224
7092927007	DUP	EPA 410.4	118174	EPA 410.4	118224
7092927001	GM-26	SM22 5210B	117293	SM22 5210B	118243
7092927002	GM-26I	SM22 5210B	117293	SM22 5210B	118243
7092927003	GM-27	SM22 5210B	117293	SM22 5210B	118243
7092927004	GM-27I	SM22 5210B	117293	SM22 5210B	118243
092927005	GM-28	SM22 5210B	117293	SM22 5210B	118243
092927006	GM-28I	SM22 5210B	117293	SM22 5210B	118243
092927007	DUP	SM22 5210B	117293	SM22 5210B	118243
7092927001	GM-26	EPA 300.0	119193		
7092927002	GM-26I	EPA 300.0	119193		
7092927003	GM-27	EPA 300.0	119193		
7092927004	GM-27I	EPA 300.0	119193		
092927005	GM-28	EPA 300.0	119193		
092927006	GM-28I	EPA 300.0	119193		
7092927007	DUP	EPA 300.0	119193		
7092927001	GM-26	EPA 351.2	119029	EPA 351.2	119070
092927002	GM-26I	EPA 351.2	119029	EPA 351.2	119070
092927003	GM-27	EPA 351.2	119029	EPA 351.2	119070
092927004	GM-27I	EPA 351.2	119029	EPA 351.2	119070
092927005	GM-28	EPA 351.2	119029	EPA 351.2	119070
092927006	GM-28I	EPA 351.2	119029	EPA 351.2	119070
092927007	DUP	EPA 351.2	119029	EPA 351.2	119070
7092927001	GM-26	EPA 353.2	117111		
7092927002	GM-26I	EPA 353.2	117111		
092927003	GM-27	EPA 353.2	117111		
092927004	GM-27I	EPA 353.2	117111		
092927005	GM-28	EPA 353.2	117111		
092927006	GM-28I	EPA 353.2	117111		
7092927007	DUP	EPA 353.2	117112		
7092927001	GM-26	EPA 353.2	117107		
092927002	GM-26I	EPA 353.2	117107		
092927003	GM-27	EPA 353.2	117107		
092927004	GM-27I	EPA 353.2	117107		
092927005	GM-28	EPA 353.2	117107		
092927006	GM-28I	EPA 353.2	117107		
092927007	DUP	EPA 353.2	117107		
092927001	GM-26	SM22 4500 NH3 H	119106		
7092927002	GM-26I	SM22 4500 NH3 H	119106		
7092927003	GM-27	SM22 4500 NH3 H	119106		
092927004	GM-27I	SM22 4500 NH3 H	119106		
092927005	GM-28	SM22 4500 NH3 H	119106		
092927006	GM-28I	SM22 4500 NH3 H	119106		



#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WELL CLUSTER 26,27,28, ROUTINE

Pace Project No.: 7092927

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7092927007	DUP	SM22 4500 NH3 H	119106		
7092927001	GM-26	SM22 5310B	117347		
7092927002	GM-26I	SM22 5310B	117347		
7092927003	GM-27	SM22 5310B	117347		
7092927004	GM-27I	SM22 5310B	117347		
7092927005	GM-28	SM22 5310B	117347		
7092927006	GM-28I	SM22 5310B	117347		
7092927007	DUP	SM22 5310B	117347		

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7092927 WO#: 7092927

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Brion Nithels/Zian Highe isco dum Bart Hace W/10/14/15/00/1	Brion Nitricks / Zian Highe is 200 June Bart Wace 61/10/14 1500 1	Brion Nithols / Zien Pro/19 1500 June 1989 14 1500 1.7	Mu       Mu <td< td=""></td<>
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Brion Nichols / Zien Elight isco dum Bat Mace W/10/14 1500 1	Brion Nitners/Zien Elig/19 1500 June 1524/Vace 6/10/19 1500 1	Brion Nichols/Zien May isco Jum BAT Mace 6/10/14 15/20 1.7 Sampler NAME AND SIGNATURE	WIT     WIT     WIT     WIT     YK     X
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TILOON	Correctio	on Factor	: 0	-	71771	Samples on ice, cool	
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Temp should be above freezing to 6.0°C						·	Cliplia 1P
USDA Regulated Soil ( N/A, water sample	2)					f person examining cor	
Did samples originate in a quarantine zone within the NM, NY, OK, OR, SC, TN, TX, or VA (check map)? If Yes to either question, f	United States: /	AL, AR, CA NO Nated So	, FL, GA, IC il Checkli	), LA, MS, N st (F-LI-C	√C, :-010) and in	including Hawaii and Pue	n a foreign source (internationally erto Rico)?  Yes No paperwork.
If Yes to either question, I				· · ·		COMMENTS:	
	PYes	ΠNο		1.			
Chain of Custody Present:	ØYes	□No		2.		5	
Chain of Custody Filled Out:	Yes	□No		3.			
Chain of Custody Relinquished:	Ves	□No		4.			
Sampler Name & Signature on COC:	Yes	□No	2	5.			
Samples Arrived within Hold Time:	(Yes	□No		6.			
Short Hold Time Analysis (<72hr):	□Yes	0No		7.			·
Rush Turn Around Time Requested: Sufficient Volume: (Triple volume provided for MS/MSI	D' ØYes	□No	•.	8.			
	Yes	□No		9.			
Correct Containers Used: -Pace Containers Used:	Yes	□No					
-Pace Containers Oscu.	Yes	ΠNο		10. "			
Filtered volume received for Dissolved tests	□Yes	□No	DIVA	11.	Note if sedime	ent is visible in the dissolved of	container.
Sample Labels match COC:	Yes	□No		12.			
-Includes date/time/ID/Analysis Matrix SL	T) OIL						
All containers needing preservation have been checker	Yes	□No	□N/A	13.	🗆 HNO3	□ H₂SO₄ □ NaOH	
pH paper Lot # HC4103403	1						· .
All containers needing preservation are found to be in				Sample #			•
compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCI, NaOH>9 Sulfide,	DYes	<b>D</b> No	□N/A				
	/						
Exceptions: VOA, Coliform, OO DOC, Oil and Grease				Initial whe	en completed:	Lot # of added preservative:	Date/Time preservative added
Per Method, VOA pH is checked after analysis			670 - 11A	14.	tenter tit setter ter		
Samples checked for dechlorination:	□Yes	DNo	AN/A	14.			
KI starch test strips Lot #				1	Positive for Res	s. Chlorine? Y N	
Residual chlorine strips Lot #		□No		15.			
Headspace in VOA Vials ( >6mm):	□Yes	□No		16.			
Trip Blank Present	□Yes	□No					
Trip Blank Custody Seals Present	L.00						
Pace Trip Blank Lot # (if applicable):	and the second			Field Data	Required?	Y / N	3
Client Notification/ Resolution:					Date/Time:		*
Person Contacted:					-		
Comments/ Resolution:							
a.							
				ŝ.			

\* PM (Project Manager) review is documented electronically in LIMS.



# ANALYTICAL REPORT

Job Number: 420-155301-1 SDG Number: 7092927 Job Description: Pace Analytical Sevices, Inc.-Mellville

> For: Pace Analytical Mellville 575 Broadhollow Road Melville, NY 11747

Attention: James Murphy

Gaura marciano

Laura L Marciano Customer Service Manager Imarciano@envirotestlaboratories.com 06/18/2019

cc: Ms. Jen Aracri Betty Harrison Accounts Payable Sophia Sparkes

NYSDOH ELAP does not certify for all parameters. EnviroTest Laboratories does hold certification for all analytes where certification is offered by ELAP unless otherwise specified in the Certification Information section of this report Pursuant to NELAP, this report may not be reproduced, except in full, without written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554



Job Narrative 420-J155301-1

### Comments

No additional comments.

#### Receipt

All samples were received in good condition within temperature requirements.

#### **General Chemistry**

No analytical or quality issues were noted.

# **EXECUTIVE SUMMARY - Detections**

Client: Pace Analytical Mellville

Job Number: 420-155301-1 Sdg Number: 7092927

Lab Sample ID	Client Sample ID		Reporting			
Analyte		Result / Qualifier	Limit	Units	Method	

No Detections

# **METHOD SUMMARY**

#### Job Number: 420-155301-1 **Client: Pace Analytical Mellville** SDG Number: 7092927 Description Lab Location Method Preparation Method Matrix: Water Phenols Semi-Automated EnvTest EPA 420.4 Rev. 1.0 Distillation/Phenolics EnvTest Distill/Phenol Lab References: EnvTest = EnviroTest

EPA = US Environmental Protection Agency

Method References:

# METHOD / ANALYST SUMMARY

Client: Pace Analytical Mellville

Job Number: 420-155301-1 SDG Number: 7092927

Method

EPA 420.4 Rev. 1.0

Analyst

Mastrobuono, Danielle

# SAMPLE SUMMARY

## Client: Pace Analytical Mellville

Job Number: 420-155301-1 SDG Number: 7092927

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-155301-1	GM-26	Water	06/10/2019 0932	06/14/2019 1000
420-155301-2	GM-261	Water	06/10/2019 0925	06/14/2019 1000
420-155301-3	GM-27	Water	06/10/2019 1040	06/14/2019 1000
420-155301-4	GM-271	Water	06/10/2019 1044	06/14/2019 1000
420-155301-5	GM-28	Water	06/10/2019 1203	06/14/2019 1000
420-155301-6	GM-281	Water	06/10/2019 1145	06/14/2019 1000
420-155301-7	DUP	Water	06/10/2019 1044	06/14/2019 1000

# SAMPLE RESULTS

**Analytical Data** 

Client: Pace Analytical Mellville

Job Number: 420-155301-1 Sdg Number: 7092927

			General Chemistry		
Client Sample ID:	GM-26				
Lab Sample ID: Client Matrix:	420-155301-1 Water			Date Sampled: Date Received:	06/10/2019 0932 06/14/2019 1000
Analyte		Result	Qual Units RL	RL	Dil Method
Phenolics, Total Rec	overable Anly Batch: Prep Batch:	0.010	U mg/L 0.010 Date Analyzed 06/17/2019 15 Date Prepared: 06/17/2019 110	13	1.0 420.4 Rev. 1.0
Client Sample ID:	GM-26I				
Lab Sample ID: Client Matrix:	420-155301-2 Water			Date Sampled: Date Received:	06/10/2019 0925 06/14/2019 1000
Analyte		Result	Qual Units RL	RL	Dil Method
Phenolics, Total Rec	overable Anly Batch: Prep Batch:	0.010	U mg/L 0.010 Date Analyzed 06/17/2019 15 Date Prepared: 06/17/2019 110	14	1.0 420.4 Rev. 1.0
Client Sample ID:	GM-27				
Lab Sample ID: Client Matrix:	420-155301-3 Water			Date Sampled: Date Received:	06/10/2019 1040 06/14/2019 1000
Analyte		Result	Qual Units RL	RL	Dil Method
Phenolics, Total Rec	overable Anly Batch: Prep Batch:	0.010	U mg/L 0.010 Date Analyzed 06/17/2019 15 Date Prepared: 06/17/2019 110	14	1.0 420.4 Rev. 1.0
Client Sample ID:	GM-271				
Lab Sample ID: Client Matrix:	420-155301-4 Water			Date Sampled: Date Received:	06/10/2019 1044 06/14/2019 1000
Analyte		Result	Qual Units RL	RL	Dil Method
Phenolics, Total Rec	overable Anly Batch: Prep Batch:	0.010	U mg/L 0.010 Date Analyzed 06/17/2019 15 Date Prepared: 06/17/2019 110	15	1.0 420.4 Rev. 1.0
Client Sample ID:	GM-28				
Lab Sample ID: Client Matrix:	420-155301-5 Water			Date Sampled: Date Received:	06/10/2019 1203 06/14/2019 1000
Analyte		Result	Qual Units RL	RL	Dil Method
Phenolics, Total Rec	coverable Anly Batch: Prep Batch:	0.010	U mg/L 0.010 Date Analyzed 06/17/2019 15 Date Prepared: 06/17/2019 110	15	1.0 420.4 Rev. 1.0

# Analytical Data

Client: Pace Analytical Mellville

Job Number: 420-155301-1 Sdg Number: 7092927

			General Chemis	stry			
Client Sample ID:	GM-28I						
Lab Sample ID:	420-155301-6				Date Sampled:		0/2019 1145
Client Matrix:	Water				Date Received:	06/1	4/2019 1000
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Re	coverable	0.010	U N mg/L	0.010	0.010	1.0	420.4 Rev. 1.0
	Anly Batch:		Date Analyzed 06/1	7/2019 1516			
	Prep Batch:		Date Prepared: 06/1	7/2019 1107			
Client Sample ID:	DUP						
Lab Sample ID:	420-155301-7				Date Sampled:	06/1	0/2019 1044
Client Matrix:	Water				Date Received:	06/1	4/2019 1000
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Re	coverable	0.010	U mg/L	0.010	0.010	1.0	420.4 Rev. 1.0
	Anly Batch:		Date Analyzed 06/1	7/2019 1518			
	Prep Batch:		Date Prepared: 06/1	7/2019 1107			

# DATA REPORTING QUALIFIERS

Client: Pace Analytical Mellville

Job Number: Sdg Number: 7092927

Lab Section	Qualifier	Description
General Chemistry		
	U	Indicates analyzed for but not detected.
	Ν	Spiked sample recovery is not within control limits.

## The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Solids (Fixed), Solids (Percent), Solids (Percent Moisture), Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, 1,2,4,5-Tetramethylbenzene, 4-Ethyl toluene, p-Diethylbenzene, Iron Bacteria, Salmonella, Sulfur Reducing Bacteria, & UOD (Ultimate Oxygen Demand).

# The following analytes are Not Part of ELAP Potable Water scope of accreditation

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), o-Xylene (502.2, 524), Sulfide (SM4500SD), Acenaphthene (525.2), Acenaphthylene (525.2), Fluoranthene (525.2), Fluorene (525.2), Phenanthrene (525.2), Anthracene (525.2), Pyrene (525.2), Benzo[a]anthracene (525.2), Benzo[b]fluoranthene (525.2), Benzo[g,h,i]perylene (525.2), Benzo[k]fluoranthene (525.2), Indeno[1,2,3-cd]pyrene (525.2), & Dibenz(a,h)anthracene (525.2).

# The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

# The following analytes are Not Part of ELAP Non Potable Water scope of accreditation

Dissolved Organic Carbon (5310C), Mecoprop (8151A), MCPA (8151A), Propylene Glycol (8015D).

# **Definitions and Glossary**

## Client: Pace Analytical Mellville

Job Number:

Sdg Number: 7092927

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points

# **QUALITY CONTROL RESULTS**

Job Number: 420-155301-1 Sdg Number: 7092927

# Client: Pace Analytical Mellville

# **QC Association Summary**

Client Matrix	Method	Prep Batch
Nater		
Water		
Nater	B	
	Distill/Phenol	
Nater	Distill/Phenol	
Nater	420.4 Rev. 1.0	420-132594
Nater	420.4 Rev. 1.0	420-132594
Nater	420.4 Rev. 1.0	420-132594
Nater	420.4 Rev. 1.0	420-132594
Nater	420.4 Rev. 1.0	420-132594
Nater	420.4 Rev. 1.0	420-132594
		420-132594
		420-132594
		420-132594
		420-132594
	Water Water	Water Distill/Phenol Water 420.4 Rev. 1.0 Water 420.4 Rev. 1.0

#### Report Basis

T = Total

**Surrogate Recovery Report** 

Lab Sample ID Client Sample ID

Surrogate

Acceptance Limits

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Pace Analytical Mellville

Method Blank - Batch: 420-132594

# **Quality Control Results**

Job Number: 420-155301-1 Sdg Number: 7092927

#### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	MB 420-132594/26-A Water 1.0 06/17/2019 1512 06/17/2019 1107	Analysis Batch: Prep Batch: 420 Units: mg/L			Instrument ID: L Lab File ID: C Initial Weight/Volu Final Weight/Volu	DM_6-17-201 ume: mL	em 8500 FIA 9_02-50-22PM.(
Analyte		Resul	t	Qual	RL	RL	
Phenolics, Total	Recoverable	0.010		U	0.010	0.0	10
Lab Control Sp	oike - Batch: 420-132594				Method: 420.4   Preparation: Di		
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	LCS 420-132594/27-A Water 1.0 06/17/2019 1512 06/17/2019 1107	Analysis Batch: Prep Batch: 420 Units: mg/L				OM_6-17-201 ume: mL	em 8500 FIA 9_02-50-22PM.(
Analyte		Spike Amount	Result	% R	ec. Limi	it	Qual
Phenolics, Total	Recoverable	0.0500	0.0301	60	57 -	123	
Duplicate - Bat	tch: 420-132594				Method: 420.4   Preparation: Di		
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155301-6 Water 1.0 06/17/2019 1517 06/17/2019 1107	Analysis Batch: 420 Prep Batch: 420-13 Units: mg/L				DM_6-17-201 ume: mL	em 8500 FIA 9_02-50-22PM.(
Analyte		Sample Result/Q	ual	Result	RPD	Limit	Qual
Phenolics, Total I	Deceverable	0.010 L	1	0.00315	NC	15	U

18

Cha	in of Custody			****							10 <sup>-1000</sup>	77	. /	<b>B</b> o	<b>7</b>
							14	55	30	١				a	<i>CC Analytical</i> www.pacelabs.com
		Workorder Name:	WELL CLUS	STER 26,2	7,28, RC	DUTINE				queste	d By: 6		019		
Jennifer Pace Ar 575 Bro Melville, Phone ( Email: je	Invoice To r Aracri nalytical Melville bad Hollow Road , NY 11747 (631)694-3040 ennifer.aracri@pacelabs.com f Sample Origin: NY	315 Fuller Newburgł	tract To t Laboratorie ton Avenue a, NY 12550	s, Inc. <sub>P.O</sub>			ontainers	Phenolics by 420.1		Requ	rested An	alysis			
ltem S	Sample ID	Collect Date/Time	Lab ID	Matrix	H2SO4 Uhbreserved			Total Pl							LAB USE ONLY
1 (	GM-26	6/10/2019 09:32	7092927001	Water				X							
2 (	GM-26I	6/10/2019 09:25	7092927002	Water				X							
3 (	GM-27	6/10/2019 10:40	7092927003	Water				X							
4 0	GM-271	6/10/2019 10:44	7092927004	Water				X							
5 (	GM-28	6/10/2019 12:03	7092927005	Water				Х							
6 (	GM-28I	6/10/2019 11:45	7092927006	Water				X							
7 [	DUP	6/10/2019 10:44	7092927007	Water				X							
Transfer 1 2 3	fuild	Date/Tin <i>Q 13/14</i>	1800 70	d By of An	<u>le</u>		Date/Tim $\frac{\partial \omega}{\partial u}$	19 ( N			gory B	Packa	~	d EQuI	S EDDs
Cooler	Temperature on Recei	pt <u>/,Y</u> °C   C	ustody Seal	Y or N	]	Re	ceived on	Ice	(Y)or	N		Sai	mples	Intact	(Y)or N

FEDER P.O. 10680079 3385



OUP

Date Sampled: 6/10/2019

420-1350237

# LOGIN SAMPLE RECEIPT CHECK LIST

### Client: Pace Analytical Mellville

Job Number: 420-155301-1 SDG Number: 7092927

# Login Number: 155301

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	1.4 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C $$	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

# 🛟 eurofins

# Environment Testing TestAmerica

# **ANALYTICAL REPORT**

Eurofins TestAmerica, Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Tel: (916)373-5600

# Laboratory Job ID: 320-51334-1

Laboratory Sample Delivery Group: 7092927 Client Project/Site: Pace PFAS Testing

# For:

Pace Analytical Services, LLC 575 Broad Hollow Road Melville, New York 11747

Attn: Jennifer Aracri

# Cesar C Cortes

Authorized for release by: 7/3/2019 11:38:57 AM

Cesar Cortes, Project Manager I (916)374-4316 cesar.cortes@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory. Page

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www.testamericainc.com

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# Job ID: 320-51334-1

# Laboratory: Eurofins TestAmerica, Sacramento

#### Narrative

#### Receipt

The samples were received on 6/14/2019 at 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0° C.

#### Subcontract Work

Method General Subcontract Method: This method was subcontracted to Eurofins Lancaster Laboratories Env LLC. The subcontract laboratory certification is different from that of the facility issuing the final report.



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### ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 TestAmerica Sacramento 880 Riverside Parkway West Sacramento CA 95605

Report Date: July 03, 2019 14:10

#### Project: Pace PFAS Testing

Account #: 01042 Group Number: 2049638 SDG: TAC06 State of Sample Origin: NY

Electronic Copy To TestAmerica

Attn: Cesar C Cortes

Respectfully Submitted,

Kay Klow

Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to <u>https://www.eurofinsus.com/environment-</u> testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratoriesenvironmental/. Historical copies may be requested through your project manager.



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### SAMPLE INFORMATION

Client Sample Description	Sample Collection	<u>ELLE#</u>
	Date/Time	
GM-26 (320-51334-1) Water	06/10/2019 09:32	1083895
GM-26I (320-51334-2) Water	06/10/2019 09:25	1083896
GM-27 (320-51334-3) Water	06/10/2019 10:40	1083897
GM-27I (320-51334-4) Water	06/10/2019 10:44	1083898
GM-28 (320-51334-5) Water	06/10/2019 12:03	1083899
GM-28I (320-51334-6) Water	06/10/2019 11:45	1083900
DUP (320-51334-7) Water	06/10/2019 10:44	1083901

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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Sample Description:	GM-26 (320-51334-1) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time:	06/19/2019 10:10
Collection Date/Time:	06/10/2019 09:32
SDG#:	TAC06-01

1 2 3

TestAmerica Sacramento ELLE Sample #: WW 1083895 ELLE Group #: 2049638 Matrix: Water

CAT					Method	Limit of	Dilution
CAT No.	Analysis Name		CAS Number	Result	Detection Limit*	Quantitation	Dilution Factor
LC/MS	/MS Miscellaneous	EPA 537 Vers	sion 1.1	ng/l	ng/l	ng/l	
		Modified					
14473	6:2-Fluorotelomersulfonic		27619-97-2	7.2	0.94	1.9	1
14473	8:2-Fluorotelomersulfonic		39108-34-4	N.D.	1.9	5.7	1
14473	NEtFOSAA <sup>1</sup>		2991-50-6	N.D.	0.94	2.8	1
	NEtFOSAA is the acrony	m for N-ethyl perfluc	prooctanesulfonam	idoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>		2355-31-9	N.D.	0.94	2.8	1
	NMeFOSAA is the acrony	ym for N-methyl per	fluorooctanesulfon	amidoacetic Acid.			
14473	Perfluorobutanesulfonic a	acid <sup>1</sup>	375-73-5	5.7	0.28	0.94	1
14473	Perfluorobutanoic Acid <sup>1</sup>		375-22-4	43	1.9	5.7	1
14473	Perfluorodecanesulfonic a	acid¹	335-77-3	N.D.	0.57	1.9	1
14473	Perfluorodecanoic Acid <sup>1</sup>		335-76-2	1.7 J	0.85	1.9	1
14473	Perfluorododecanoic Acid	d1	307-55-1	N.D.	0.47	1.9	1
14473	Perfluoroheptanesulfonic	acid1	375-92-8	0.69 J	0.38	1.9	1
14473	Perfluoroheptanoic Acid <sup>1</sup>		375-85-9	34	0.38	0.94	1
14473	Perfluorohexanesulfonic a	acid¹	355-46-4	13	0.38	1.9	1
14473	Perfluorohexanoic Acid <sup>1</sup>		307-24-4	63	0.38	1.9	1
14473	Perfluorononanoic Acid1		375-95-1	24	0.38	1.9	1
14473	Perfluorooctanesulfonam	ide <sup>1</sup>	754-91-6	N.D.	0.47	2.8	1
14473	Perfluorooctanesulfonic a	acid <sup>1</sup>	1763-23-1	51	0.38	1.9	1
14473	Perfluorooctanoic Acid <sup>1</sup>		335-67-1	32	0.28	0.94	1
14473	Perfluoropentanoic Acid <sup>1</sup>		2706-90-3	94	1.9	5.7	1
14473	Perfluorotetradecanoic A	cid <sup>1</sup>	376-06-7	N.D.	0.28	0.94	1
14473	Perfluorotridecanoic Acid	1	72629-94-8	N.D.	0.38	0.94	1
14473	Perfluoroundecanoic Acid	<b>J</b> <sup>1</sup>	2058-94-8	3.3	0.38	1.9	1
outsio follow holdii	ecovery for the labeled corr de the QC acceptance limits ving corrective action was ta ng time. The data is reporte ta are included in the data p	s as noted on the Quaken: The sample w d from the original e	C Summary. The as reextracted out	side			

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

		Labo	oratory S	Sample Analy	sis Record		
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/28/2019 16:02	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1



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Sample Description:	GM-26I (320-51334-2) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time:	06/19/2019 10:10
Collection Date/Time:	06/10/2019 09:25
SDG#:	TAC06-02

1 2 3

TestAmerica Sacramento ELLE Sample #: WW 1083896 ELLE Group #: 2049638 Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
_C/MS	/MS Miscellaneous	EPA 537 Version 1.1 Modified	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic	acid <sup>1</sup> 27619-97-2	9.7	0.97	1.9	1
14473	8:2-Fluorotelomersulfonic	acid <sup>1</sup> 39108-34-4	N.D.	1.9	5.8	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	0.97	2.9	1
	NEtFOSAA is the acrony	m for N-ethyl perfluorooctanesulfon	amidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.97	2.9	1
	NMeFOSAA is the acrony	m for N-methyl perfluorooctanesul	fonamidoacetic Acid.			
14473	Perfluorobutanesulfonic a	icid <sup>1</sup> 375-73-5	4.5	0.29	0.97	1
14473	Perfluorobutanoic Acid1	375-22-4	49	1.9	5.8	1
14473	Perfluorodecanesulfonic a	acid <sup>1</sup> 335-77-3	N.D.	0.58	1.9	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	0.92 J	0.87	1.9	1
14473	Perfluorododecanoic Acid	<sup>1</sup> 307-55-1	N.D.	0.48	1.9	1
14473	Perfluoroheptanesulfonic	acid <sup>1</sup> 375-92-8	0.57 J	0.39	1.9	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	41	0.39	0.97	1
14473	Perfluorohexanesulfonic a	acid <sup>1</sup> 355-46-4	14	0.39	1.9	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	84	0.39	1.9	1
14473	Perfluorononanoic Acid1	375-95-1	11	0.39	1.9	1
14473	Perfluorooctanesulfonam	de <sup>1</sup> 754-91-6	N.D.	0.48	2.9	1
14473	Perfluorooctanesulfonic a	cid <sup>1</sup> 1763-23-1	27	0.39	1.9	1
14473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	27	0.29	0.97	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	120	1.9	5.8	1
14473	Perfluorotetradecanoic A	cid <sup>1</sup> 376-06-7	N.D.	0.29	0.97	1
14473	Perfluorotridecanoic Acid	72629-94-8	N.D.	0.39	0.97	1
14473	Perfluoroundecanoic Acid	<sup>1</sup> 2058-94-8	1.9	0.39	1.9	1
The r outsid follow holdin	ecovery for the labeled com de the QC acceptance limits ving corrective action was ta	pound used as extraction standard s as noted on the QC Summary. The aken: The sample was reextracted d from the original extraction. Both	ls is e outside			

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

		Labo	oratory S	Sample Analy	sis Record		
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/28/2019 16:11	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1



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Sample Description:	GM-27 (320-51334-3) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/10/2019 10:40 TAC06-03

TestAmerica Sacramento ELLE Sample #: WW 1083897 ELLE Group #: 2049638 Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS	/MS Miscellaneous EPA 537 Modified	7 Version 1.1 d	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid1	27619-97-2	35	1.0	2.0	1
14473	8:2-Fluorotelomersulfonic acid1	39108-34-4	4.9 J	2.0	6.0	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	15	1.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl	perfluorooctanesulfonal	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	8.3	1.0	3.0	1
	NMeFOSAA is the acronym for N-met	hyl perfluorooctanesulfo	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid1	375-73-5	25	0.30	1.0	1
14473	Perfluorobutanoic Acid1	375-22-4	220	2.0	6.0	1
14473	Perfluorodecanesulfonic acid1	335-77-3	N.D.	0.60	2.0	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	38	0.90	2.0	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.50	2.0	1
14473	Perfluoroheptanesulfonic acid1	375-92-8	1.7 J	0.40	2.0	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	100	0.40	1.0	1
14473	Perfluorohexanesulfonic acid1	355-46-4	42	0.40	2.0	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	180	0.40	2.0	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	100	0.40	2.0	1
14473	Perfluorooctanesulfonamide1	754-91-6	7.5	0.50	3.0	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	150	0.40	2.0	1
14473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	200	0.30	1.0	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	140	2.0	6.0	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.30	1.0	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.40	1.0	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	4.8	0.40	2.0	1
limits	sample injection internal standard peak a for both the initial injection and the re-in om the initial injection of the sample.					

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/28/2019 11:49	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1



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Sample Description:	GM-27I (320-51334-4) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/10/2019 10:44 TAC06-04

TestAmerica Sacramento ELLE Sample #: WW 1083898 ELLE Group #: 2049638 Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS		PA 537 Version 1.1 odified	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	<sup>1</sup> 27619-97-2	90	0.96	1.9	1
14473	8:2-Fluorotelomersulfonic acid	<sup>1</sup> 39108-34-4	3.6 J	1.9	5.8	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	14	0.96	2.9	1
	NEtFOSAA is the acronym for	N-ethyl perfluorooctanesulfonan	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	4.5	0.96	2.9	1
	NMeFOSAA is the acronym fo	or N-methyl perfluorooctanesulfor	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid1	375-73-5	18	0.29	0.96	1
14473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	130	1.9	5.8	1
14473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	0.58	1.9	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	24	0.87	1.9	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.48	1.9	1
14473	Perfluoroheptanesulfonic acid	1 375-92-8	1.2 J	0.39	1.9	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	62	0.39	0.96	1
14473	Perfluorohexanesulfonic acid1	355-46-4	27	0.39	1.9	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	99	0.39	1.9	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	53	0.39	1.9	1
14473	Perfluorooctanesulfonamide1	754-91-6	4.5	0.48	2.9	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	88	0.39	1.9	1
14473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	110	0.29	0.96	1
14473	Perfluoropentanoic Acid1	2706-90-3	100	1.9	5.8	1
14473	Perfluorotetradecanoic Acid1	376-06-7	N.D.	0.29	0.96	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.39	0.96	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	6.2	0.39	1.9	1
	sample injection internal standard for both the initial injection and t	d peak areas were outside of the the re-injection. The values here	QC			

are from the initial injection of the sample.

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

#### **Sample Comments**

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.



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Sample Description:	GM-27I (320-51334-4) Water Pace PFAS Testing		
Project Name:	Pace PFAS Testing		
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/10/2019 10:44 TAC06-04		

#### TestAmerica Sacramento ELLE Sample #: WW 1083898 ELLE Group #: 2049638 Matrix: Water

	Laboratory Sample Analysis Record						
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/28/2019 11:58	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1



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Sample Description:	GM-28 (320-51334-5) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/10/2019 12:03 TAC06-05

TestAmerica Sacramento ELLE Sample #: WW 1083899 ELLE Group #: 2049638

Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS	/MS Miscellaneous EPA 537 Modified	Version 1.1	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid1	27619-97-2	12	1.0	2.0	1
14473	8:2-Fluorotelomersulfonic acid1	39108-34-4	5.7 J	2.0	6.1	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	4.5	1.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl p	erfluorooctanesulfonar	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	1.8 J	1.0	3.0	1
	NMeFOSAA is the acronym for N-methy	l perfluorooctanesulfo	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid1	375-73-5	39	0.30	1.0	1
14473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	140	2.0	6.1	1
14473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	0.61	2.0	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	22	0.91	2.0	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.51	2.0	1
14473	Perfluoroheptanesulfonic acid <sup>1</sup>	375-92-8	4.7	0.41	2.0	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	130	0.41	1.0	1
14473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	120	0.41	2.0	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	170	0.41	2.0	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	67	0.41	2.0	1
14473	Perfluorooctanesulfonamide <sup>1</sup>	754-91-6	3.7	0.51	3.0	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	190	0.41	2.0	1
14473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	350	0.30	1.0	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	180	2.0	6.1	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.30	1.0	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.41	1.0	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	6.0	0.41	2.0	1
limits	The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample					

are from the initial injection of the sample.

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/28/2019 12:07	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1



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Sample Description:	GM-28I (320-51334-6) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing

 Submittal Date/Time:
 06/19/2019 10:10

 Collection Date/Time:
 06/10/2019 11:45

 SDG#:
 TAC06-06

TestAmerica Sacramento ELLE Sample #: WW 1083900 ELLE Group #: 2049638 Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS	/MS Miscellaneous EPA 537 V Modified	ersion 1.1	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid <sup>1</sup>	27619-97-2	67	1.0	2.0	1
14473	8:2-Fluorotelomersulfonic acid <sup>1</sup>	39108-34-4	3.3 J	2.0	6.0	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	10	1.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl per	fluorooctanesulfonan	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	3.2	1.0	3.0	1
	NMeFOSAA is the acronym for N-methyl	perfluorooctanesulfor	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	14	0.30	1.0	1
14473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	48	2.0	6.0	1
14473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	0.60	2.0	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	15	0.90	2.0	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	0.69 J	0.50	2.0	1
14473	Perfluoroheptanesulfonic acid1	375-92-8	1.3 J	0.40	2.0	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	34	0.40	1.0	1
14473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	26	0.40	2.0	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	55	0.40	2.0	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	26	0.40	2.0	1
14473	Perfluorooctanesulfonamide1	754-91-6	4.1	0.50	3.0	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	88	0.40	2.0	1
14473	Perfluorooctanoic Acid1	335-67-1	82	0.30	1.0	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	73	2.0	6.0	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.30	1.0	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.40	1.0	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	6.4	0.40	2.0	1
limits	The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.					

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/30/2019 21:14	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1



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Sample Description:	DUP (320-51334-7) Water Pace PFAS Testing		
Project Name:	Pace PFAS Testing		
Submittal Date/Time: Collection Date/Time:	06/19/2019 10:10 06/10/2019 10:44		
SDG#:	TAC06-07FD		

TestAmerica Sacramento ELLE Sample #: WW 1083901 ELLE Group #: 2049638

Matrix: Water

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS	MS Miscellaneous EPA 53 Modifie	87 Version 1.1 ed	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid1	27619-97-2	87	1.0	2.0	1
14473	8:2-Fluorotelomersulfonic acid1	39108-34-4	4.1 J	2.0	6.0	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	16	1.0	3.0	1
	NEtFOSAA is the acronym for N-eth	yl perfluorooctanesulfonar	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	4.7	1.0	3.0	1
	NMeFOSAA is the acronym for N-me	ethyl perfluorooctanesulfor	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid1	375-73-5	17	0.30	1.0	1
14473	Perfluorobutanoic Acid1	375-22-4	140	2.0	6.0	1
14473	Perfluorodecanesulfonic acid1	335-77-3	N.D.	0.60	2.0	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	25	0.91	2.0	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.50	2.0	1
14473	Perfluoroheptanesulfonic acid1	375-92-8	1.3 J	0.40	2.0	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	65	0.40	1.0	1
14473	Perfluorohexanesulfonic acid1	355-46-4	30	0.40	2.0	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	98	0.40	2.0	1
14473	Perfluorononanoic Acid1	375-95-1	53	0.40	2.0	1
14473	Perfluorooctanesulfonamide1	754-91-6	5.2	0.50	3.0	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	89	0.40	2.0	1
14473	Perfluorooctanoic Acid1	335-67-1	110	0.30	1.0	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	95	2.0	6.0	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.30	1.0	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.40	1.0	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	6.7	0.40	2.0	1
limits	sample injection internal standard peak for both the initial injection and the re-					

are from the initial injection of the sample.

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record										
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor				
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19172001	06/28/2019 12:25	Danielle D McCully	1				
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19172001	06/21/2019 07:40	Courtney J Fatta	1				



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# **Quality Control Summary**

Client Name: TestAmerica Sacramento Reported: 07/03/2019 14:10 Group Number: 2049638

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Method Blank

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Analysis Name	Result	MDL**	LOQ					
	ng/l	ng/l	ng/l					
Batch number: 19172001	Sample number(s): 1083895-1083901							
6:2-Fluorotelomersulfonic acid	N.D.	1.0	2.0					
8:2-Fluorotelomersulfonic acid	N.D.	2.0	6.0					
NEtFOSAA	N.D.	1.0	3.0					
NMeFOSAA	N.D.	1.0	3.0					
Perfluorobutanesulfonic acid	N.D.	0.30	1.0					
Perfluorobutanoic Acid	N.D.	2.0	6.0					
Perfluorodecanesulfonic acid	N.D.	0.60	2.0					
Perfluorodecanoic Acid	N.D.	0.90	2.0					
Perfluorododecanoic Acid	N.D.	0.50	2.0					
Perfluoroheptanesulfonic acid	N.D.	0.40	2.0					
Perfluoroheptanoic Acid	N.D.	0.40	1.0					
Perfluorohexanesulfonic acid	N.D.	0.40	2.0					
Perfluorohexanoic Acid	N.D.	0.40	2.0					
Perfluorononanoic Acid	N.D.	0.40	2.0					
Perfluorooctanesulfonamide	N.D.	0.50	3.0					
Perfluorooctanesulfonic acid	N.D.	0.40	2.0					
Perfluorooctanoic Acid	N.D.	0.30	1.0					
Perfluoropentanoic Acid	N.D.	2.0	6.0					
Perfluorotetradecanoic Acid	N.D.	0.30	1.0					
Perfluorotridecanoic Acid	N.D.	0.40	1.0					
Perfluoroundecanoic Acid	N.D.	0.40	2.0					

#### LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 19172001	Sample number(	s): 1083895-1	083901						
6:2-Fluorotelomersulfonic acid	15.17	18.11	15.17	18.27	119	120	66-155	1	30
8:2-Fluorotelomersulfonic acid	15.33	18.74	15.33	19.21	122	125	66-148	2	30
NEtFOSAA	5.44	6.11	5.44	6.34	112	117	55-169	4	30
NMeFOSAA	5.44	5.75	5.44	6.18	106	114	44-147	7	30
Perfluorobutanesulfonic acid	4.81	5.45	4.81	5.32	113	110	73-128	3	30
Perfluorobutanoic Acid	5.44	6.64	5.44	6.67	122	123	74-142	0	30
Perfluorodecanesulfonic acid	5.24	5.64	5.24	5.32	108	101	60-135	6	30
Perfluorodecanoic Acid	5.44	5.99	5.44	6.10	110	112	69-148	2	30

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



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Analysis Report

2

# **Quality Control Summary**

Client Name: TestAmerica Sacramento Reported: 07/03/2019 14:10 Group Number: 2049638

# LCS/LCSD (continued)

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Perfluorododecanoic Acid	5.44	6.16	5.44	6.99	113	128	75-136	13	30
Perfluoroheptanesulfonic acid	5.18	5.30	5.18	5.78	102	112	64-135	9	30
Perfluoroheptanoic Acid	5.44	5.93	5.44	5.30	109	97	76-140	11	30
Perfluorohexanesulfonic acid	5.14	5.33	5.14	5.14	104	100	71-131	4	30
Perfluorohexanoic Acid	5.44	6.42	5.44	5.81	118	107	75-135	10	30
Perfluorononanoic Acid	5.44	5.85	5.44	6.85	108	126	72-148	16	30
Perfluorooctanesulfonamide	5.44	6.41	5.44	6.49	118	119	65-164	1	30
Perfluorooctanesulfonic acid	5.20	5.42	5.20	5.41	104	104	67-138	0	30
Perfluorooctanoic Acid	5.44	6.21	5.44	6.02	114	111	72-138	3	30
Perfluoropentanoic Acid	5.44	5.78	5.44	5.35	106	98	74-134	8	30
Perfluorotetradecanoic Acid	5.44	5.53	5.44	6.74	102	124	74-135	20	30
Perfluorotridecanoic Acid	5.44	6.13	5.44	7.56	113	139	61-145	21	30
Perfluoroundecanoic Acid	5.44	6.54	5.44	6.56	120	121	75-146	0	30

# Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 21 PFAS Batch number: 19172001

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA
1083895	77	77	106	58	76	67
1083896	80	76	97	60	89	79
1083897	43	71	193*	51	140*	73
1083898	46	79	167*	51	109	66
1083899	55	93	235*	44	110	61
1083900	65	73	147	55	98	69
1083901	50	86	185*	50	103	63
Blank	69	70	62	64	71	69
LCS	80	84	71	77	87	81
LCSD	80	83	71	81	83	86
Limits:	33-123	31-157	26-148	35-138	34-126	35-126
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	13C2-8:2-FTS
1083895	197*	75	81	88	76	125
1083896	199*	82	83	88	74	128
1083897	398*	83	75	53	74	308*
1083898	312*	74	68	50	66	232*
1083899	303*	73	77	60	71	232*
1083900	268*	77	78	67	73	221*

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



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13C2-8:2-FTS

2

# **Quality Control Summary**

Client Name: TestAmerica Sacramento Reported: 07/03/2019 14:10 Group Number: 2049638

13C6-PFDA

# Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

	me: 21 PFAS er: 19172001		
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS
1083901	304*	71	68
Blank	59	64	68
LCS	78	79	80
LCSD	74	78	79

1083901	304*	71	68	52	65	220*
Blank	59	64	68	64	71	58
LCS	78	79	80	82	77	73
LCSD	74	78	79	74	76	72
Limits:	32-170	48-122	50-121	41-144	47-125	27-164
	d3-NMeFOSAA	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA	13C8-PFOSA
1083895	75	61	74	44	13*	46
1083896	78	68	82	61	34	54
1083897	90	79	109	64	49	33
1083898	72	61	73	54	20*	31
1083899	77	80	88	70	46	33
1083900	78	82	97	70	29	35
1083901	64	61	68	50	27	37
Blank	78	64	74	60	57	54
LCS	84	72	80	70	63	61
LCSD	84	71	82	64	59	61
Limits:	30-127	30-128	30-142	39-130	26-119	11-127

13C9-PFNA

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Eurofins TestAmerica, Sacramento	1042 2049638	
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49638 ۱۵۶38۹۵-۹۵۱ Chain of Custody Record



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Environment Toshing TestAmerica

880 Riverside Parkway West Sacramento, CA 95605 Phone: 916-373-5600: Fax: 916-372-1059

Client Information (Sub Contract Lab)	Sampler:					'M: es, Cesar C				Carrier Tracking No(s):						COC No: 320-151814.1				
Client Contact:	Phone:			E-Ma	ail:	ł:						State o		n:				Page:		
Shipping/Receiving Company:				ces		cortes@testamericainc.com Accreditations Required (See note):					New	York					Page 1 of 1 Job #:	·		
Eurofins Lancaster Laboratories Env LLC						NELAP - New York										320-51334-1				
Address: 2425 New Holland Pike,	Due Date Request 6/26/2019	ed:			Τ	Analysis Reque				unct	od					Preservation C	odes:			
City: Lancaster		TAT Requested (days):									Neq		eu					A - HCL B - NaOH	M - Hexane N - None	
State, Zp: PA, 17601																		C - Zn Acetate D - Nitric Acid E - NaHSO4	0 - AsNaO2 P - Na2O4S Q - Na2SO3	
Phone: 717-656-2300(Tel)	PO #:				-													F - MeOH G - Amchlor H - Ascorbic Acid	R - Na2S2O3 S - H2SO4 T - TSP Dodecahy	/drate
Email:	₩O #:				s or No	No) lethod)											¢	l - Ice J - DI Water K - EDTA	U - Acetone V - MCAA	
Project Name: Pace PFAS Testing	Project #: 32010619			·	ample (Yes	MSD (Yes or No) Subcontract Method)											ontaine	L - EDA	W - pH 4-5 Z - other (specify)	
Site:	SSOW#:				l Sam	MSD ( Subcol											r of cc	Other:		
		Sample	Sample Type (C=comp,	Matrix (W=water, S=soild, O=waste/oil,	ld Filtered	Pertorm MS/MSD (Yes or SUB (General Subcontract N											al Number			
Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab)	BT≃Tissue, A=Air	) 🛍 .	Perf											Total	Special	Instructions/Note	ə:
		$\geq \leq$	Preserva	tion Gode:	$ \Sigma\rangle$	X		<u>888</u> 2						20			X			
GM-26 (320-51334-1)	6/10/19	09:32 Eastern		Water		X											2			
GM-26I (320-51334-2)	6/10/19	09:25 Eastern		Water		x											2			
GM-27 (320-51334-3)	6/10/19	10:40 Eastern		Water		X											2			
GM-27I (320-51334-4)	6/10/19	10:44 Eastern		Water		x						_					2			
GM-28 (320-51334-5)	6/10/19	12:03 Eastern		Water		×											2			
GM-28I (320-51334-6)	6/10/19	11:45 Eastern		Water		х											3			
DUP (320-51334-7)	6/10/19	10:44 Eastern		Water		x	ļ										2			
					$\square$				_						_			8		
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Note: Since laboratory accreditations are subject to change, TestAmerica La currently maintain accreditation in the State of Origin listed above for analysi Laboratories, Inc. attention immediately. If all requested accreditations are c	s/tests/matrix being analy:	ed, the sample	es must be shi	pped back to th	ie Test/	America	labora	tory or e	other in	struction	ries. ⊤ is will b	his san e provi	nple sl ideđ	tipmei Any ch	nt is fo nanges	rwarde s to ac	əd unde creditat	er chain-of-custody. tion status should be	If the laboratory does i brought to TestAmeric	not ca
Possible Hazard Identification					5											are	ר	ned longer than	-	
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliver	able Rank:	2					n To C uction		Requir	L	<i>lispos</i> its:	ai By	Lab			Arc.	hive For	Months	
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Custody Seals Intact: Custody Seal No.:			·····			Ċ	fer Ten	nperatu	re(s) °(	C and Ot	her Rei	marks:			6	e``	<u></u> [		Pag	e 91 (

Ver: 01.16/2016/3/2019

Client: <u>TestAmerica</u>		•	ministration Imentation Log		Doc Log ID: 25 <sup>.</sup> ມີມີມີມີມີມີມີມີມີມີມີມີມີມີມີມີມີມີມີ		
	Deliv	ery and R	eceipt Informatio	n			
Delivery Method:	Fed Ex		Arrival Timestamp:	06/19/2019	10:10		
Number of Packages:	<u>1</u>		Number of Projects:	<u>2</u>			
State/Province of Origin:	<u>NY</u>						
	Ar	rival Cond	ition Summary				
Shipping Container Sealed:		Yes	Sample IDs on CO	C match Containers	s: Yes		
Custody Seal Present:		Yes	Sample Date/Time	s match COC:	Yes		
Custody Seal Intact:		Yes	VOA Vial Headspa	ce ≥ 6mm:	N/A		
Samples Chilled:		Yes	Total Trip Blank Ql	y:	0		
Paperwork Enclosed:		Yes	Air Quality Sample	s Present:	No		
Samples Intact:		Yes					
Missing Samples:		No					
Extra Samples:		No					
Discrepancy in Container Q	ty on COC:	No					
Unpacked by Nicole Reiff (2	25684) at 12:4	42 on 06/19/2	2019				
		-	Chilled Details				
Thermometer Types: D1	⁻ = Digital (Te	emp. Bottle)	IR = Infrared (Surfa	ace Temp) All 1	lemperatures in °C.		
Cooler #Thermometer IDCorrected1DT1311.7		<u>m. Type k</u> DT	<u>ee Type Ice Present?</u> Wet Y	Ice Container Elev Loose	ated Temp? N		

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Lancaster Laboratories Environmental

# **Explanation of Symbols and Abbreviations**

1 2 3

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)							
C	degrees Celsius	MPN	Most Probable Number							
-	0									
cfu	colony forming units	N.D.	non-detect							
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)							
F	degrees Fahrenheit	NTU	nephelometric turbidity units							
g	gram(s)	pg/L	picogram/liter							
IU	International Units	RL	Reporting Limit							
kg	kilogram(s)	TNTC	Too Numerous To Count							
L	liter(s)	μg	microgram(s)							
lb.	pound(s)	μL	microliter(s)							
m3	cubic meter(s)	umhos/cm	micromhos/cm							
meq	milliequivalents	MCL	Maximum Contamination Limit							
mg	milligram(s)									
<	less than									
>	greater than									
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.									
ppb	parts per billion									

#### **Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

# Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client. Lancaster Laboratories

Environmental

# **Data Qualifiers**

Qualifier	Definition
С	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
Р	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

April 09, 2019

Joe Guarino Town of Babylon 281 Phelps Lane North Babylon, NY 11703

RE: Project: WELL CLUSTER 26,27,28 ROUTINE Pace Project No.: 7082918

Dear Joe Guarino:

Enclosed are the analytical results for sample(s) received by the laboratory on March 20, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

for las

Jennifer Aracri jennifer.aracri@pacelabs.com (631)694-3040 Project Manager

Enclosures





Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

#### CERTIFICATIONS

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

# Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747 New York Certification #: 10478 Primary Accrediting Body New Jersey Certification #: NY158 Pennsylvania Certification #: 68-00350 Connecticut Certification #: PH-0435 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

Maryland Certification #: 208 Rhode Island Certification #: LAO00340 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987



#### SAMPLE ANALYTE COUNT

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7082918001	GM-26	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7082918002	GM-26I	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7082918003	GM-27	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV

## **REPORT OF LABORATORY ANALYSIS**

EPA 410.4

JCA

PACE-MV

1



### SAMPLE ANALYTE COUNT

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
082918004	GM-27I	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7082918005	GM-28	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV

## **REPORT OF LABORATORY ANALYSIS**

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### SAMPLE ANALYTE COUNT

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM22 5310B	KM1	1	PACE-MV
7082918006	GM-28I	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7082918007	DUP	EPA 6010C	JMW	8	PACE-MV
		EPA 8270D by SIM	AT1	2	PASI-M
		EPA 180.1	BP1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	STH	1	PACE-MV
		SM22 2540C	STH	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
	EPA 353.2	SDO	2	PACE-MV	
	EPA 353.2	SDO	1	PACE-MV	
		EPA 420.1	STH	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

# Method: EPA 6010C

Description:6010 MET ICPClient:Town of BabylonDate:April 09, 2019

#### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

#### Method: EPA 8270D by SIM

Description:8270D MSSV 14 Dioxane By SIMClient:Town of BabylonDate:April 09, 2019

#### General Information:

7 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 595547

B: Analyte was detected in the associated method blank.

- BLANK for HBN 595547 [OEXT/476 (Lab ID: 3219789)
  - 1,4-Dioxane (SIM)

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 595547

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

# Method: EPA 180.1 Description: 180.1 Turbidity Client: Town of Babylon Date: April 09, 2019

#### **General Information:**

7 samples were analyzed for EPA 180.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Method:	SM22 2320B
<b>Description:</b>	2320B Alkalinity
Client:	Town of Babylon
Date:	April 09, 2019

#### **General Information:**

6 samples were analyzed for SM22 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Method:	SM22 2320B
<b>Description:</b>	2320B Alkalinity
Client:	Town of Babylon
Date:	April 09, 2019

#### **General Information:**

1 sample was analyzed for SM22 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

 Method:
 SM22 2340C

 Description:
 2340C Hardness, Total

 Client:
 Town of Babylon

 Date:
 April 09, 2019

#### **General Information:**

7 samples were analyzed for SM22 2340C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

#### Method: SM22 2540C

Description:2540C Total Dissolved SolidsClient:Town of BabylonDate:April 09, 2019

#### **General Information:**

7 samples were analyzed for SM22 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

# Method: EPA 410.4

Description:410.4 CODClient:Town of BabylonDate:April 09, 2019

#### **General Information:**

7 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Method:	SM22 5210B
Description:	5210B BOD, 5 day
Client:	Town of Babylon
Date:	April 09, 2019

#### **General Information:**

7 samples were analyzed for SM22 5210B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with SM22 5210B with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

 Method:
 EPA 300.0

 Description:
 300.0 IC Anions 28 Days

 Client:
 Town of Babylon

 Date:
 April 09, 2019

### **General Information:**

7 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

#### Method: EPA 351.2

Description:351.2 Total Kjeldahl NitrogenClient:Town of BabylonDate:April 09, 2019

#### General Information:

7 samples were analyzed for EPA 351.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 107272

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7083477002,7083751001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
  - MS (Lab ID: 496386)
    - Nitrogen, Kjeldahl, Total
  - MS (Lab ID: 496388)
    - Nitrogen, Kjeldahl, Total

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

#### Method: EPA 353.2

Description:353.2 Nitrogen, NO2/NO3 unpresClient:Town of BabylonDate:April 09, 2019

#### General Information:

7 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 106242

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7082918001,7082967001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 491338)
  - Nitrate-Nitrite (as N)
- MS (Lab ID: 491340)
  - Nitrate-Nitrite (as N)

### QC Batch: 106243

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7082856001,7082954001

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

- MS (Lab ID: 491344)
- Nitrate-Nitrite (as N)

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

 Method:
 EPA 353.2

 Description:
 353.2 Nitrogen, NO2

 Client:
 Town of Babylon

 Date:
 April 09, 2019

### **General Information:**

7 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Method:EPA 420.1Description:Phenolics, Total RecoverableClient:Town of BabylonDate:April 09, 2019

#### **General Information:**

7 samples were analyzed for EPA 420.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 420.1 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Method:	SM22 4500 NH3 H
Description:	4500 Ammonia Water
Client:	Town of Babylon
Date:	April 09, 2019

### **General Information:**

7 samples were analyzed for SM22 4500 NH3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Method:	SM22 5310B
<b>Description:</b>	5310B TOC as NPOC
Client:	Town of Babylon
Date:	April 09, 2019

#### **General Information:**

7 samples were analyzed for SM22 5310B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:

7082918

Sample: GM-26	Lab ID: 7082	918001	Collected: 03/20/	19 09:05	Received: 03	8/20/19 12:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	010C Preparation M	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 11:28	7440-43-9	
Calcium	97900	ug/L	200	1	03/22/19 14:20	03/24/19 11:28	7440-70-2	
Iron	25600	ug/L	20.0	1	03/22/19 14:20	03/24/19 11:28	7439-89-6	
Lead	358	ug/L	5.0	1	03/22/19 14:20	03/24/19 11:28	7439-92-1	
Magnesium	10600	ug/L	200	1		03/24/19 11:28		
Manganese	638	ug/L	10.0	1		03/24/19 11:28		
Potassium	19200	ug/L	5000	1		03/24/19 11:28		
Sodium	113000	ug/L	5000	1	03/22/19 14:20	03/24/19 11:28	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Meth	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.12J	ug/L	0.25	1	03/25/19 17:46	03/27/19 18:52	123-91-1	В
1,4-Dioxane-d8 (S)	30	%.	30-125	1	03/25/19 17:46	03/27/19 18:52		
180.1 Turbidity	Analytical Meth	od: EPA 18	80.1					
Turbidity	406	NTU	50.0	50		03/20/19 17:54		
2320B Alkalinity	Analytical Meth	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	159	mg/L	1.0	1		03/25/19 15:04		
2340C Hardness, Total	Analytical Meth	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	250	mg/L	5.0	1		03/25/19 14:42		
2540C Total Dissolved Solids	Analytical Meth	od: SM22 2	2540C					
Total Dissolved Solids	664	mg/L	40.0	1		03/26/19 13:40		
410.4 COD	Analytical Meth	od: EPA 41	0.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	34.5	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:54		
5210B BOD, 5 day	Analytical Meth	od: SM22 {	5210B Preparation I	Method:	SM22 5210B			
BOD, 5 day	1.0J	mg/L	4.0	2	03/21/19 12:38	03/26/19 10:58		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide	0.80	mg/L	0.50	1		03/28/19 21:00	24959-67-9	
Chloride	225	mg/L	20.0	10		03/28/19 21:16	16887-00-6	
Sulfate	128	mg/L	50.0	10		03/28/19 21:16	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	51.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	<0.10	mg/L	0.10	1	03/29/19 05:56	03/29/19 12:45	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	53.2					
Nitrate as N	8.0	mg/L	0.50	10		03/20/19 21:33	14797-55-8	
Nitrate-Nitrite (as N)	8.0	mg/L	0.50	10		03/20/19 21:33	7727-37-9	M6



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Sample: GM-26	Lab ID: 7082	918001	Collected: 03	3/20/19	9 09:05	Received: 0	3/20/19 12:00	Matrix: Water		
Parameters	Results	Units	Report Li	imit	DF	Prepared	Analyzed	CAS No.	Qual	
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 35	53.2							
Nitrite as N	<0.050	mg/L	0.	.050	1		03/20/19 20:09	9 14797-65-0		
Phenolics, Total Recoverable	Analytical Method: EPA 420.1 Preparation Method: EPA 420.1									
Phenolics, Total Recoverable	13.8	ug/L	1	10.0	1	03/25/19 12:00	0 03/25/19 16:19	)		
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	0.022J	mg/L	(	0.10	1		03/29/19 15:19	9 7664-41-7		
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	4.1	mg/L		1.0	1		03/25/19 16:59	9 7440-44-0		



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:

7082918

Sample: GM-26I	Lab ID: 7082	918002	Collected: 03/20	/19 09:18	5 Received: 03	3/20/19 12:00 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Metho	od: EPA 60	10C Preparation M	lethod: E	EPA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 11:33	7440-43-9	
Calcium	40700	ug/L	200	1	03/22/19 14:20	03/24/19 11:33	7440-70-2	
Iron	6020	ug/L	20.0			03/24/19 11:33		
Lead	29.0	ug/L	5.0			03/24/19 11:33		
Magnesium	3150	ug/L	200			03/24/19 11:33		
Manganese	72.1	ug/L	10.0			03/24/19 11:33		
Potassium	13200	ug/L	5000			03/24/19 11:33		
Sodium	31900	ug/L	5000			03/24/19 11:33	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Metho	od: EPA 82	70D by SIM Prepa	ration M	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.12J	ug/L	0.25			03/27/19 19:12		В
1,4-Dioxane-d8 (S)	40	%.	30-125	1	03/25/19 17:46	03/27/19 19:12		
180.1 Turbidity	Analytical Metho	od: EPA 18	0.1					
Turbidity	85.0	NTU	5.0	5		03/20/19 17:56		
2320B Alkalinity	Analytical Metho	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	51.2	mg/L	1.0	1		03/25/19 15:11		
2340C Hardness, Total	Analytical Metho	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	92.0	mg/L	5.0	1		03/25/19 14:45		
2540C Total Dissolved Solids	Analytical Metho	od: SM22 2	2540C					
Total Dissolved Solids	248	mg/L	20.0	1		03/26/19 13:40		
410.4 COD	Analytical Metho	od: EPA 41	0.4 Preparation Me	ethod: El	PA 410.4			
Chemical Oxygen Demand	<10.0	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:55		
5210B BOD, 5 day	Analytical Metho	od: SM22 5	210B Preparation	Method:	SM22 5210B			
BOD, 5 day	1.0J	mg/L	2.0	1	03/21/19 12:38	03/26/19 11:00		
300.0 IC Anions 28 Days	Analytical Metho	od: EPA 30	0.0					
Bromide	0.43J	mg/L	0.50	1		03/28/19 21:33	24959-67-9	
Chloride	62.2	mg/L	20.0	10		03/28/19 21:50	16887-00-6	
Sulfate	58.0	mg/L	50.0	10		03/28/19 21:50	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Metho	od: EPA 35	1.2 Preparation Me	ethod: El	PA 351.2			
Nitrogen, Kjeldahl, Total	<0.10	mg/L	0.10	1	03/29/19 05:56	03/29/19 12:45	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Metho	od: EPA 35	3.2					
Nitrate as N	4.7	mg/L	0.50	10		03/20/19 21:39	14797-55-8	
Nitrate-Nitrite (as N)	4.7	mg/L	0.50	10		03/20/19 21:39	7727-37-9	



### Project: WELL CLUSTER 26,27,28 ROUTINE

	Pace Project No.:	7082918
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Sample: GM-26I	Lab ID: 7082	918002	Collected: 03/20/	19 09:15	Received: 03	B/20/19 12:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 38	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		03/20/19 20:15	5 14797-65-0			
Phenolics, Total Recoverable	Analytical Method: EPA 420.1 Preparation Method: EPA 420.1									
Phenolics, Total Recoverable	4.3J	ug/L	5.0	1	03/25/19 12:00	03/25/19 16:19	)			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	<0.10	mg/L	0.10	1		03/29/19 15:21	7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	1.9	mg/L	1.0	1		03/25/19 17:47	7440-44-0			



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No .:

7082918

Sample: GM-27	Lab ID: 7082	918003	Collected: 03/20/	19 10:28	B Received: 03	B/20/19 12:00 N	Atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Methe	od: EPA 60	10C Preparation M	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 11:39	7440-43-9	
Calcium	72600	ug/L	200	1	03/22/19 14:20	03/24/19 11:39	7440-70-2	
Iron	3370	ug/L	20.0	1	03/22/19 14:20	03/24/19 11:39	7439-89-6	
Lead	8.8	ug/L	5.0	1	03/22/19 14:20	03/24/19 11:39	7439-92-1	
Magnesium	15300	ug/L	200	1		03/24/19 11:39		
Manganese	214	ug/L	10.0	1		03/24/19 11:39		
Potassium	44000	ug/L	5000	1		03/24/19 11:39		
Sodium	266000	ug/L	5000	1	03/22/19 14:20	03/24/19 11:39	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Meth	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.36	ug/L	0.23	1	03/25/19 17:46	03/27/19 19:33	123-91-1	В
1,4-Dioxane-d8 (S)	34	%.	30-125	1	03/25/19 17:46	03/27/19 19:33		
180.1 Turbidity	Analytical Methe	od: EPA 18	80.1					
Turbidity	20.6	NTU	5.0	5		03/20/19 18:06		
2320B Alkalinity	Analytical Methe	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	424	mg/L	1.0	1		03/25/19 15:29		
2340C Hardness, Total	Analytical Methe	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	250	mg/L	5.0	1		03/25/19 14:47		
2540C Total Dissolved Solids	Analytical Methe	od: SM22 2	2540C					
Total Dissolved Solids	956	mg/L	40.0	1		03/26/19 13:40		
410.4 COD	Analytical Methe	od: EPA 41	0.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	196	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:55		
5210B BOD, 5 day	Analytical Methe	od: SM22 {	5210B Preparation I	Method:	SM22 5210B			
BOD, 5 day	38.9	mg/L	10.0	5	03/21/19 12:38	03/26/19 11:05		
300.0 IC Anions 28 Days	Analytical Methe	od: EPA 30	0.0					
Bromide	2.5	mg/L	0.50	1		03/28/19 22:06	24959-67-9	
Chloride	468	mg/L	40.0	20		03/28/19 22:23	16887-00-6	
Sulfate	<5.0	mg/L	5.0	1		03/28/19 22:06	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Methe	od: EPA 35	1.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	36.2	mg/L	1.0	10	03/29/19 05:56	03/29/19 12:46	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Methe	od: EPA 35	3.2					
Nitrate as N	0.034J	mg/L	0.050	1		03/20/19 21:40	14797-55-8	
Nitrate-Nitrite (as N)	<0.050	mg/L	0.050	1		03/20/19 21:40	7727-37-9	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Sample: GM-27	Lab ID: 7082	918003	Collected: 03/20	/19 10:28	B Received: 03	3/20/19 12:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 38	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		03/20/19 20:16	6 14797-65-0			
Phenolics, Total Recoverable	Analytical Method: EPA 420.1 Preparation Method: EPA 420.1									
Phenolics, Total Recoverable	46.6	ug/L	10.0	2	03/25/19 12:00	03/25/19 16:26	5			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	29.5	mg/L	2.0	20		03/29/19 15:22	2 7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	63.2	mg/L	1.0	1		03/25/19 18:01	7440-44-0			



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:

7082918

Sample: GM-271	Lab ID: 7082	918004	Collected: 03/20/	19 10:08	B Received: 03	8/20/19 12:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	10C Preparation M	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 11:44	7440-43-9	
Calcium	63200	ug/L	200	1	03/22/19 14:20	03/24/19 11:44	7440-70-2	
Iron	2750	ug/L	20.0	1		03/24/19 11:44		
Lead	5.3	ug/L	5.0	1		03/24/19 11:44		
Magnesium	4470	ug/L	200	1		03/24/19 11:44		
Manganese	120	ug/L	10.0	1		03/24/19 11:44		
Potassium Sodium	16200 144000	ug/L ug/L	5000 5000	1 1		03/24/19 11:44 03/24/19 11:44		
		•				03/24/19 11.44	7440-23-3	
8270D MSSV 14 Dioxane By SIM	-		70D by SIM Prepar					
1,4-Dioxane (SIM) <i>Surrogates</i>	0.26J	ug/L	0.28	1	03/25/19 17:46	03/27/19 19:54	123-91-1	В
1,4-Dioxane-d8 (S)	39	%.	30-125	1	03/25/19 17:46	03/27/19 19:54		
180.1 Turbidity	Analytical Meth	od: EPA 18	0.1					
Turbidity	15.3	NTU	5.0	5		03/20/19 18:00		
2320B Alkalinity	Analytical Meth	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	183	mg/L	1.0	1		03/25/19 15:53		
2340C Hardness, Total	Analytical Meth	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	160	mg/L	5.0	1		03/25/19 14:49		
2540C Total Dissolved Solids	Analytical Meth	od: SM22 2	2540C					
Total Dissolved Solids	736	mg/L	40.0	1		03/26/19 13:54		
410.4 COD	Analytical Meth	od: EPA 41	0.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	72.0	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:55		
5210B BOD, 5 day	Analytical Meth	od: SM22 5	210B Preparation	Method:	SM22 5210B			
BOD, 5 day	17.1	mg/L	4.0	2	03/21/19 12:38	03/26/19 11:08		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide	1.5	mg/L	0.50	1		03/28/19 22:40	24959-67-9	
Chloride	343	mg/L	40.0	20		03/28/19 22:57	16887-00-6	
Sulfate	9.3	mg/L	5.0	1		03/28/19 22:40	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	1.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	12.8	mg/L	1.0	10	03/29/19 05:56	03/29/19 12:47	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	3.2					
Nitrate as N	0.086	mg/L	0.050	1		03/20/19 21:42		
Nitrate-Nitrite (as N)	0.086	mg/L	0.050	1		03/20/19 21:42	7727-37-9	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No .:	7082918
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Sample: GM-27I	Lab ID: 7082	918004	Collected: 03	20/19	0 10:08	Received: 0	3/20/19 12:00	Matrix: Water		
Parameters	Results	Units	Report Lin	nit	DF	Prepared	Analyzed	CAS No.	Qual	
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 38	53.2							
Nitrite as N	<0.050	mg/L	0.0	50	1		03/20/19 20:17	7 14797-65-0		
Phenolics, Total Recoverable	Analytical Method: EPA 420.1 Preparation Method: EPA 420.1									
Phenolics, Total Recoverable	12.0	ug/L		5.0	1	03/25/19 12:00	03/25/19 16:20	6		
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	11.0	mg/L		1.0	10		03/29/19 15:23	3 7664-41-7		
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	23.3	mg/L		1.0	1		03/25/19 18:1	5 7440-44-0		



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:

7082918

Sample: GM-28	Lab ID: 7082	918005	Collected: 03/20/	19 11:25	Received: 03	8/20/19 12:00 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Methor	od: EPA 60	010C Preparation M	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 11:50	7440-43-9	
Calcium	384000	ug/L	200	1	03/22/19 14:20	03/24/19 11:50	7440-70-2	
Iron	13500	ug/L	20.0	1	03/22/19 14:20	03/24/19 11:50	7439-89-6	
Lead	9.5	ug/L	5.0	1		03/24/19 11:50		
Magnesium	80300	ug/L	200	1		03/24/19 11:50		
Manganese	2740	ug/L	10.0	1		03/24/19 11:50		
Potassium	58200	ug/L	5000	1		03/24/19 11:50		
Sodium	197000	ug/L	5000	1		03/24/19 11:50	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Metho	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.24	ug/L	0.23	1		03/27/19 20:15		В
1,4-Dioxane-d8 (S)	34	%.	30-125	1	03/25/19 17:46	03/27/19 20:15		
180.1 Turbidity	Analytical Metho	od: EPA 18	30.1					
Turbidity	72.0	NTU	5.0	5		03/20/19 18:10		
2320B Alkalinity	Analytical Metho	od: SM22	2320B					
Alkalinity, Total as CaCO3	1060	mg/L	5.0	1		03/26/19 08:37		
2340C Hardness, Total	Analytical Metho	od: SM22	2340C					
Tot Hardness asCaCO3 (SM 2340B	1240	mg/L	5.0	1		03/25/19 14:51		
2540C Total Dissolved Solids	Analytical Metho	od: SM22	2540C					
Total Dissolved Solids	1670	mg/L	40.0	1		03/26/19 13:54		
410.4 COD	Analytical Metho	od: EPA 41	10.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	107	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:56		
5210B BOD, 5 day	Analytical Metho	od: SM22	5210B Preparation N	Method:	SM22 5210B			
BOD, 5 day	4.4	mg/L	4.0	2	03/21/19 12:38	03/26/19 11:10		
300.0 IC Anions 28 Days	Analytical Metho	od: EPA 30	0.0					
Bromide	1.0	mg/L	0.50	1		03/28/19 23:13	24959-67-9	
Chloride	217	mg/L	20.0	10		03/28/19 23:30	16887-00-6	
Sulfate	<5.0	mg/L	5.0	1		03/28/19 23:13	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Metho	od: EPA 38	51.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	10.8	mg/L	1.0	10	03/29/19 05:56	03/29/19 12:48	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Metho	od: EPA 38	53.2					
Nitrate as N	0.022J	mg/L	0.050	1		03/20/19 21:43	14797-55-8	
Nitrate-Nitrite (as N)	<0.050	mg/L	0.050	1		03/20/19 21:43	7727-37-9	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:	7082918
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Sample: GM-28	Lab ID: 7082	918005	Collected: 0	03/20/1	9 11:25	Received: 0	3/20/19 12:00	Matrix: Water	
Parameters	Results	Units	Report L	_imit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2						
Nitrite as N	<0.050	mg/L	C	0.050	1		03/20/19 20:18	3 14797-65-0	
Phenolics, Total Recoverable	Analytical Meth	od: EPA 42	20.1 Preparatio	on Met	hod: EP	A 420.1			
Phenolics, Total Recoverable	12.5	ug/L		5.0	1	03/25/19 12:00	03/25/19 16:27	7	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H						
Nitrogen, Ammonia	8.8	mg/L		1.0	10		03/29/19 15:24	1 7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B						
Total Organic Carbon	33.5	mg/L		1.0	1		03/25/19 18:28	3 7440-44-0	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:

7082918

Sample: GM-28I	Lab ID: 7082	918006	Collected: 03/20/1	19 11:15	Received: 03	B/20/19 12:00 N	Atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Methe	od: EPA 60	010C Preparation Me	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 12:06	7440-43-9	
Calcium	35300	ug/L	200	1	03/22/19 14:20	03/24/19 12:06	7440-70-2	
Iron	2940	ug/L	20.0	1	03/22/19 14:20	03/24/19 12:06	7439-89-6	
Lead	5.2	ug/L	5.0	1	03/22/19 14:20	03/24/19 12:06	7439-92-1	
Magnesium	2580	ug/L	200	1	03/22/19 14:20	03/24/19 12:06	7439-95-4	
Manganese	320	ug/L	10.0	1		03/24/19 12:06		
Potassium	42700	ug/L	5000	1		03/24/19 12:06		
Sodium	85200	ug/L	5000	1	03/22/19 14:20	03/24/19 12:06	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Methe	od: EPA 82	270D by SIM Prepara	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.22J	ug/L	0.23	1	03/25/19 17:46	03/27/19 20:35	123-91-1	В
1,4-Dioxane-d8 (S)	34	%.	30-125	1	03/25/19 17:46	03/27/19 20:35		
180.1 Turbidity	Analytical Methe	od: EPA 18	80.1					
Turbidity	15.6	NTU	1.0	1		03/20/19 18:08		
2320B Alkalinity	Analytical Methe	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	103	mg/L	1.0	1		03/25/19 16:41		
2340C Hardness, Total	Analytical Methe	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	92.0	mg/L	5.0	1		03/25/19 14:52		
2540C Total Dissolved Solids	Analytical Methe	od: SM22 2	2540C					
Total Dissolved Solids	464	mg/L	20.0	1		03/26/19 13:54		
410.4 COD	Analytical Methe	od: EPA 41	0.4 Preparation Met	thod: EF	PA 410.4			
Chemical Oxygen Demand	21.2	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:56		
5210B BOD, 5 day	Analytical Methe	od: SM22	5210B Preparation N	Method:	SM22 5210B			
BOD, 5 day	12.1	mg/L	4.0	2	03/21/19 12:39	03/26/19 11:12		
300.0 IC Anions 28 Days	Analytical Methe	od: EPA 30	0.0					
Bromide	1.4	mg/L	0.50	1		03/29/19 00:20	24959-67-9	
Chloride	248	mg/L	10.0	5		03/29/19 00:37	16887-00-6	
Sulfate	15.2	mg/L	5.0	1		03/29/19 00:20	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	51.2 Preparation Met	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	3.8	mg/L	1.0	10	03/29/19 05:56	03/29/19 12:49	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	53.2					
Nitrate as N	0.051	mg/L	0.050	1		03/20/19 21:46	14797-55-8	
Nitrate-Nitrite (as N)	0.051	mg/L	0.050	1		03/20/19 21:46	7727-37-9	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:	7082918
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Sample: GM-28I	Lab ID: 7082	918006	Collected:	03/20/1	9 11:15	Received: (	03/20/19 12:00	Matrix: Water	
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 35	53.2						
Nitrite as N	<0.050	mg/L		0.050	1		03/20/19 20:2	0 14797-65-0	
Phenolics, Total Recoverable	Analytical Meth	od: EPA 42	20.1 Preparat	tion Met	hod: EP	PA 420.1			
Phenolics, Total Recoverable	13.6	ug/L		5.0	1	03/25/19 12:0	0 03/25/19 16:2	7	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H						
Nitrogen, Ammonia	7.3	mg/L		1.0	10		03/29/19 15:2	5 7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22 :	5310B						
Total Organic Carbon	4.3	mg/L		1.0	1		03/25/19 18:4	1 7440-44-0	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.:

7082918

Sample: DUP	Lab ID: 7082	918007	Collected: 03/20/	19 10:10	) Received: 03	B/20/19 12:00 N	Atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Meth	od: EPA 60	010C Preparation M	ethod: E	PA 3005A			
Cadmium	<2.5	ug/L	2.5	1	03/22/19 14:20	03/24/19 12:12	7440-43-9	
Calcium	70600	ug/L	200	1	03/22/19 14:20	03/24/19 12:12	7440-70-2	
Iron	2980	ug/L	20.0	1	03/22/19 14:20	03/24/19 12:12	7439-89-6	
Lead	4.2J	ug/L	5.0	1	03/22/19 14:20	03/24/19 12:12	7439-92-1	
Magnesium	5070	ug/L	200	1		03/24/19 12:12		
Manganese	179	ug/L	10.0	1		03/24/19 12:12		
Potassium	21300	ug/L	5000	1		03/24/19 12:12		
Sodium	164000	ug/L	5000	1	03/22/19 14:20	03/24/19 12:12	7440-23-5	
8270D MSSV 14 Dioxane By SIM	Analytical Meth	od: EPA 82	270D by SIM Prepar	ation Me	ethod: EPA 3510			
1,4-Dioxane (SIM) <i>Surrogates</i>	0.16J	ug/L	0.25	1	03/25/19 17:46	03/27/19 20:56	123-91-1	В
1,4-Dioxane-d8 (S)	47	%.	30-125	1	03/25/19 17:46	03/27/19 20:56		
180.1 Turbidity	Analytical Meth	od: EPA 18	30.1					
Turbidity	15.0	NTU	5.0	5		03/20/19 18:03		
2320B Alkalinity	Analytical Meth	od: SM22 2	2320B					
Alkalinity, Total as CaCO3	196	mg/L	1.0	1		03/25/19 17:09		
2340C Hardness, Total	Analytical Meth	od: SM22 2	2340C					
Tot Hardness asCaCO3 (SM 2340B	180	mg/L	5.0	1		03/25/19 14:54		
2540C Total Dissolved Solids	Analytical Meth	od: SM22 2	2540C					
Total Dissolved Solids	648	mg/L	40.0	1		03/26/19 13:54		
410.4 COD	Analytical Meth	od: EPA 41	0.4 Preparation Me	thod: EF	PA 410.4			
Chemical Oxygen Demand	52.1	mg/L	10.0	1	03/27/19 09:10	03/27/19 11:57		
5210B BOD, 5 day	Analytical Meth	od: SM22 {	5210B Preparation I	Method:	SM22 5210B			
BOD, 5 day	19.5	mg/L	4.0	2	03/21/19 12:39	03/26/19 11:14		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide	1.4	mg/L	0.50	1		03/29/19 00:54	24959-67-9	
Chloride	340	mg/L	20.0	10		03/29/19 01:10	16887-00-6	
Sulfate	9.9	mg/L	5.0	1		03/29/19 00:54	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	51.2 Preparation Me	thod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	10.1	mg/L	1.0	10	03/29/19 05:56	03/29/19 12:50	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	53.2					
Nitrate as N	0.063	mg/L	0.050	1		03/20/19 21:48	14797-55-8	
Nitrate-Nitrite (as N)	0.063	mg/L	0.050	1		03/20/19 21:48	7727-37-9	



### Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Sample: DUP	Lab ID: 7082	918007	Collected: 03/20/	19 10:10	Received: 03	3/20/19 12:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 38	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		03/20/19 20:21	14797-65-0	
Phenolics, Total Recoverable	Analytical Meth	od: EPA 42	20.1 Preparation Me	thod: EF	PA 420.1			
Phenolics, Total Recoverable	13.1	ug/L	5.0	1	03/25/19 12:00	03/25/19 16:28	3	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	9.8	mg/L	1.0	10		03/29/19 15:27	7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	17.7	mg/L	1.0	1		03/25/19 18:54	7440-44-0	



Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

METHOD BL

QC Batch:	106564
QC Batch Method:	EPA 3005A

Analysis Method: EPA 6010C Analysis Description: 6010 MET Water

Associated Lab Samples: 7082918001, 7082918002, 7082918003, 7082918004, 7082918005, 7082918006, 7082918007

ANK:	492797	

Matrix: Water

Associated Lab Samples: 7082918001, 7082918002, 7082918003, 7082918004, 7082918005, 7082918006, 7082918007

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Cadmium	ug/L	<2.5	2.5	03/24/19 11:01	
Calcium	ug/L	<200	200	03/24/19 11:01	
Iron	ug/L	<20.0	20.0	03/24/19 11:01	
Lead	ug/L	<5.0	5.0	03/24/19 11:01	
Magnesium	ug/L	<200	200	03/24/19 11:01	
Manganese	ug/L	<10.0	10.0	03/24/19 11:01	
Potassium	ug/L	<5000	5000	03/24/19 11:01	
Sodium	ug/L	<5000	5000	03/24/19 11:01	

### LABORATORY CONTROL SAMPLE: 492798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		51.6	103	80-120	
Calcium	ug/L	25000	25800	103	80-120	
Iron	ug/L	2000	2010	100	80-120	
Lead	ug/L	500	520	104	80-120	
Magnesium	ug/L	25000	25500	102	80-120	
Manganese	ug/L	250	266	106	80-120	
Potassium	ug/L	50000	49000	98	80-120	
Sodium	ug/L	50000	49600	99	80-120	

MATRIX SPIKE SAMPLE:	492800						
		7083110004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	<2.5	50	52.2	104	75-125	
Calcium	ug/L	5760	25000	31500	103	75-125	
Iron	ug/L	15.8J	2000	2050	102	75-125	
Lead	ug/L	<5.0	500	526	105	75-125	
Magnesium	ug/L	4310	25000	29800	102	75-125	
Manganese	ug/L	128	250	390	105	75-125	
Potassium	ug/L	<5000	50000	51800	99	75-125	
Sodium	ug/L	17900	50000	67400	99	75-125	
SAMPLE DUPLICATE: 492799							
SAMIFLE DUFLICATE. 492799		7083110004	Dup				

n	ug/L	<2.5	<2.5

Result

Units

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

Result

RPD

Qualifiers

## **REPORT OF LABORATORY ANALYSIS**

Cadmium

Parameter

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Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

SAMPLE DUPLICATE: 492799

Parameter	Units	7083110004 Result	Dup Result	RPD	Qualifiers
Calcium	ug/L	5760	5750	0	
Iron	ug/L	15.8J	14.6J	0	
Lead	ug/L	<5.0	<5.0		
Magnesium	ug/L	4310	4360	1	
Manganese	ug/L	128	128	0	
Potassium	ug/L	<5000	<5000		
Sodium	ug/L	17900	17700	1	

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Project:	WELL CLUSTER	26,27,28 ROUTINE									
Pace Project No.:	7082918										
QC Batch:	595547		Analys	is Method:	EF	PA 8270	by SIM				
QC Batch Method:	EPA 3510		Analys	is Descripti	on: 82	70D Wa	ter 14 Di	oxane by S	IM		
Associated Lab Sam	ples: 7082918	001, 7082918002, 70	82918003	, 70829180	04, 708291	8005, 7	0829180	06, 708291	8007		
METHOD BLANK:	3219789		N	latrix: Wate	ər						
Associated Lab Sam	ples: 7082918	001, 7082918002, 70	82918003	, 70829180	04, 708291	8005, 7	0829180	06, 708291	8007		
			Blank	Re	porting						
Param	eter	Units	Result	t	Limit	Ana	lyzed	Qualif	iers		
1,4-Dioxane (SIM)		ug/L	(	).13J	0.25	03/27/	19 17:49				
1,4-Dioxane-d8 (S)		%.		35	30-125	03/27/	19 17:49				
LABORATORY CON	ITROL SAMPLE	& LCSD: 3219790		32	219791						
			Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Param	eter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,4-Dioxane (SIM)		ug/L	10	8.1	9.2	81	92	40-125	13	20	
1,4-Dioxane-d8 (S)		%.				32	35	30-125			

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Project:	WELL CLUSTER 2	26,27,28 ROUTINE						
Pace Project No.:	7082918							
QC Batch:	106224		Analysis M	ethod: E	PA 180.1			
QC Batch Method:	EPA 180.1		Analysis De	escription: 1	80.1 Turbidity			
Associated Lab Sam	ples: 70829180	01, 7082918002, 70	082918003, 708	32918004, 70829	918005, 70829	18006, 708291	8007	
METHOD BLANK:	491074		Matrix	k: Water				
Associated Lab Sam	ples: 70829180	01, 7082918002, 70	082918003, 708	32918004, 70829	918005, 70829	18006, 708291	8007	
			Blank	Reporting				
	otor	Units	Result	Limit	Analyze	d Qualif	iers	
Parame	elei	Onits	recount					
Parame Turbidity	elei	NTU	<1.(	) 1.(	03/20/19 17	7:34		
				) 1.(	03/20/19 17	7:34		
				) 1.(	03/20/19 17	7:34		
Turbidity		NTU		0 1.0	03/20/19 17	7:34 % Rec		
Turbidity	TROL SAMPLE:	NTU	<1.(				Qualifiers	
Turbidity	TROL SAMPLE:	NTU 491075	<1.0	LCS	LCS	% Rec	Qualifiers	
Turbidity LABORATORY CON Parame	TROL SAMPLE:	491075 Units	<1.( Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Turbidity LABORATORY CON Parame	TROL SAMPLE: eter	491075 Units	<1.( Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Turbidity LABORATORY CON <sup>**</sup> Parame Turbidity	TROL SAMPLE: eter	491075 Units	<1.( Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Turbidity LABORATORY CON <sup>**</sup> Parame Turbidity	TROL SAMPLE: eter E: 491076	491075 Units	<1.0 Spike Conc. 10	LCS Result 9.6	LCS % Rec	% Rec Limits		

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Project:	WELL CLUSTER	26,27,28 ROUTIN	E					
Pace Project No.:	7082918							
QC Batch:	106702		Analysis Me	ethod:	SM22 2320B			
QC Batch Method:	SM22 2320B		Analysis De	scription:	2320B Alkalinity			
Associated Lab Sam	nples: 7082918	001, 7082918002, 7	7082918003, 708	2918004, 7082	918006, 708291	8007		
METHOD BLANK:	493512		Matrix	: Water				
Associated Lab Sam	nples: 7082918	001, 7082918002, 7	7082918003, 708	2918004, 7082	918006, 708291	8007		
			Blank	Reporting				
Param	neter	Units	Result	Limit	Analyzed	Qualifie	ers	
Alkalinity, Total as C	aCO3	mg/L	<1.0	1.	0 03/25/19 13:	44		
LABORATORY CON	ITROL SAMPLE:	493513						
Param	otor	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
							Quaimers	
Alkalinity, Total as C	aCO3	mg/L	25	25.7	103	80-120		
MATRIX SPIKE SAM		493558						
		400000	7082918006	6 Spike	MS	MS	% Rec	
Param	neter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Alkalinity, Total as C	aCO3	mg/L	1	103 25	128	99	75-125	
SAMPLE DUPLICAT	FE: 493557		7082918006	Dup				
Param	neter	Units	Result	Result	RPD	Qualifiers		

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Project: WELL CLUST Pace Project No.: 7082918	ER 26,27,28 ROUTINE	E					
QC Batch: 106799		Analysis Me	thod:	SM22 2320B			
QC Batch Method: SM22 2320	3	Analysis De	scription: 2	2320B Alkalinity,	High Level		
Associated Lab Samples: 7082	918005						
METHOD BLANK: 493913		Matrix	Water				
Associated Lab Samples: 7082	918005						
Demonster	11-2-	Blank	Reporting	A	Qualifi		
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Alkalinity, Total as CaCO3	mg/L	<5.0	5.0	0 03/26/19 08:	26		
LABORATORY CONTROL SAMPI	E: 493914						
		Spike	LCS	LCS	% Rec		
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Alkalinity, Total as CaCO3	mg/L	125	125	100	80-120		
MATRIX SPIKE SAMPLE:	493916						
		7083350001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	00 312	4280	91	75-125	
SAMPLE DUPLICATE: 493915							
		7083350001	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Alkalinity, Total as CaCO3	mg/L	4000	4070	D	2		

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Project: WELL CLUSTER Pace Project No.: 7082918	R 26,27,28 ROUTII	NE					
QC Batch: 106686		Analysis Me		SM22 2340C			
QC Batch Method: SM22 2340C		Analysis De	scription:	2340C Hardness	s, Total		
Associated Lab Samples: 7082918	3001, 7082918002,	, 7082918003, 7082	2918004, 7082	918005, 708291	8006, 7082918	007	
METHOD BLANK: 493447		Matrix	: Water				
Associated Lab Samples: 7082918	3001, 7082918002,	, 7082918003, 7082 Blank	2918004, 7082 Reporting	918005, 708291	8006, 7082918	007	
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	<5.0	5.	0 03/25/19 14:	40		
LABORATORY CONTROL SAMPLE:	493448						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	1000	990	99	90-110		
MATRIX SPIKE SAMPLE:	493449						
_		7082918001	- 1 -	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Tot Hardness asCaCO3 (SM 2340B	mg/L	2	250 1000	1270	102	75-125	
SAMPLE DUPLICATE: 493450							
Deremeter	Linite	7082918001	Dup	חחח	Qualifiers		
Parameter	Units	Result	Result	RPD	Qualifiers		
Tot Hardness asCaCO3 (SM 2340B	mg/L	250	25	0	0		

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Project: WELL CLU Pace Project No.: 7082918	ISTER 26,27,28 ROUTINI	E					
QC Batch: 106852		Analysis Met	hod: S	M22 2540C			
QC Batch Method: SM22 254	40C	Analysis Des		540C Total Diss	olved Solids		
	82918001, 7082918002, 7	•	•			7	
						•	
METHOD BLANK: 494090		Matrix:	Water				
Associated Lab Samples: 708	82918001, 7082918002, 7		918004, 70829	18005, 708291	8006, 708291800	7	
Devenueter	l le ite	Blank	Reporting	A in a liver a d	Qualifiana		
Parameter	Units	Result	Limit	Analyzed	Qualifiers		
Total Dissolved Solids	mg/L	<10.0	10.0	03/26/19 13:	18		
ABORATORY CONTROL SAM	IPLE: 494091						
_			LCS	LCS	% Rec		
Parameter	Units	Conc. F	Result	% Rec	Limits G	ualifiers	
Total Dissolved Solids	mg/L	500	496	99	85-115		
MATRIX SPIKE SAMPLE:	494093						
		7082888001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	30	600	934	106	75-125	
MATRIX SPIKE SAMPLE:	494095						
		7083110004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	78	.0 300	310	77	75-125	
SAMPLE DUPLICATE: 49409	2						
Parameter	Units	7082888001 Result	Dup Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	300	316	- 	5		
SAMPLE DUPLICATE: 49409	4						
		7083110004	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	78.0	80.0	) .	3		

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Project: WELL CLUST Pace Project No.: 7082918	ER 26,27,28 ROUTIN	E					
QC Batch: 106956		Analysis Meth	nod: F	PA 410.4			
QC Batch Method: EPA 410.4		Analysis Des		10.4 COD			
	918001, 7082918002,		•		8006. 708291800	)7	
•							
METHOD BLANK: 494825		Matrix:				_	
Associated Lab Samples: 70829	918001, 7082918002,	7082918003, 70829 Blank	918004, 70829 Reporting	18005, 708291	8006, 708291800	)7	
Parameter	Units	Result	Limit	Analyzed	Qualifiers	;	
Chemical Oxygen Demand	mg/L	<10.0	10.0	03/27/19 11:	53		
LABORATORY CONTROL SAMPL	E: 494826						
Doromotor	Lipito		LCS	LCS	% Rec	Juglifiere	
Parameter	Units		esult	% Rec		Qualifiers	
Chemical Oxygen Demand	mg/L	500	531	106	90-110		
MATRIX SPIKE SAMPLE:	494827					_	
Parameter	Units	7082918001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L			1050		90-110	Quannero
chemical Oxygen Demand	ing/∟	04.	0 1000	1000	101	30-110	
MATRIX SPIKE SAMPLE:	494829						
		7083179001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63.	1 1000	1140	107	90-110	
SAMPLE DUPLICATE: 494828							
Parameter	Units	7082918001 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	34.5	34.5		0		
SAMPLE DUPLICATE: 494830							
Devenueter	l la ita	7083179001	Dup		Qualifiers		
Parameter	Units	Result	Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	63.1	60.9	)	4		

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,	TER 26,27,28 ROUTINE					
Pace Project No.: 7082918						
QC Batch: 106332		Analysis M	ethod:	SM22 5210B		
QC Batch Method: SM22 5210	B	Analysis De	escription:	5210B BOD, 5	day	
Associated Lab Samples: 7082	918001, 7082918002, 70	082918003, 708	32918004, 7082	918005, 70829	18006, 708291	8007
METHOD BLANK: 491627		Matrix	x: Water			
Associated Lab Samples: 7082	918001, 7082918002, 7	082918003, 708	32918004, 7082	918005, 70829	918006, 708291	8007
		Blank	Reporting			
Parameter	Units	Result	Limit	Analyze	d Qualif	iers
BOD, 5 day	mg/L	<2.0	) 2.	0 03/26/19 10	0:10	
LABORATORY CONTROL SAMP	LE: 491628					
		Spike	LCS	LCS	% Rec	
LABORATORY CONTROL SAMP Parameter	LE: 491628	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Parameter		•				Qualifiers
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
LABORATORY CONTROL SAMP Parameter BOD, 5 day SAMPLE DUPLICATE: 491629	Units	Conc	Result 190	% Rec	Limits	Qualifiers
Parameter BOD, 5 day SAMPLE DUPLICATE: 491629	Units mg/L	Conc. 198 7083001001	Result 190 Dup	% Rec 96	Limits 84.5-115.4	
Parameter BOD, 5 day	Units	Conc	Result 190	% Rec	Limits	

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QC Batch:	10725	2		Analysis	Method	I: El	PA 300.0			
QC Batch Me	ethod: EPA 3	00.0		Analysis			0.0 IC Anions			
Associated L			001, 7082918002,	-				8006, 7082918	007	
METHOD BL	ANK: 496206			Ма	trix: Wa	ater				
Associated L	ab Samples:	70829180	001, 7082918002,	7082918003, 7	7082918	3004, 70829 <sup>.</sup>	18005, 708291	8006, 7082918	007	
	Deveryoten		Linita	Blank	F	Reporting	A se a lu se a d	Qualifia		
	Parameter		Units	Result		Limit	Analyzed	Qualifie	rs	
Bromide			mg/L		.50	0.50	03/28/19 19:			
Chloride Sulfate			mg/L mg/L		2.0 5.0	2.0 5.0				
Sunate			ilig/L		5.0	5.0	03/20/19 19.	55		
LABORATOF	Y CONTROL S	AMPLE:	496207							
				Spike	LC		LCS	% Rec		
	Parameter		Units	Conc.	Res	ult	% Rec	Limits	Qualifiers	
Bromide			mg/L	1		1.0	100	90-110		
Chloride			mg/L	10		10.3	103	90-110		
Sulfate			mg/L	10		10.5	105	90-110		
MATRIX SPI	KE SAMPLE:		496208							
				7083425	001	Spike	MS	MS	% Rec	
	Parameter		Units	Result	:	Conc.	Result	% Rec	Limits	Qualifiers
Bromide			mg/L		<0.50	1	1.1	110	80-120	
Chloride			mg/L		102	50	155	106	80-120	
Sulfate			mg/L		32.4	10	43.3	108	80-120	
MATRIX SPI	KE SAMPLE:		496210							
				7083551	002	Spike	MS	MS	% Rec	
	Parameter		Units	Result		Conc.	Result	% Rec	Limits	Qualifiers
Bromide			mg/L		<0.50	1	1.1	102	80-120	
Chloride			mg/L		11.4	10	21.6	102	80-120	
Sulfate			mg/L		<5.0	10	10.5	99	80-120	
SAMPLE DU	PLICATE: 496	6209								
-				708342500	)1	Dup				
	Parameter		Units	Result		Result	RPD	Qualifiers		
Bromide			mg/L	<0	.50	<0.50				
Chloride			mg/L		02	103		1		
Sulfate			mg/L	3	2.4	32.6		1		

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# **REPORT OF LABORATORY ANALYSIS**

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Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

SAMPLE DUPLICATE: 496211					
		7083551002	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Bromide	mg/L	<0.50	0.072J		
Chloride	mg/L	11.4	11.5	1	
Sulfate	mg/L	<5.0	<5.0		

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•	R 26,27,28 ROUTIN	E					
Pace Project No.: 7082918							
QC Batch: 107272		Analysis Metho		PA 351.2			
QC Batch Method: EPA 351.2		Analysis Desci	•	51.2 TKN			
Associated Lab Samples: 708291	8001, 7082918002,	7082918003, 70829	18004, 70829	18005, 708291	8006, 708291800	7	
METHOD BLANK: 496384		Matrix: V	Vater				
Associated Lab Samples: 708291	8001, 7082918002,			18005, 708291	8006, 708291800	7	
		Blank	Reporting		Qualifiers		
Parameter	Units	Result	Limit				
Nitrogen, Kjeldahl, Total	mg/L	<0.10	0.10	03/29/19 12:	31		
LABORATORY CONTROL SAMPLE	: 496385						
			CS	LCS	% Rec		
Parameter	Units	Conc. Re	esult	% Rec	Limits G	ualifiers	
Nitrogen, Kjeldahl, Total	mg/L	4	4.1	102	90-110		
MATRIX SPIKE SAMPLE:	496386						
		7083751001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	<0.10	) 4	2.5	60	90-11	0 M1
MATRIX SPIKE SAMPLE:	496388						
		7083477002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	3.9	9 4	9.1	129	90-11	0 M1
SAMPLE DUPLICATE: 496387							
Parameter	Units	7083751001 Result	Dup Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total	mg/L	<0.10	<0.10	)			
SAMPLE DUPLICATE: 496389							
-		7083477002	Dup		0		
Parameter	Units	Result	Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total	mg/L	3.9	3.9	)	1		

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## **REPORT OF LABORATORY ANALYSIS**

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•		26,27,28 ROUTINE						
Pace Project No.: 7082			Apolygia M	athod	EDA 252 2			
	6235 A 353.2		Analysis M		EPA 353.2	noroc		
		04 7000040000 7	Analysis D		353.2 Nitrite, U	•	0007	
Associated Lab Samples:	70829180	001, 7082918002, 70	082918003, 708	32918004, 70	82918005, 70829	18006, 708291	8007	
METHOD BLANK: 4912	260		Matri	x: Water				
Associated Lab Samples:	70829180	001, 7082918002, 7		32918004, 70	82918005, 70829	18006, 708291	8007	
			Blank	Reportin	-			
Parameter		Units	Result	Limit	Analyze	d Qualif	iers	
Nitrite as N		mg/L	<0.050	0.0.	050 03/20/19 20	):05		
LABORATORY CONTRO	L SAMPLE:	491261						
_			Spike	LCS	LCS	% Rec		
Parameter		Units	Conc.	Result	% Rec	Limits	Qualifiers	
Nitrite as N		mg/L	1	1.0	104	90-110		
MATRIX SPIKE SAMPLE	:	491262						
			708285600	1 Spike	MS	MS	% Rec	
Parameter		Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrite as N		mg/L	<0.	050 0	.5 0.53	3 10	90-110	H1
MATRIX SPIKE SAMPLE	:	491264						
			708291800	1 Spike	MS	MS	% Rec	
Parameter		Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrite as N		mg/L	<0.	050 0	.5 0.53	3 10	90-110	
SAMPLE DUPLICATE:	491263							
Parameter		Units	7082856001 Result	Dup Result	RPD	Qualifiers	8	
Nitrite as N		mg/L	<0.050	<<0.	050	— H1		
SAMPLE DUPLICATE:	491265							
			7082918001	Dup				
Parameter		Units	Result	Result	RPD	Qualifiers	6	

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Project: WELL CLUSTER Pace Project No.: 7082918	26,27,28 ROUTINE	E					
QC Batch: 106242		Analysis Metho	od: F	PA 353.2			
QC Batch Method: EPA 353.2			53.2 Nitrate, Un	pres.			
	001, 7082918002, 7	-					
•							
METHOD BLANK: 491336		Matrix: V					
Associated Lab Samples: 70829180	001, 7082918002, 7	082918003, 70829′ Blank	-	918005			
Parameter	Units	Result	Reporting Limit	Analyzed	Qualifiers		
Nitrate-Nitrite (as N)	mg/L	<0.050	0.050		08		
LABORATORY CONTROL SAMPLE:	491337						
			CS	LCS	% Rec		
Parameter	Units	Conc. Re	sult	% Rec		alifiers	
Nitrate-Nitrite (as N)	mg/L	1	0.97	97	90-110		
MATRIX SPIKE SAMPLE:	491338						
	11.5	7082967001	Spike	MS	MS	% Rec	0 117
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	9.9	5	13.9	81	90-110	0 M6
MATRIX SPIKE SAMPLE:	491340						
Deremeter	Linita	7082918001	Spike	MS	MS % Dec	% Rec	Qualifiara
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	8.0	5	12.1	83	90-110	) M6
SAMPLE DUPLICATE: 491339		7000067004	Dur				
Parameter	Units	7082967001 Result	Dup Result	RPD	Qualifiers		
Nitrate-Nitrite (as N)	mg/L	9.9	9.9	)	0		
SAMPLE DUPLICATE: 491341							
Parameter	Units	7082918001 Result	Dup Result	RPD	Qualifiers		
Nitrate-Nitrite (as N)	mg/L	8.0	8.7		9		
	1119/ L	0.0	0.7		0		

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## **REPORT OF LABORATORY ANALYSIS**

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Project: WELL CLUSTER Pace Project No.: 7082918	26,27,28 ROUTINE						
QC Batch: 106243		Analysis Meth	iod: E	EPA 353.2			
QC Batch Method: EPA 353.2		Analysis Desc	cription: 3	353.2 Nitrate, Ur	pres.		
Associated Lab Samples: 70829180	06, 7082918007						
METHOD BLANK: 491342		Matrix:	Water				
Associated Lab Samples: 70829180	06, 7082918007						
Parameter	Units	Blank Result	Reporting Limit	Applyzod	Qualifie	r0	
				Analyzed			
Nitrate-Nitrite (as N)	mg/L	<0.050	0.050	0 03/20/19 21:	44		
LABORATORY CONTROL SAMPLE:	491343						
Doromotor	Units		_CS esult	LCS % Rec	% Rec Limits	Qualifiers	
Parameter						Qualifiers	
Nitrate-Nitrite (as N)	mg/L	1	1.0	103	90-110		
MATRIX SPIKE SAMPLE:	491344						
		7082856001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	0.23	3 0.5	0.78	111	90-110	H1,M1
MATRIX SPIKE SAMPLE:	491346						
		7082954001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	10.6	6 5	15.2	93	90-110	
SAMPLE DUPLICATE: 491345							
Parameter	Units	7082856001 Result	Dup Result	RPD	Qualifiers		
Nitrate-Nitrite (as N)	mg/L	0.23	0.23		3 H1		
SAMPLE DUPLICATE: 491347							
		7082954001	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
	 mg/L						

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### **REPORT OF LABORATORY ANALYSIS**

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Project: WELL CLUSTER Pace Project No.: 7082918	26,27,28 ROUTINE	E					
QC Batch: 106656		Analysis Meth	od. E	PA 420.1			
QC Batch Method: EPA 420.1		Analysis Desc		20.1 Phenolics I	Macro		
	001, 7082918002, 7	-	•			7	
Associated Lab Samples. 70029100	501, 7002910002, 7	002910003, 70023	10004, 70023	10003, 1002910	5000, 7002910001		
METHOD BLANK: 493348		Matrix:	Water				
Associated Lab Samples: 70829180	001, 7082918002, 7	082918003, 70829	18004, 70829	918005, 7082918	8006, 7082918007	7	
5		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifiers	_	
Phenolics, Total Recoverable	ug/L	<5.0	5.0	03/25/19 16:0	)5		
ABORATORY CONTROL SAMPLE:	493349						
			CS	LCS	% Rec		
Parameter	Units	Conc. R	esult	% Rec	Limits Q	ualifiers	
Phenolics, Total Recoverable	ug/L	30	30.5	102	90-110		
MATRIX SPIKE SAMPLE:	493350						
		7082870001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	14.0	6 20	32.0	87	75-125	
MATRIX SPIKE SAMPLE:	493352						
		7082918007	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	13.1	1 20	28.4	77	75-125	
SAMPLE DUPLICATE: 493351							
Parameter	Units	7082870001 Result	Dup Result	RPD	Qualifiers		
Phenolics, Total Recoverable	ug/L	14.6	16.6				
SAMPLE DUPLICATE: 493353							
SAMILE DUFLICATE. 493333		7082918007	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Phenolics, Total Recoverable	ug/L	13.1	15.6	- <u> </u>	 3		
	ug/ L	10.1	10.0	<i>,</i> 10			

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### **REPORT OF LABORATORY ANALYSIS**

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Project: Pace Project No.:	WELL CLUSTER 7082918	26,27,28 ROUTIN	E					
QC Batch:	107325		Analysis Met		M22 4500 NH3	s H		
QC Batch Method:	SM22 4500 NH	3 H	Analysis Des	scription: 4	500 Ammonia			
Associated Lab San	nples: 7082918	001, 7082918002,	7082918003, 7082	918004, 70829	18005, 708291	8006, 7082918	007	
METHOD BLANK:	496531		Matrix:	Water				
Associated Lab San	nples: 7082918	001, 7082918002,	7082918003, 7082 Blank	918004, 70829? Reporting	18005, 708291	8006, 7082918	007	
Paran	neter	Units	Result	Limit	Analyzed	Qualifie	rs	
Nitrogen, Ammonia		mg/L	<0.10	0.10	03/29/19 14:	58		
LABORATORY COM	NTROL SAMPLE:	496532						
Paran	neter	Units		LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Nitrogen, Ammonia		mg/L	1	1.0	101	90-110		
MATRIX SPIKE SAI	MPLE:	496533						
Paran	neter	Units	7083120001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia		mg/L	21	.7 10	31.9	102	75-125	
SAMPLE DUPLICA	TE: 496534							
Paran	neter	Units	7083120001 Result	Dup Result	RPD	Qualifiers		
Nitrogen, Ammonia		mg/L	21.7	22.4		3	_	

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,	STER 26,27,28 ROUTIN	E					
Pace Project No.: 7082918 QC Batch: 106695		Analysis Met	hod:	SM22 5310B			
QC Batch Method: SM22 531	0B	Analysis Des		5310B TOC			
	32918001, 7082918002,		•		8006, 7082918	007	
METHOD BLANK: 493480		Matrix:	Water				
Associated Lab Samples: 708	2918001, 7082918002,	7082918003, 7082 Blank	918004, 70829 Reporting	918005, 708291	8006, 7082918	007	
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Total Organic Carbon	mg/L	<1.0	1.0	03/25/19 15:	54		
LABORATORY CONTROL SAM	PLE: 493481						
Parameter	Units		LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Total Organic Carbon	mg/L	10	10.1	101	85-115		
MATRIX SPIKE SAMPLE:	493483						
Parameter	Units	7082918001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L		.1 10	12.3	82		
SAMPLE DUPLICATE: 493482	2						
		7082918001	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Total Organic Carbon	mg/L	4.1	4.1	1	0		

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### QUALIFIERS

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

### LABORATORIES

PACE-MV Pace Analytical Services - Melville

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: 596093

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

- B Analyte was detected in the associated method blank.
- H1 Analysis conducted outside the EPA method holding time.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch		
7082918001	GM-26	EPA 3005A	106564	EPA 6010C	106566		
7082918002	GM-26I	EPA 3005A	106564	EPA 6010C	106566		
082918003	GM-27	EPA 3005A	106564	EPA 6010C	106566		
082918004	GM-27I	EPA 3005A	106564	EPA 6010C	106566		
082918005	GM-28	EPA 3005A	106564	EPA 6010C	106566		
082918006	GM-28I	EPA 3005A	106564	EPA 6010C	106566		
082918007	DUP	EPA 3005A	106564	EPA 6010C	106566		
082918001	GM-26	EPA 3510	595547	EPA 8270D by SIM	596093		
082918002	GM-26I	EPA 3510	595547	EPA 8270D by SIM	596093		
082918003	GM-27	EPA 3510	595547	EPA 8270D by SIM	596093		
082918004	GM-271	EPA 3510	595547	EPA 8270D by SIM	596093		
082918005	GM-28	EPA 3510	595547	EPA 8270D by SIM	596093		
082918006	GM-28I	EPA 3510	595547	EPA 8270D by SIM	596093		
082918007	DUP	EPA 3510	595547	EPA 8270D by SIM	596093		
082918001	GM-26	EPA 180.1	106224	-			
082918002	GM-26I	EPA 180.1	106224				
082918003	GM-27	EPA 180.1	106224				
082918003	GM-27	EPA 180.1	106224				
082918005	GM-28	EPA 180.1	106224				
082918005	GM-28	EPA 180.1	106224				
082918008	DUP	EPA 180.1	106224				
082918001	GM-26	SM22 2320B	106702				
082918002	GM-26	SM22 2320B	106702				
082918002	GM-201 GM-27	SM22 2320B	106702				
082918003	GM-27	SM22 2320B SM22 2320B	106702				
	GM-28I	SM22 2320B SM22 2320B	106702				
082918006 082918007	DUP	SM22 2320B SM22 2320B	106702				
7082918005	GM-28	SM22 2320B	106799				
082918001	GM-26	SM22 2340C	106686				
082918002	GM-26I	SM22 2340C	106686				
082918003	GM-27	SM22 2340C	106686				
082918004	GM-271	SM22 2340C	106686				
082918005	GM-28	SM22 2340C	106686				
082918006	GM-28I	SM22 2340C	106686				
082918007	DUP	SM22 2340C	106686				
082918001	GM-26	SM22 2540C	106852				
082918002	GM-26I	SM22 2540C	106852				
082918003	GM-27	SM22 2540C	106852				
082918004	GM-27I	SM22 2540C	106852				
082918005	GM-271 GM-28	SM22 25400 SM22 2540C	106852				
082918005	GM-28	SM22 2540C SM22 2540C	106852				
082918006 082918007	DUP	SM22 2540C SM22 2540C	106852				
7082918001	GM-26	EPA 410.4	106956	EPA 410.4	106976		
	OM-ZU		100300		100370		
082918002	GM-26I	EPA 410.4	106956	EPA 410.4	106976		



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch		
7082918004	GM-27I	EPA 410.4	106956	EPA 410.4	106976		
7082918005	GM-28	EPA 410.4	106956	EPA 410.4	106976		
7082918006	GM-28I	EPA 410.4	106956	EPA 410.4	106976		
7082918007	DUP	EPA 410.4	106956	EPA 410.4	106976		
7082918001	GM-26	SM22 5210B	106332	SM22 5210B	107157		
7082918002	GM-26I	SM22 5210B	106332	SM22 5210B	107157		
082918003	GM-27	SM22 5210B	106332	SM22 5210B	107157		
082918004	GM-27I	SM22 5210B	106332	SM22 5210B	107157		
082918005	GM-28	SM22 5210B	106332	SM22 5210B	107157		
082918006	GM-28I	SM22 5210B	106332	SM22 5210B	107157		
082918007	DUP	SM22 5210B	106332	SM22 5210B	107157		
082918001	GM-26	EPA 300.0	107252				
7082918002	GM-26I	EPA 300.0	107252				
082918003	GM-27	EPA 300.0	107252				
7082918004	GM-27I	EPA 300.0	107252				
082918005	GM-28	EPA 300.0	107252				
082918006	GM-28I	EPA 300.0	107252				
082918007	DUP	EPA 300.0	107252				
082918001	GM-26	EPA 351.2	107272	EPA 351.2	107286		
082918002	GM-26I	EPA 351.2	107272	EPA 351.2	107286		
082918003	GM-27	EPA 351.2	107272	EPA 351.2	107286		
082918004	GM-27I	EPA 351.2	107272	EPA 351.2	107286		
082918005	GM-28	EPA 351.2	107272	EPA 351.2	107286		
082918006	GM-28I	EPA 351.2	107272	EPA 351.2	107286		
082918007	DUP	EPA 351.2	107272	EPA 351.2	107286		
082918001	GM-26	EPA 353.2	106242				
082918002	GM-26I	EPA 353.2	106242				
082918003	GM-27	EPA 353.2	106242				
082918004	GM-27I	EPA 353.2	106242				
082918005	GM-28	EPA 353.2	106242				
082918006	GM-28I	EPA 353.2	106243				
082918007	DUP	EPA 353.2	106243				
082918001	GM-26	EPA 353.2	106235				
082918002	GM-26I	EPA 353.2	106235				
082918003	GM-27	EPA 353.2	106235				
082918004	GM-27I	EPA 353.2	106235				
082918005	GM-28	EPA 353.2	106235				
082918006	GM-28I	EPA 353.2	106235				
082918007	DUP	EPA 353.2	106235				
082918001	GM-26	EPA 420.1	106656	EPA 420.1	106723		
082918002	GM-26I	EPA 420.1	106656	EPA 420.1	106723		
082918003	GM-27	EPA 420.1	106656	EPA 420.1	106723		
082918004	GM-27I	EPA 420.1	106656	EPA 420.1	106723		
082918005	GM-28	EPA 420.1	106656	EPA 420.1	106723		
082918006	GM-28I	EPA 420.1	106656	EPA 420.1	106723		



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WELL CLUSTER 26,27,28 ROUTINE

Pace Project No.: 7082918

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7082918007	DUP	EPA 420.1	106656	EPA 420.1	106723
7082918001	GM-26	SM22 4500 NH3 H	107325		
7082918002	GM-26I	SM22 4500 NH3 H	107325		
7082918003	GM-27	SM22 4500 NH3 H	107325		
7082918004	GM-27I	SM22 4500 NH3 H	107325		
7082918005	GM-28	SM22 4500 NH3 H	107325		
7082918006	GM-28I	SM22 4500 NH3 H	107325		
7082918007	DUP	SM22 4500 NH3 H	107325		
7082918001	GM-26	SM22 5310B	106695		
7082918002	GM-26I	SM22 5310B	106695		
7082918003	GM-27	SM22 5310B	106695		
7082918004	GM-27I	SM22 5310B	106695		
7082918005	GM-28	SM22 5310B	106695		
7082918006	GM-28I	SM22 5310B	106695		
7082918007	DUP	SM22 5310B	106695		

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# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

	Page: 1 Of 1		Regulatory Agency		State / Location	ΝΥ	(N/A) pe		(N/Y) or	Residual Chlorir	100		22	The second	18		6						TIME SAMPLE CONDITIONS	1/2000 1. / V V V	02		səli Ji Q A	
					pacelabs.com,		Requested Analysis Filtered (Y/N		sss TKN, Phenols TKN, Phenols	Partial School Partial Metals & Hardin BOD, Br. (CI, SO4, No2, ALK, TDS TOC 1, 4 Dioxane by 1 1, 4 Dioxane by 1 1, 4 Dioxane by 1	× × × × × × × ×	× × × × × × ×			× × × × × × × × ×	× × × × × × × × ×	× × × × × × ×						AFFILIATION DATE	DINACLU ZIOVA				DATE Signed: 3/20
Section C	Invoice Information: Attention:	Company Name:	ess:	Pace Quote:	Pace Project Manager: jennifer.aracri@pacelabs.com	Pace Profile #: 5271 LINE 1 & 6		Preservatives Y/N		Annalyseserved Unper HCI HCI HCI HCI HCI HCI HCI HCI HCI HCI													TIME ACCEPTED BY AFFILIATION	200 Milling			Brian Nichel	2 de
Sect	Invoice Ir Attention:	Com	Address:	Pace	Routine 360 Pace	Pace				D A T A A A A A A A A A A A A A A A A A A		915 10	103% 10	01 8001	01 5211	V 1115 10	3/2419 1010 10						DATE	3/20/19 13		SAMPI EP NAME AND SICNATIDE	PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:
	et Information:			Order #:	me: Well Cluster 26,27,28				see valid code: Севекав с=с УдА	DAMARE TYPE DAT T M M M M M M M		WT	WT	WT	WT	WT	WT 3/						RELINQUISHED BY / AFFILIATION	Brian Nichill/Zwin		SAMPLEDA	PRINT	SIGNAT
	Report To:	Copy To:		Purchase Order #:	Project Name:	Project #:		MATRIX CODE	Drinking Water DW Water WT Water Witer WW Product P Soli/Solid SL	VVipe Air Other Tissue													VTS	13r				
	Company Town of Bahulon		oylon	Email: jguarino@townofbabylon.com	Phone: 631-422-7640 Fax	Requested Due Date:			SAMPLE ID	One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique	1 GM-26	2 GM-26I	<b>3</b> GM-27	<b>4</b> GM-271	<b>5</b> GM-28	6 GM-281	7 DUP	8	6	10	11	12	ADDITIONAL COMMENTS	Part 360 Routine Cell 7 Well Cluster 26,27,28		Pag	e 59 o	of 88

	S	ample	Condit	ion Up	on Rec	eipt
Pace Analytical*					1	10/1-7000010
	Client	Name:	~		Projec	<u>WO#:7082918</u>
	Ja	MUX	BARY	100	20	PM: JSA Due Date: 04/03/19
Courier: C Fed Ex UPS USP	ent Comn	nercial 🗌 I	Pace Dt	her		CLIENT: BAB-ECO
Tracking #:			· · · · · ·			
Custody Seal on Cooler/Box Present:				Yes 1	No	Temperature Blank Present: 🗌 Yes DNo
Packing Material: Bubble Wrap	Bags Zip	ploc Nor	ie Dthe	$\left( \widehat{\alpha} \right)$		Type of Ice: Wet Blue None
Thermometer Used: TH091		tion Facto		.0	+	Samples on ice, cooling process has begun
Cooler Temperature (°C): 11. 4.1.5	Cooler T	emperatu	re Correct	ed (°C): /	1,4.1,2	5./ Date/Time 5035A kits placed in freezer
Temp should be above freezing to 6.0°C						1/10-11-10-0
USDA Regulated Soil ( 🗌 N/A, water sampl	e)		e - 2	Date ar	nd Initials o	of person examining contents: K 3/20/19
Did samples originate in a quarantine zone within the NM, NY, OK, OR, SC, TN, TX, or VA (check map)?	YES	NO NO				Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)?
If Yes to either question,	fill out a Ree	gulated Sc			-010) and ir	COMMENTS:
Chain of Custody Present:	Yes	□No		1.		COMMENTS.
	Tes			2.		
Chain of Custody Filled Out:	BYes			3.		
Chain of Custody Relinquished:	UYes			4.		
Sampler Name & Signature on COC:	QYes_			5.		
Samples Arrived within Hold Time:	UYes			6.		
Short Hold Time Analysis (<72hr): Rush Turn Around Time Requested:	□Yes			7.		
Sufficient Volume: (Triple volume provided for MS/MS				8.		
Correct Containers Used:	[]Yes			9.		
-Pace Containers Used:	Z Yes					
Containers Intact:	@Yes			10.		
Filtered volume received for Dissolved tests	□Yes			11.	Note if sedim	ent is visible in the dissolved container.
Sample Labels match COC:	Z Yes	□No		12.		
-Includes date/time/ID/Analysis Matrix SL/V	2					
All containers needing preservation have been checke		□No		13.		
pH paper Lot #40857466		٠.			27	
All containers needing preservation are found to be in		14		Sample #		
compliance with EPA recommendation?		□No				
(HNO₃, H₂SO₄, HCI, NaOH>9 Sulfide, NAOH>12 Cyanide)	Yes					
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease DRO/8015 (water).				Initial when	n completed:	Lot # of added preservative: Date/Time preservative added
Per Method, VOA pH is checked after analysis						
Samples checked for dechlorination:	□Yes	□No	<b>NA</b>	14.		
KI starch test strips Lot #				_		
Residual chlorine strips Lot #			(D. ()	have	ositive for Re	s. Chlorine? Y N
Headspace in VOA Vials ( >6mm):	□Yes			15.		
Trip Blank Present:	□Yes	□No	CIN/A	16.		
Trip Blank Custody Seals Present	□Yes	□No				
Pace Trip Blank Lot # (if applicable):			[			
Client Notification/ Resolution:					Required?	Y / N
Person Contacted:				D	ate/Time: -	
Comments/ Resolution:						·
					Ţ.	

\* PM (Project Manager) review is documented electronically in LIMS.

# 🛟 eurofins

# **Environment Testing TestAmerica**

# ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Tel: (916)373-5600

Laboratory Job ID: 320-48635-1 Client Project/Site: Pace PFAS Testing

### For:

Pace Analytical Services, LLC 575 Broad Hollow Road Melville, New York 11747

Attn: Jennifer Aracri

(Jui Kellmann)

Authorized for release by: 4/4/2019 3:51:01 PM

Jill Kellmann, Manager of Project Management (916)374-4402 jill.kellmann@testamericainc.com



..... Links **Review your project** results through **Total** Access Have a Question? Ask-The Expert Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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# Qualifiers

Qualifiers		3
LCMS Qualifier	Qualifier Description	4
*	Isotope Dilution analyte is outside acceptance limits.	
В	Compound was found in the blank and sample.	5
I	Value is EMPC (estimated maximum possible concentration).	
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	δ
~		

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	ŏ
CFL	Contains Free Liquid	
CNF	Contains No Free Liquid	9
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision Level Concentration (Radiochemistry)	
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	
LOQ	Limit of Quantitation (DoD/DOE)	
MDA	Minimum Detectable Activity (Radiochemistry)	
MDC	Minimum Detectable Concentration (Radiochemistry)	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not Detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative Error Ratio (Radiochemistry)	
RL	Reporting Limit or Requested Limit (Radiochemistry)	
RPD	Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	

TEQ Toxicity Equivalent Quotient (Dioxin)

### Job ID: 320-48635-1

### Laboratory: Eurofins TestAmerica, Sacramento

### Narrative

### Receipt

The samples were received on 3/23/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

### LCMS

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS in the following sample: GM-27I (320-48635-4) and DUP (320-48635-7). The samples were re-analyzed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2 FTS and M2-8:2 FTS in the following sample: GM-27 (320-48635-3) and GM-28 (320-48635-5). The samples were re-analyzed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **Organic Prep**

Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-284798.

Method(s) 3535: The following samples were observed to be a light yellow color and contained sediment at the bottom of the samples containers prior to extraction: GM-26 (320-48635-1), GM-26I (320-48635-2), GM-27 (320-48635-3), GM-27I (320-48635-4), GM-28 (320-48635-5), GM-28I (320-48635-6) and DUP (320-48635-7).

Method(s) 3535: The following samples had non-settleable particulates, which clogged the solid-phase extraction column: GM-26 (320-48635-1) and GM-26I (320-48635-2).

The samples were slightly cloudy after extraction.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Client Sample ID: GM-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Perfluorobutanoic acid	43		2.1	0.36	ng/L	1	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	120		2.1	0.51	ng/L	1	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	84		2.1	0.60	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanoic acid	33		2.1	0.26	ng/L	1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	36		2.1	0.88	ng/L	1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	11		2.1	0.28	ng/L	1	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.6	JI	2.1	0.32	ng/L	1	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	3.1		2.1	1.1	ng/L	1	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.42	JB	2.1	0.30	ng/L	1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.5		2.1	0.21	ng/L	1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	16	В	2.1	0.18	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid	0.52	J	2.1	0.20	ng/L	1	537 (modified)	Total/NA

2.1

21

0.56 ng/L

2.1 ng/L

39

7.7 J

### Client Sample ID: GM-26I

Perfluorooctanesulfonic acid (PFOS)

6:2 FTS

# Lab Sample ID: 320-48635-2

Lab Sample ID: 320-48635-3

537 (modified)

537 (modified)

1

1

Total/NA

Total/NA

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	43	2.1	0.36	ng/L	1	_	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	110	2.1	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	67	2.1	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid	36	2.1	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	26	2.1	0.87	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	8.8	2.1	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.0 J	2.1	0.32	ng/L	1		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.5	2.1	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.9	2.1	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11 B	2.1	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.66 J	2.1	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	25	2.1	0.55	ng/L	1		537 (modified)	Total/NA
6:2 FTS	10 J	21	2.1	ng/L	1		537 (modified)	Total/NA

### Client Sample ID: GM-27

### Analyte **Result Qualifier** RL MDL Unit Dil Fac D Method Prep Type Perfluorobutanoic acid 140 1.9 0.34 ng/L 1 537 (modified) Total/NA Perfluoropentanoic acid (PFPeA) 120 537 (modified) Total/NA 1.9 0.47 ng/L 1 Perfluorohexanoic acid (PFHxA) 220 1.9 0.56 ng/L 1 537 (modified) Total/NA Perfluoroheptanoic acid 98 1.9 0.24 ng/L 1 537 (modified) Total/NA Perfluorooctanoic acid (PFOA) 200 537 (modified) Total/NA 1.9 0.82 ng/L 1 Perfluorononanoic acid (PFNA) 76 537 (modified) Total/NA 1.9 0.26 ng/L 1 Perfluorodecanoic acid (PFDA) 28 1 1.9 0.30 ng/L 537 (modified) Total/NA Perfluoroundecanoic acid (PFUnA) 537 (modified) Total/NA 4.1 1.9 1.1 ng/L 1 Perfluorobutanesulfonic acid (PFBS) 537 (modified) Total/NA 9.5 1.9 0.19 ng/L 1 Perfluorohexanesulfonic acid (PFHxS) 45 B 1.9 0.16 ng/L 1 537 (modified) Total/NA Perfluoroheptanesulfonic Acid 2.1 1.9 0.18 ng/L 1 537 (modified) Total/NA (PFHpS) Perfluorooctanesulfonic acid (PFOS) Total/NA 160 1.9 0.52 ng/L 1 537 (modified) Perfluorooctanesulfonamide (FOSA) 5.1 1.9 0.34 ng/L 1 537 (modified) Total/NA 537 (modified) Total/NA 7.3 J 19 3.0 ng/L 1 N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA)

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

5

### Lab Sample ID: 320-48635-1

## **Detection Summary**

Client: Pace Analytical Services, LLC Project/Site: Pace PFAS Testing

### Client Sample ID: GM-27 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	14	J	19	1.8	ng/L	1	537 (modified)	Total/NA
6:2 FTS	11	J	19	1.9	ng/L	1	537 (modified)	Total/NA
8:2 FTS	3.4	J	19	1.9	ng/L	1	537 (modified)	Total/NA

### Client Sample ID: GM-27I

Analyte	Result Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Perfluorobutanoic acid	58	2.0	0.36	ng/L	1	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	55	2.0	0.50	ng/L	1	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	58	2.0	0.59	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanoic acid	43	2.0	0.25	ng/L	1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	74	2.0	0.87	ng/L	1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	28	2.0	0.28	ng/L	1	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	7.8	2.0	0.32	ng/L	1	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.0	2.0	1.1	ng/L	1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.9	2.0	0.20	ng/L	1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	19 B	2.0	0.17	ng/L	1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	48	2.0	0.55	ng/L	1	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.3 J	2.0	0.36	ng/L	1	537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	3.7 J	20	1.9	ng/L	1	537 (modified)	Total/NA
6:2 FTS	11 J	20	2.0	ng/L	1	537 (modified)	Total/NA

### Client Sample ID: GM-28

### Analyte **Result Qualifier** RL MDL Unit Dil Fac D Method Prep Type Perfluorobutanoic acid 81 1.9 0.34 ng/L 537 (modified) Total/NA 1 537 (modified) Perfluoropentanoic acid (PFPeA) 190 1.9 0.47 ng/L 1 Total/NA 537 (modified) Total/NA Perfluorohexanoic acid (PFHxA) 160 1.9 0.56 ng/L 1 Perfluoroheptanoic acid 0.24 ng/L 1 537 (modified) Total/NA 130 1.9 Perfluorooctanoic acid (PFOA) 537 (modified) Total/NA 340 1.9 0.82 ng/L 1 Perfluorononanoic acid (PFNA) 57 1.9 0.26 ng/L 1 537 (modified) Total/NA Perfluorodecanoic acid (PFDA) 15 1.9 0.30 ng/L 1 537 (modified) Total/NA Perfluoroundecanoic acid (PFUnA) 537 (modified) Total/NA 4.8 1.9 1.1 ng/L 1 Perfluorotetradecanoic acid (PFTeA) 0.33 JB 1.9 537 (modified) Total/NA 0.28 ng/L 1 Perfluorobutanesulfonic acid (PFBS) 1 537 (modified) Total/NA 22 1.9 0.19 ng/L Perfluorohexanesulfonic acid (PFHxS) 140 B 1.9 0.16 ng/L 1 537 (modified) Total/NA 537 (modified) Total/NA Perfluoroheptanesulfonic Acid 3.9 1.9 0.18 ng/L 1 (PFHpS) Perfluorooctanesulfonic acid (PFOS) 150 1 537 (modified) Total/NA 1.9 0.52 ng/L 537 (modified) Total/NA Perfluorooctanesulfonamide (FOSA) 0.68 J 1.9 0.34 ng/L 1 6:2 FTS 7.4 J 19 1.9 ng/L 537 (modified) Total/NA 1 8:2 FTS 537 (modified) Total/NA 2.3 J 19 1.9 ng/L 1

### Client Sample ID: GM-28I

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Perfluorobutanoic acid	22	1.9	0.33 ng/L	1	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	44	1.9	0.47 ng/L	1	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	33	1.9	0.55 ng/L	1	537 (modified)	Total/NA
Perfluoroheptanoic acid	19	1.9	0.24 ng/L	1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	45	1.9	0.81 ng/L	1	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

### Eurofins TestAmerica, Sacramento

Lab Sample ID: 320-48635-6

Job ID: 320-48635-1

Lab Sample ID: 320-48635-3

Lab Sample ID: 320-48635-4

### Client Sample ID: GM-28I (Continued)

5

### Lab Sample ID: 320-48635-6

Lab Sample ID: 320-48635-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	DN	lethod	Prep Type
Perfluorononanoic acid (PFNA)	14		1.9	0.26	ng/L	1	- 5	37 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	7.3		1.9	0.30	ng/L	1	5	37 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	5.5		1.9	1.0	ng/L	1	5	37 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.4		1.9	0.19	ng/L	1	5	37 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14	В	1.9	0.16	ng/L	1	5	37 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.75	J	1.9	0.18	ng/L	1	5	37 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	57		1.9	0.51	ng/L	1	5	37 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.4		1.9	0.33	ng/L	1	5	37 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	5.5	J	19	1.8	ng/L	1	5	37 (modified)	Total/NA
6:2 FTS	52		19	1.9	ng/L	1	5	37 (modified)	Total/NA

### **Client Sample ID: DUP**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Perfluorobutanoic acid	62		2.0	0.35	ng/L	1	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	61		2.0	0.49	ng/L	1	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	62		2.0	0.58	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanoic acid	44		2.0	0.25	ng/L	1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	80		2.0	0.85	ng/L	1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	30		2.0	0.27	ng/L	1	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	9.1		2.0	0.31	ng/L	1	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.1		2.0	1.1	ng/L	1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.5		2.0	0.20	ng/L	1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	20	В	2.0	0.17	ng/L	1	537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.82	J	2.0	0.19	ng/L	1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	49		2.0	0.54	ng/L	1	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.5	J	2.0	0.35	ng/L	1	537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	4.6	J	20	1.9	ng/L	1	537 (modified)	Total/NA
6:2 FTS	14	J	20	2.0	ng/L	1	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

### Client Sample ID: GM-26 Date Collected: 03/20/19 09:05 Date Received: 03/23/19 09:15

# Lab Sample ID: 320-48635-1

Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	43		2.1	0.36	ng/L		03/29/19 05:22	03/30/19 03:20	1
Perfluoropentanoic acid (PFPeA)	120		2.1	0.51	ng/L		03/29/19 05:22	03/30/19 03:20	1
Perfluorohexanoic acid (PFHxA)	84		2.1	0.60	ng/L		03/29/19 05:22	03/30/19 03:20	
Perfluoroheptanoic acid	33		2.1	0.26	ng/L		03/29/19 05:22	03/30/19 03:20	
Perfluorooctanoic acid (PFOA)	36		2.1	0.88	ng/L		03/29/19 05:22	03/30/19 03:20	1
Perfluorononanoic acid (PFNA)	11		2.1	0.28	ng/L		03/29/19 05:22	03/30/19 03:20	1
Perfluorodecanoic acid (PFDA)	1.6	JI	2.1	0.32	ng/L		03/29/19 05:22	03/30/19 03:20	• • • • • •
Perfluoroundecanoic acid (PFUnA)	3.1		2.1	1.1	ng/L		03/29/19 05:22	03/30/19 03:20	
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.57	ng/L		03/29/19 05:22	03/30/19 03:20	1
Perfluorotridecanoic acid (PFTriA)	ND		2.1	1.4	ng/L		03/29/19 05:22	03/30/19 03:20	
Perfluorotetradecanoic acid (PFTeA)	0.42	JB	2.1		ng/L		03/29/19 05:22	03/30/19 03:20	
Perfluorobutanesulfonic acid (PFBS)	6.5		2.1		ng/L			03/30/19 03:20	
Perfluorohexanesulfonic acid (PFHxS)	16		2.1		ng/L			03/30/19 03:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.52	J	2.1		ng/L			03/30/19 03:20	
Perfluorooctanesulfonic acid (PFOS)	39		2.1		ng/L			03/30/19 03:20	
Perfluorodecanesulfonic acid (PFDS)	ND		2.1		ng/L			03/30/19 03:20	
Perfluorooctanesulfonamide (FOSA)	ND		2.1		ng/L			03/30/19 03:20	
N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA)	ND		21		ng/L			03/30/19 03:20	
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	ND		21		ng/L			03/30/19 03:20	
6:2 FTS	7.7	J	21		ng/L			03/30/19 03:20	
3:2 FTS	ND		21	2.1	ng/L		03/29/19 05:22	03/30/19 03:20	
sotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
13C4 PFBA	63		25 - 150				03/29/19 05:22	03/30/19 03:20	· · · · ·
13C5 PFPeA	74		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C2 PFHxA	81		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C4 PFHpA	84		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C4 PFOA	82		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C5 PFNA	82		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C2 PFDA	83		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C2 PFUnA	73		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C2 PFDoA	59		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C2 PFTeDA	67		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C3 PFBS	81		25 - 150				03/29/19 05:22	03/30/19 03:20	
1802 PFHxS	87		25 - 150				03/29/19 05:22	03/30/19 03:20	
13C4 PFOS	77		25 - 150					03/30/19 03:20	
13C8 FOSA	79		25 - 150					03/30/19 03:20	
13-NMeFOSAA	78		25 - 150					03/30/19 03:20	
d5-NEtFOSAA	73		25 - 150					03/30/19 03:20	
M2-6:2 FTS	108		25 - 150					03/30/19 03:20	
M2-8:2 FTS	100		25 - 150					03/30/19 03:20	

### Client Sample ID: GM-26I Date Collected: 03/20/19 09:15 Date Received: 03/23/19 09:15

### Lab Sample ID: 320-48635-2 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	43		2.1	0.36	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluoropentanoic acid (PFPeA)	110		2.1	0.50	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorohexanoic acid (PFHxA)	67		2.1	0.60	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluoroheptanoic acid	36		2.1	0.26	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorooctanoic acid (PFOA)	26		2.1	0.87	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorononanoic acid (PFNA)	8.8		2.1	0.28	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorodecanoic acid (PFDA)	1.0	J	2.1	0.32	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluoroundecanoic acid (PFUnA)	2.5		2.1	1.1	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.56	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorotridecanoic acid (PFTriA)	ND		2.1	1.3	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.30	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorobutanesulfonic acid (PFBS)	3.9		2.1	0.21	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorohexanesulfonic acid (PFHxS)	11	В	2.1	0.17	ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluoroheptanesulfonic Acid PFHpS)	0.66	J	2.1		ng/L		03/29/19 05:22	03/30/19 03:27	1
Perfluorooctanesulfonic acid PFOS)	25		2.1	0.55	ng/L		03/29/19 05:22	03/30/19 03:27	
Perfluorodecanesulfonic acid (PFDS)	ND		2.1	0.33	ng/L		03/29/19 05:22	03/30/19 03:27	
Perfluorooctanesulfonamide (FOSA)	ND		2.1	0.36	ng/L		03/29/19 05:22	03/30/19 03:27	
N-methylperfluorooctanesulfonamidoa etic acid (NMeFOSAA)	ND		21		ng/L		03/29/19 05:22	03/30/19 03:27	
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	ND		21		ng/L		03/29/19 05:22	03/30/19 03:27	
6:2 FTS	10	J	21		ng/L		03/29/19 05:22	03/30/19 03:27	
3:2 FTS	ND		21	2.1	ng/L		03/29/19 05:22	03/30/19 03:27	
sotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
ISC4 PFBA	74		25 - 150				03/29/19 05:22	03/30/19 03:27	
13C5 PFPeA	83		25 - 150				03/29/19 05:22	03/30/19 03:27	-
3C2 PFHxA	90		25 - 150				03/29/19 05:22	03/30/19 03:27	
3C4 PFHpA	93		25 - 150				03/29/19 05:22	03/30/19 03:27	
3C4 PFOA	89		25 - 150					03/30/19 03:27	
3C5 PFNA	92		25 - 150				03/29/19 05:22	03/30/19 03:27	
I3C2 PFDA	90		25 - 150					03/30/19 03:27	
ISC2 PFUnA	79		25 - 150					03/30/19 03:27	
13C2 PFDoA	64		25 - 150					03/30/19 03:27	
ISC2 PFTeDA	64		25 - 150					03/30/19 03:27	
3C3 PFBS	88		25 - 150 25 - 150					03/30/19 03:27	
802 PFHxS	98		25 - 150 25 - 150					03/30/19 03:27	
3C4 PFOS	30 86		25 - 150					03/30/19 03:27	
3C4 FF 03	77		25 - 150 25 - 150					03/30/19 03:27	
IS-NMeFOSAA	78		25 - 150 25 - 150					03/30/19 03:27	
	70 75							03/30/19 03:27	
15-NEtFOSAA M2 6:2 ETS			25 - 150 25 - 150						
M2-6:2 FTS M2-8:2 FTS	99 101		25 - 150 25 - 150					03/30/19 03:27 03/30/19 03:27	1

### **Client Sample ID: GM-27** Date Collected: 03/20/19 10:28 Date Received: 03/23/19 09:15

### Lab Sample ID: 320-48635-3 Matrix: Water

5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	140		1.9	0.34	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluoropentanoic acid (PFPeA)	120		1.9	0.47	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorohexanoic acid (PFHxA)	220	1	1.9	0.56	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluoroheptanoic acid	98		1.9	0.24	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorooctanoic acid (PFOA)	200		1.9	0.82	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorononanoic acid (PFNA)	76		1.9	0.26	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorodecanoic acid (PFDA)	28		1.9	0.30	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluoroundecanoic acid	4.1		1.9	1.1	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorobutanesulfonic acid PFBS)	9.5		1.9	0.19	ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluorohexanesulfonic acid PFHxS)	45	В	1.9		ng/L		03/29/19 05:22	03/30/19 03:35	1
Perfluoroheptanesulfonic Acid PFHpS)	2.1		1.9		ng/L			03/30/19 03:35	1
Perfluorooctanesulfonic acid PFOS)	160		1.9		ng/L			03/30/19 03:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9		ng/L			03/30/19 03:35	1
Perfluorooctanesulfonamide FOSA)	5.1		1.9		ng/L			03/30/19 03:35	1
N-methylperfluorooctanesulfona nidoacetic acid (NMeFOSAA)	7.3		19		ng/L			03/30/19 03:35	1
N-ethylperfluorooctanesulfonami loacetic acid (NEtFOSAA)	14		19		ng/L			03/30/19 03:35	1
5:2 FTS	11		19		ng/L			03/30/19 03:35	1
2:2 FTS	3.4	J	19	1.9	ng/L		03/29/19 05:22	03/30/19 03:35	1
sotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
3C4 PFBA	32		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C5 PFPeA	51		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C2 PFHxA	68		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C4 PFHpA	80		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C4 PFOA	90		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C5 PFNA	86		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C2 PFDA	116		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C2 PFUnA	125		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C2 PFDoA	126		25 - 150				03/29/19 05:22	03/30/19 03:35	1
3C2 PFTeDA	107		25 - 150				03/29/19 05:22	03/30/19 03:35	
3C3 PFBS	95		25 - 150					03/30/19 03:35	
802 PFHxS	112		25 - 150					03/30/19 03:35	1
3C4 PFOS	106		25 - 150					03/30/19 03:35	
3C8 FOSA	88		25 - 150					03/30/19 03:35	
I3-NMeFOSAA	114		25 - 150					03/30/19 03:35	
I5-NEtFOSAA	139		25 - 150					03/30/19 03:35	
12-6:2 FTS	280	*	25 - 150 25 - 150					03/30/19 03:35	
ne 0.2110	200	*	20-100					03/30/19 03:35	

### Client Sample ID: GM-27I Date Collected: 03/20/19 10:08 Date Received: 03/23/19 09:15

# Lab Sample ID: 320-48635-4

Matrix: Water

5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	58		2.0	0.36	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluoropentanoic acid (PFPeA)	55		2.0	0.50	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorohexanoic acid (PFHxA)	58		2.0	0.59	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluoroheptanoic acid	43		2.0	0.25	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorooctanoic acid (PFOA)	74		2.0	0.87	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorononanoic acid (PFNA)	28		2.0	0.28	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorodecanoic acid (PFDA)	7.8		2.0		ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluoroundecanoic acid	2.0		2.0		ng/L		03/29/19 05:22	04/02/19 09:53	1
(PFUnA)					0				
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.30	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorobutanesulfonic acid (PFBS)	3.9		2.0	0.20	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorohexanesulfonic acid (PFHxS)	19	В	2.0	0.17	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluoroheptanesulfonic Acid	ND		2.0	0.19	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorooctanesulfonic acid PFOS)	48		2.0	0.55	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.33	ng/L		03/29/19 05:22	04/02/19 09:53	1
Perfluorooctanesulfonamide FOSA)	1.3	J	2.0	0.36	ng/L		03/29/19 05:22	04/02/19 09:53	1
N-methylperfluorooctanesulfonamidoa etic acid (NMeFOSAA)	ND		20	3.2	ng/L		03/29/19 05:22	04/02/19 09:53	1
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	3.7	J	20		ng/L		03/29/19 05:22	04/02/19 09:53	1
5:2 FTS	11	J	20	2.0	ng/L		03/29/19 05:22	04/02/19 09:53	1
3:2 FTS	ND		20	2.0	ng/L		03/29/19 05:22	04/02/19 09:53	1
sotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
3C4 PFBA	38		25 - 150				•	04/02/19 09:53	
3C5 PFPeA	66		25 - 150					04/02/19 09:53	1
3C2 PFHxA	70		25 - 150					04/02/19 09:53	
3C4 PFHpA	76		25 - 150					04/02/19 09:53	
13C4 PFOA	97		25 - 150					04/02/19 09:53	
13C5 PFNA	101		25 - 150					04/02/19 09:53	1
13C2 PFDA	122		25 - 150					04/02/19 09:53	
13C2 PFUnA	126		25 - 150 25 - 150					04/02/19 09:53	1
13C2 PFDoA	119		25 - 150 25 - 150					04/02/19 09:53	
ISC2 FFD0A	119		25 - 150 25 - 150					04/02/19 09:53	
3C2 FFTEDA 13C3 PFBS	89		25 - 150 25 - 150					04/02/19 09:53	1
1802 PFHxS									
	91		25 - 150 25 - 150					04/02/19 09:53	1 
13C4 PFOS	98		25 - 150					04/02/19 09:53	
13C8 FOSA	89		25 - 150					04/02/19 09:53	1
13-NMeFOSAA	128		25 - 150					04/02/19 09:53	1
d5-NEtFOSAA	139		25 - 150					04/02/19 09:53	1
M2-6:2 FTS	147		25 - 150				03/29/19 05:22	04/02/19 09:53	1
M2-8:2 FTS	176	*	25 - 150				03/29/19 05:22	04/02/19 09:53	

### **Client Sample ID: GM-28** Date Collected: 03/20/19 11:25 Date Received: 03/23/19 09:15

### Lab Sample ID: 320-48635-5 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Perfluorobutanoic acid	81		1.9	0.34	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluoropentanoic acid (PFPeA)	190		1.9	0.47	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorohexanoic acid (PFHxA)	160		1.9	0.56	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluoroheptanoic acid	130		1.9	0.24	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorooctanoic acid (PFOA)	340		1.9	0.82	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorononanoic acid (PFNA)	57		1.9	0.26	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorodecanoic acid (PFDA)	15		1.9	0.30	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluoroundecanoic acid (PFUnA)	4.8		1.9	1.1	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorotetradecanoic acid (PFTeA)	0.33	JB	1.9	0.28	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorobutanesulfonic acid (PFBS)	22		1.9		ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorohexanesulfonic acid (PFHxS)	140	В	1.9	0.16	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluoroheptanesulfonic Acid (PFHpS)	3.9		1.9	0.18	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorooctanesulfonic acid (PFOS)	150		1.9	0.52	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		03/29/19 05:22	03/30/19 03:50	
Perfluorooctanesulfonamide (FOSA)	0.68	J	1.9	0.34	ng/L		03/29/19 05:22	03/30/19 03:50	
N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA)	ND		19		ng/L		03/29/19 05:22	03/30/19 03:50	
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	ND		19	1.8	ng/L		03/29/19 05:22	03/30/19 03:50	
6:2 FTS	7.4	J	19	1.9	ng/L		03/29/19 05:22	03/30/19 03:50	
B:2 FTS	2.3	J	19	1.9	ng/L		03/29/19 05:22	03/30/19 03:50	
sotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
13C4 PFBA	33		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C5 PFPeA	54		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C2 PFHxA	73		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C4 PFHpA	91		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C4 PFOA	96		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C5 PFNA	111		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C2 PFDA	127		25 - 150				03/29/19 05:22	03/30/19 03:50	
13C2 PFUnA	135		25 - 150					03/30/19 03:50	
13C2 PFDoA	127		25 - 150					03/30/19 03:50	
13C2 PFTeDA	130		25 - 150					03/30/19 03:50	
13C3 PFBS	84		25 - 150					03/30/19 03:50	
1802 PFHxS	110		25 - 150					03/30/19 03:50	
13C4 PFOS	112		25 - 150					03/30/19 03:50	
13C8 FOSA	108		25 - 150					03/30/19 03:50	
d3-NMeFOSAA	123		25 - 150					03/30/19 03:50	
d5-NEtFOSAA	142		25 - 150 25 - 150					03/30/19 03:50	
M2-6:2 FTS	237	*	25 - 150 25 - 150					03/30/19 03:50	
M2-0.2 FTS M2-8:2 FTS	237 194		25 - 150 25 - 150					03/30/19 03:50	

### **Client Sample ID: GM-28I** Date Collected: 03/20/19 11:15 Date Received: 03/23/19 09:15

### Lab Sample ID: 320-48635-6 Matrix: Water

Method: 537 (modified) - Fluor Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	22		1.9	0.33	ng/L		03/29/19 05:22	04/02/19 10:08	1
Perfluoropentanoic acid (PFPeA)	44		1.9	0.47	-		03/29/19 05:22	04/02/19 10:08	
Perfluorohexanoic acid (PFHxA)	33		1.9		ng/L		03/29/19 05:22	04/02/19 10:08	
Perfluoroheptanoic acid	19		1.9		ng/L		03/29/19 05:22	04/02/19 10:08	
Perfluorooctanoic acid (PFOA)	45		1.9		ng/L		03/29/19 05:22	04/02/19 10:08	
Perfluorononanoic acid (PFNA)	14		1.9	0.26	ng/L		03/29/19 05:22	04/02/19 10:08	
Perfluorodecanoic acid (PFDA)	7.3		1.9	0.30	ng/L		03/29/19 05:22	04/02/19 10:08	
Perfluoroundecanoic acid PFUnA)	5.5		1.9		ng/L		03/29/19 05:22	04/02/19 10:08	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/29/19 05:22	04/02/19 10:08	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2	ng/L		03/29/19 05:22	04/02/19 10:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		03/29/19 05:22	04/02/19 10:08	
Perfluorobutanesulfonic acid PFBS)	3.4		1.9	0.19	ng/L		03/29/19 05:22	04/02/19 10:08	1
Perfluorohexanesulfonic acid PFHxS)	14		1.9	0.16	-			04/02/19 10:08	
Perfluoroheptanesulfonic Acid PFHpS)	0.75	J	1.9	0.18	-			04/02/19 10:08	
Perfluorooctanesulfonic acid	57		1.9	0.51	ng/L		03/29/19 05:22	04/02/19 10:08	
PFOS) Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/29/19 05 22	04/02/19 10:08	
Perfluorooctanesulfonamide FOSA)	2.4		1.9		ng/L			04/02/19 10:08	
N-methylperfluorooctanesulfonamidoa	ND		19	3.0	ng/L		03/29/19 05:22	04/02/19 10:08	
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	5.5	J	19	1.8	ng/L		03/29/19 05:22	04/02/19 10:08	
6:2 FTS	52		19		ng/L		03/29/19 05:22	04/02/19 10:08	
3:2 FTS	ND		19	1.9	ng/L		03/29/19 05:22	04/02/19 10:08	1
sotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
13C4 PFBA	52		25 - 150				03/29/19 05:22	04/02/19 10:08	·
13C5 PFPeA	74		25 - 150				03/29/19 05:22	04/02/19 10:08	1
13C2 PFHxA	75		25 - 150				03/29/19 05:22	04/02/19 10:08	
13C4 PFHpA	85		25 - 150				03/29/19 05:22	04/02/19 10:08	
13C4 PFOA	93		25 - 150				03/29/19 05:22	04/02/19 10:08	
13C5 PFNA	99		25 - 150					04/02/19 10:08	1
13C2 PFDA	116		25 - 150					04/02/19 10:08	
13C2 PFUnA	105		25 - 150					04/02/19 10:08	1
13C2 PFDoA	103		25 - 150					04/02/19 10:08	
13C2 PFTeDA	106		25 - 150					04/02/19 10:08	
13C3 PFBS	88		25 - 150					04/02/19 10:08	
1802 PFHxS	93		25 - 150					04/02/19 10:08	
13C4 PFOS	92 92		25 - 150					04/02/19 10:08	
13C8 FOSA	95		25 - 150 25 - 150					04/02/19 10:08	
13-NMeFOSAA	95 111		25 - 150 25 - 150					04/02/19 10:08	
15-NEtFOSAA	116		25 - 150 25 - 150					04/02/19 10:08	
M2-6:2 FTS								04/02/19 10:08	1
M2-0.2 FTS M2-8:2 FTS	136 147		25 - 150 25 - 150					04/02/19 10:08	-

### **Client Sample ID: DUP** Date Collected: 03/20/19 10:10 Date Received: 03/23/19 09:15

### Lab Sample ID: 320-48635-7 Matrix: Water

62								
		2.0	0.35	ng/L		03/29/19 05:22	04/02/19 10:15	1
61		2.0	0.49	ng/L		03/29/19 05:22	04/02/19 10:15	1
62		2.0	0.58	ng/L		03/29/19 05:22	04/02/19 10:15	
44		2.0	0.25	ng/L		03/29/19 05:22	04/02/19 10:15	
80		2.0		-		03/29/19 05:22	04/02/19 10:15	
30		2.0		-		03/29/19 05:22	04/02/19 10:15	
9.1		2.0		-		03/29/19 05:22	04/02/19 10:15	
2.1		2.0	1.1	ng/L		03/29/19 05:22	04/02/19 10:15	1
ND		2.0	0.55	ng/L		03/29/19 05:22	04/02/19 10:15	1
ND		2.0	1.3	ng/L		03/29/19 05:22	04/02/19 10:15	1
ND		2.0		-		03/29/19 05:22	04/02/19 10:15	
4.5		2.0	0.20	ng/L		03/29/19 05:22	04/02/19 10:15	1
		2.0		-				
	J			-				1
				-				•
ND		2.0		-				
	J	2.0		0				
ND		20	3.1	ng/L		03/29/19 05:22	04/02/19 10:15	
4.6	J	20	1.9	ng/L		03/29/19 05:22	04/02/19 10:15	
14	J	20	2.0	ng/L		03/29/19 05:22	04/02/19 10:15	
ND		20		-		03/29/19 05:22	04/02/19 10:15	
%Recoverv	Qualifier	Limits				Prepared	Analvzed	Dil Fa
		25 - 150				•	•	
								•
								1
		25 - 150						
148		25 - 150				03/29/19 05:22	04/02/19 10:15	1
	80 30 9.1 2.1 ND ND ND 4.5 20 0.82 49 ND 1.5 ND 4.6 14 ND %Recovery 35 66 72 79 93 100 125 129 125 129 95 94 102 89 142 144 148	80 30 9.1 2.1 ND ND ND 4.5 20 B 0.82 J 49 ND 1.5 J ND 4.6 J 14 J ND <b>%Recovery</b> Qualifier 35 66 72 79 93 100 125 129 95 94 102 89 142 144	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	80         2.0         0.85 $g/L$ 30         2.0         0.27 $ng/L$ 9.1         2.0         0.31 $ng/L$ 2.1         2.0         1.1 $ng/L$ ND         2.0         0.55 $ng/L$ ND         2.0         0.55 $ng/L$ ND         2.0         0.29 $ng/L$ ND         2.0         0.29 $ng/L$ 4.5         2.0         0.20 $ng/L$ 0.82         J         2.0         0.17 $ng/L$ 49         2.0         0.54 $ng/L$ 49         2.0         0.54 $ng/L$ ND         2.0         0.32 $ng/L$ 1.5         J         2.0         0.32 $ng/L$ ND         20         3.1 $ng/L$ $ng/L$ 4.6         J         20         1.9 $ng/L$ MD         20         2.0 $ng/L$ $ng/L$ MD         20         2.0 $ng/L$ $ng/L$	80         2.0         0.85 ng/L           30         2.0         0.27 ng/L           9.1         2.0         0.31 ng/L           2.1         2.0         1.1 ng/L           ND         2.0         0.55 ng/L           ND         2.0         1.3 ng/L           ND         2.0         0.29 ng/L           4.5         2.0         0.20 ng/L           20         B         2.0         0.17 ng/L           0.82         J         2.0         0.19 ng/L           49         2.0         0.54 ng/L           ND         2.0         0.32 ng/L           1.5         J         2.0         0.32 ng/L           ND         2.0         0.32 ng/L         0.35 ng/L           ND         2.0         0.32 ng/L         0.32 ng/L           ND         2.0         0.32 ng/L         0.32 ng/L           ND         2.0         0.32 ng/L         0.32 ng/L           ND         2.0         0.31 ng/L         14 J           4.6         J         2.0         ng/L           14         J         2.0         2.0 ng/L           %Recovery         Qualifier         Limi	80         2.0         0.85         ng/L         03/29/19 05:22           30         2.0         0.27         ng/L         03/29/19 05:22           9.1         2.0         0.31         ng/L         03/29/19 05:22           2.1         2.0         1.1         ng/L         03/29/19 05:22           ND         2.0         0.55         ng/L         03/29/19 05:22           ND         2.0         1.3         ng/L         03/29/19 05:22           ND         2.0         0.29         ng/L         03/29/19 05:22           A.5         2.0         0.20         ng/L         03/29/19 05:22           QB         2.0         0.17         ng/L         03/29/19 05:22           0.82         J         2.0         0.54         ng/L         03/29/19 05:22           ND         2.0         0.32         ng/L         03/29/19 05:22           ND         2.0         0.35         ng/L         03/29/19 05:22           ND         2.0         0.35         ng/L         03/29/19 05:22           ND         2.0         ng/L         03/29/19 05:22         03/29/19 05:22           ND         2.0         ng/L         03/29/19 05:22	80         2.0         0.85         ng/L         03/29/19 05:22         04/02/19 10:15           30         2.0         0.27         ng/L         03/29/19 05:22         04/02/19 10:15           9.1         2.0         0.31         ng/L         03/29/19 05:22         04/02/19 10:15           2.1         2.0         1.1         ng/L         03/29/19 05:22         04/02/19 10:15           ND         2.0         0.25         ng/L         03/29/19 05:22         04/02/19 10:15           ND         2.0         0.29         ng/L         03/29/19 05:22         04/02/19 10:15           ND         2.0         0.29         ng/L         03/29/19 05:22         04/02/19 10:15           4.5         2.0         0.17         ng/L         03/29/19 05:22         04/02/19 10:15           0.82         J         2.0         0.54         ng/L         03/29/19 05:22         04/02/19 10:15           1.5         J         2.0         0.32         ng/L         03/29/19 05:22         04/02/19 10:15           1.6         J         2.0         0.32         ng/L         03/29/19 05:22         04/02/19 10:15           1.6         J         2.0         0.32         ng/L         03/29/1

### Method: 537 (modified) - Fluorinated Alkyl Substances Matrix: Water

		Percent Isotope Dilution Recovery (Acceptance Limits)										
		PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA			
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)			
320-48635-1	GM-26	63	74	81	84	82	82	83	73			
320-48635-2	GM-26I	74	83	90	93	89	92	90	79			
320-48635-3	GM-27	32	51	68	80	90	86	116	125			
320-48635-4	GM-271	38	66	70	76	97	101	122	126			
320-48635-5	GM-28	33	54	73	91	96	111	127	135			
320-48635-6	GM-28I	52	74	75	85	93	99	116	105			
320-48635-7	DUP	35	66	72	79	93	100	125	129			
LCS 320-284798/2-A	Lab Control Sample	98	97	96	93	95	96	104	102			
LCSD 320-284798/3-A	Lab Control Sample Dup	96	99	96	95	97	101	101	97			
MB 320-284798/1-A	Method Blank	99	99	94	98	98	101	100	97			

		Percent Isotope Dilution Recovery (Acceptance Limits)										
		PFDoA	PFTDA	3C3-PFB	PFHxS	PFOS	PFOSA	-NMeFOS	-NEtFOS/			
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)			
320-48635-1	GM-26	59	67	81	87	77	79	78	73			
320-48635-2	GM-26I	64	64	88	98	86	77	78	75			
320-48635-3	GM-27	126	107	95	112	106	88	114	139			
320-48635-4	GM-27I	119	112	89	91	98	89	128	139			
320-48635-5	GM-28	127	130	84	110	112	108	123	142			
320-48635-6	GM-28I	103	106	88	93	92	95	111	116			
320-48635-7	DUP	125	129	95	94	102	89	142	144			
LCS 320-284798/2-A	Lab Control Sample	94	113	97	102	97	95	113	107			
LCSD 320-284798/3-A	Lab Control Sample Dup	93	111	96	99	91	90	107	104			
MB 320-284798/1-A	Method Blank	86	103	98	101	92	88	105	101			

			Percent	Isotope Dilution Recovery (Acceptance Limits)
		M262FTS	M282FTS	
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	
320-48635-1	GM-26	108	100	
320-48635-2	GM-26I	99	101	
320-48635-3	GM-27	280 *	220 *	
320-48635-4	GM-27I	147	176 *	
320-48635-5	GM-28	237 *	194 *	
320-48635-6	GM-28I	136	147	
320-48635-7	DUP	148	177 *	
LCS 320-284798/2-A	Lab Control Sample	108	116	
LCSD 320-284798/3-A	Lab Control Sample Dup	104	111	
MB 320-284798/1-A	Method Blank	105	121	

### Surrogate Legend

PFBA = 13C4 PFBA PFPeA = 13C5 PFPeA PFHxA = 13C2 PFHxA PFHpA = 13C4 PFHpA PFOA = 13C4 PFOA PFNA = 13C5 PFNA PFDA = 13C2 PFDA PFUNA = 13C2 PFUNA PFDoA = 13C2 PFDoA PFTDA = 13C2 PFTeDA 13C3-PFBS = 13C3 PFBS

### Prep Type: Total/NA

5

### **Isotope Dilution Summary**

Client: Pace Analytical Services, LLC Project/Site: Pace PFAS Testing PFHxS = 1802 PFHxS PFOS = 13C4 PFOS PFOSA = 13C8 FOSA d3-NMeFOSAA = d3-NMeFOSAA d5-NEtFOSAA = d5-NEtFOSAA M262FTS = M2-6:2 FTS M282FTS = M2-8:2 FTS

Eurofins TestAmerica, Sacramento

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

### Method: 537 (modified) - Fluorinated Alkyl Substances

### Lab Sample ID: MB 320-284798/1-A Matrix: Water Analysis Batch: 284990

								Frep Type. It		
Analysis Batch: 284990		МВ						Prep Batch:	284798	
Analyte		MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	5
Perfluorobutanoic acid	ND		2.0	0.35	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluoroheptanoic acid	ND		2.0	0.25	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorotetradecanoic acid (PFTeA)	0.455	JI	2.0	0.29	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorohexanesulfonic acid (PFHxS)	0.301	J	2.0	0.17	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluoroheptanesulfonic Acid	ND		2.0	0.19	ng/L		03/29/19 05:22	03/30/19 01:42	1	
(PFHpS)					Ũ					2
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		03/29/19 05:22	03/30/19 01:42	1	
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		03/29/19 05:22	03/30/19 01:42	1	2
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		03/29/19 05:22	03/30/19 01:42	1	
N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA)	ND		20	3.1	ng/L		03/29/19 05:22	03/30/19 01:42	1	
N-ethylperfluorooctanesulfonamidoac	ND		20	1.9	ng/L		03/29/19 05:22	03/30/19 01:42	1	
etic acid (NEtFOSAA) 6:2 FTS	ND		20	20	ng/L		03/29/19 05:22	03/30/19 01:42	1	
8:2 FTS	ND		20		ng/L			03/30/19 01:42	1	
0.2110		MB	20	2.0	iig/L		00/20/10 00.22	00/00/10 01.42		
Isotope Dilution	%Recovery		Limits				Prepared	Analyzed	Dil Fac	
13C4 PFBA	99		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C5 PFPeA	99		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C2 PFHxA	94		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C4 PFHpA	98		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C4 PFOA	98		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C5 PFNA	101		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C2 PFDA	100		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C2 PFUnA	97		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C2 PFDoA	86		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C2 PFTeDA	103		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C3 PFBS	98		25 - 150					03/30/19 01:42	1	
18O2 PFHxS	101		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C4 PFOS	92		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
13C8 FOSA	88		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
d3-NMeFOSAA	105		25 - 150				03/29/19 05:22	03/30/19 01:42	1	
d5-NEtFOSAA	101		25 - 150					03/30/19 01:42	1	
M2-6:2 FTS	105		25 - 150					03/30/19 01:42	1	
M2-8:2 FTS	121		25 - 150					03/30/19 01:42	1	

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**Client Sample ID: Lab Control Sample** 

### Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-284798/2	- <b>A</b>
Motrix: Motor	

Matrix: Water									Prep Type: Total/NA
Analysis Batch: 284990									Prep Batch: 284798
Analysis Baten. 204000			Spike	LCS	LCS				%Rec.
Analyte			Added		Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid			40.0	42.4		ng/L		106	70 - 130
Perfluoropentanoic acid (PFPeA)			40.0	41.1		ng/L		103	66 - 126
Perfluorohexanoic acid (PFHxA)			40.0	40.2		ng/L		100	66 - 126
Perfluoroheptanoic acid			40.0	41.3		ng/L		103	66 - 126
Perfluorooctanoic acid (PFOA)			40.0	42.0		ng/L		105	64 - 124
Perfluorononanoic acid (PFNA)			40.0	42.8		ng/L		107	68 - 128
Perfluorodecanoic acid (PFDA)			40.0	42.8		ng/L		107	69 - 129
Perfluoroundecanoic acid			40.0	38.4		ng/L		96	60 - 120
(PFUnA)									
Perfluorododecanoic acid (PFDoA)			40.0	42.8		ng/L		107	71 - 131
Perfluorotridecanoic acid (PFTriA)			40.0	48.3		ng/L		121	72 - 132
Perfluorotetradecanoic acid (PFTeA)			40.0	39.3		ng/L		98	68 - 128
Perfluorobutanesulfonic acid (PFBS)			35.4	37.3		ng/L		105	73 - 133
Perfluorohexanesulfonic acid (PFHxS)			36.4	34.5		ng/L		95	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	41.3		ng/L		108	68 - 128
Perfluorooctanesulfonic acid (PFOS)			37.1	37.7		ng/L		101	67 - 127
Perfluorodecanesulfonic acid (PFDS)			38.6	39.2		ng/L		102	68 - 128
Perfluorooctanesulfonamide (FOSA)			40.0	42.1		ng/L		105	70 - 130
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)			40.0	38.6		ng/L		97	67 - 127
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)			40.0	38.9		ng/L		97	65 - 125
6:2 FTS			37.9	36.2		ng/L		95	66 - 126
8:2 FTS			38.3	36.8		ng/L		96	67 - 127
		LCS							
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	98		25 - 150						
13C5 PFPeA	97		25 - 150						
13C2 PFHxA	96		25 - 150						
13C4 PFHpA	93		25 - 150						
13C4 PFOA	95		25 - 150						
13C5 PFNA	96		25 - 150						
13C2 PFDA	104		25 - 150						
13C2 PFUnA	102		25 - 150						
13C2 PFDoA	94		25 - 150						
13C2 PFTeDA	113		25 - 150						
13C3 PFBS	97		25 - 150						
18O2 PFHxS	102		25 - 150						
13C4 PFOS	97		25 - 150						
13C8 FOSA	95		25 - 150						
d3-NMeFOSAA	113		25 - 150						
d5-NEtFOSAA	107		25 - 150						

### **QC Sample Results**

Prep Type: Total/NA

Prep Batch: 284798

Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

**Client Sample ID: Lab Control Sample Dup** 

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

### Lab Sample ID: LCS 320-284798/2-A Matrix: Water

### Analysis Batch: 284990

13C2 PFDA

13C2 PFUnA

13C2 PFDoA

	LCS	LCS	
Isotope Dilution	%Recovery	Qualifier	Limits
M2-6:2 FTS	108		25 - 150
M2-8:2 FTS	116		25 - 150

### Lab Sample ID: LCSD 320-284798/3-A Matrix: Water Analysis Batch: 284990

Analysis Batch: 284990			Spike		LCSD				Prep Ty Prep Ba %Rec.	atch: 28	84798 RPD
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Perfluorobutanoic acid			40.0	42.6		ng/L		107	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)			40.0	39.4		ng/L		99	66 - 126	4	30
Perfluorohexanoic acid (PFHxA)			40.0	41.4		ng/L		104	66 - 126	3	30
Perfluoroheptanoic acid			40.0	39.5		ng/L		99	66 - 126	4	30
Perfluorooctanoic acid (PFOA)			40.0	40.8		ng/L		102	64 - 124	3	30
Perfluorononanoic acid (PFNA)			40.0	40.0		ng/L		100	68 - 128	7	30
Perfluorodecanoic acid (PFDA)			40.0	41.8		ng/L		104	69 - 129	2	30
Perfluoroundecanoic acid (PFUnA)			40.0	37.5		ng/L		94	60 - 120	2	30
Perfluorododecanoic acid (PFDoA)			40.0	40.8		ng/L		102	71 - 131	5	30
Perfluorotridecanoic acid (PFTriA)			40.0	48.3		ng/L		121	72 - 132	0	30
Perfluorotetradecanoic acid (PFTeA)			40.0	40.6		ng/L		102	68 - 128	3	30
Perfluorobutanesulfonic acid (PFBS)			35.4	35.9		ng/L		102	73 - 133	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	35.7		ng/L		98	63 - 123	3	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	42.6		ng/L		112	68 - 128	3	30
Perfluorooctanesulfonic acid (PFOS)			37.1	38.3		ng/L		103	67 - 127	2	30
Perfluorodecanesulfonic acid (PFDS)			38.6	39.8		ng/L		103	68 - 128	1	30
Perfluorooctanesulfonamide (FOSA)			40.0	43.8		ng/L		109	70 - 130	4	30
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)			40.0	37.3		ng/L		93	67 - 127	3	30
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)			40.0	37.3		ng/L		93	65 - 125	4	30
6:2 FTS			37.9	39.1		ng/L		103	66 - 126	8	30
8:2 FTS			38.3	36.1		ng/L		94	67 _ 127	2	30
		LCSD									
Isotope Dilution	%Recovery	Qualifier	Limits								
13C4 PFBA	96		25 - 150								
13C5 PFPeA	99		25 - 150								
13C2 PFHxA	96		25 - 150								
13C4 PFHpA	95		25 - 150								
13C4 PFOA	97		25 - 150								
13C5 PFNA	101		25 - 150								
	101		05 450								

25 - 150

25 - 150

25 - 150

101

97

93

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### Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320 Matrix: Water	)-284798/3-A			Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA
Analysis Batch: 284990				Prep Batch: 284798
-	LCSD	LCSD		
Isotope Dilution	%Recovery	Qualifier	Limits	
13C2 PFTeDA	111		25 - 150	
13C3 PFBS	96		25 - 150	
18O2 PFHxS	99		25 - 150	
13C4 PFOS	91		25 - 150	
13C8 FOSA	90		25 - 150	
d3-NMeFOSAA	107		25 - 150	
d5-NEtFOSAA	104		25 - 150	
M2-6:2 FTS	104		25 - 150	
M2-8:2 FTS	111		25 - 150	

Eurofins TestAmerica, Sacramento

### LCMS

### Prep Batch: 284798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-48635-1	GM-26	Total/NA	Water	3535	
320-48635-2	GM-26I	Total/NA	Water	3535	
320-48635-3	GM-27	Total/NA	Water	3535	
320-48635-4	GM-27I	Total/NA	Water	3535	
320-48635-5	GM-28	Total/NA	Water	3535	
320-48635-6	GM-28I	Total/NA	Water	3535	
320-48635-7	DUP	Total/NA	Water	3535	
MB 320-284798/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-284798/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-284798/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

### Analysis Batch: 284990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
320-48635-1	GM-26	Total/NA	Water	537 (modified)	284798	
320-48635-2	GM-26I	Total/NA	Water	537 (modified)	284798	
320-48635-3	GM-27	Total/NA	Water	537 (modified)	284798	
320-48635-5	GM-28	Total/NA	Water	537 (modified)	284798	
MB 320-284798/1-A	Method Blank	Total/NA	Water	537 (modified)	284798	
LCS 320-284798/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	284798	
LCSD 320-284798/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	284798	

### Analysis Batch: 285468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method F	Prep Batch
320-48635-4	GM-27I	Total/NA	Water	537 (modified)	284798
320-48635-6	GM-28I	Total/NA	Water	537 (modified)	284798
320-48635-7	DUP	Total/NA	Water	537 (modified)	284798

Batch

Туре

Prep

Analysis

Batch

Туре

Prep

Analysis

Batch

Туре

Prep

Analysis

Batch

3535

Batch

3535

Batch

3535

Method

537 (modified)

Method

537 (modified)

Method

537 (modified)

### **Client Sample ID: GM-26** Date Collected: 03/20/19 09:05 Date Received: 03/23/19 09:15

Client Sample ID: GM-26I

Date Collected: 03/20/19 09:15

Date Received: 03/23/19 09:15

Client Sample ID: GM-27

Date Collected: 03/20/19 10:28

Date Received: 03/23/19 09:15

Prep Type

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

**Prep Type** 

Total/NA

Total/NA

### Lab Sample ID: 320-48635-1 Matrix: Water

Analyst

Analyst

Analyst

MNV

Lab Sample ID: 320-48635-4

Lab Sample ID: 320-48635-5

Lab Sample ID: 320-48635-6

MNV

Lab Sample ID: 320-48635-3

MNV

Lab Sample ID: 320-48635-2

Lab

TAL SAC

TAL SAC

Matrix: Water

Lab

TAL SAC

TAL SAC

Matrix: Water

Lab

TAL SAC

TAL SAC

Matrix: Water

Matrix: Water

Matrix: Water

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Client Sample ID: GM-27I Date Collected: 03/20/19 10:08 Date Received: 03/23/19 09:15

	Batch	Batch	_	Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			245.1 mL	10.00 mL	284798	03/29/19 05:22	MNV	TAL SAC
Total/NA	Analysis	537 (modified)		1			285468	04/02/19 09:53	S1M	TAL SAC

Lab Chronicle

Initial

**∆**mount

240.7 mL

Initial

Amount

243.6 mL

Initial

Amount

259.9 mL

Batch

Number

284798

284990

Batch

Number

284798

284990

Batch

Number

284798

284990

Prepared

or Analyzed

03/29/19 05:22

Prepared

or Analyzed

03/29/19 05:22

Prepared

or Analyzed

03/29/19 05:22

03/30/19 03:35 S1M

03/30/19 03:27 S1M

03/30/19 03:20 S1M

Final

Amount

10.00 mL

Final

Amount

10.00 mL

Final

Amount

10.00 mL

Dil

1

Dil

1

Dil

1

Factor

Factor

Factor

Run

Run

Run

### Client Sample ID: GM-28 Date Collected: 03/20/19 11:25 Date Received: 03/23/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analvzed	Analvst	Lab
Total/NA	Prep	3535			258.6 mL	10.00 mL	284798			TAL SAC
Total/NA	Analysis	537 (modified)		1			284990	03/30/19 03:50	S1M	TAL SAC

### **Client Sample ID: GM-28I** Date Collected: 03/20/19 11:15 Date Received: 03/23/19 09:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			262.4 mL	10.00 mL	284798	03/29/19 05:22	MNV	TAL SAC
Total/NA	Analysis	537 (modified)		1			285468	04/02/19 10:08	S1M	TAL SAC

**Client Sample ID: DUP** 

Date Collected: 03/20/19 10:10

Date Received: 03/23/19 09:15

**Matrix: Water** 

Lab Sample ID: 320-48635-7

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			250.2 mL	10.00 mL	284798	03/29/19 05:22	MNV	TAL SAC
Total/NA	Analysis	537 (modified)		1			285468	04/02/19 10:15	S1M	TAL SAC

### Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

# Accreditation/Certification Summary

Client: Pace Analytical Services, LLC Project/Site: Pace PFAS Testing Job ID: 320-48635-1

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### Laboratory: Eurofins TestAmerica, Sacramento Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. Authority Program EPA Region Identification Number **Expiration Date** New York NELAP 2 11666 03-31-19 \* The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification. Analysis Method Prep Method Matrix Analyte 537 (modified) 3535 Water 6:2 FTS 537 (modified) 3535 8:2 FTS Water 537 (modified) 3535 Water N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) 537 (modified) 3535 Water N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) 537 (modified) 3535 Water Perfluorobutanesulfonic acid (PFBS) 537 (modified) 3535 Water Perfluorobutanoic acid 537 (modified) 3535 Water Perfluorodecanesulfonic acid (PFDS) 537 (modified) 3535 Water Perfluorodecanoic acid (PFDA) 537 (modified) 3535 Water Perfluorododecanoic acid (PFDoA) 537 (modified) 3535 Water Perfluoroheptanesulfonic Acid (PFHpS) 537 (modified) 3535 Water Perfluoroheptanoic acid 537 (modified) 3535 Water Perfluorohexanesulfonic acid (PFHxS) 537 (modified) 3535 Water Perfluorohexanoic acid (PFHxA) 537 (modified) 3535 Water Perfluorononanoic acid (PFNA) 537 (modified) 3535 Water Perfluorooctanesulfonamide (FOSA) 537 (modified) Perfluorooctanesulfonic acid (PFOS) 3535 Water 537 (modified) 3535 Water Perfluorooctanoic acid (PFOA) 537 (modified) 3535 Perfluoropentanoic acid (PFPeA) Water 537 (modified) 3535 Water Perfluorotetradecanoic acid (PFTeA) 537 (modified) 3535 Water Perfluorotridecanoic acid (PFTriA) 537 (modified) 3535 Water Perfluoroundecanoic acid (PFUnA)

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# **Method Summary**

### Client: Pace Analytical Services, LLC Project/Site: Pace PFAS Testing

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

### **Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

### **Sample Summary**

### Client: Pace Analytical Services, LLC Project/Site: Pace PFAS Testing

Job ID: 320-48635-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-48635-1	GM-26	Water	03/20/19 09:05	03/23/19 09:15
320-48635-2	GM-26I	Water	03/20/19 09:15 0	03/23/19 09:15
320-48635-3	GM-27	Water	03/20/19 10:28 0	03/23/19 09:15
320-48635-4	GM-27I	Water	03/20/19 10:08 0	03/23/19 09:15
320-48635-5	GM-28	Water	03/20/19 11:25 0	03/23/19 09:15
320-48635-6	GM-28I	Water	03/20/19 11:15 0	03/23/19 09:15
320-48635-7	DUP	Water	03/20/19 10:10 0	03/23/19 09:15

Algebraic from the	Introne to Intervention     Suprement to Intervention     Recenter to Constraints     Recenter to Constraints     Recenter to Constraints       Intervention     Test America-Sacramento     p.O.(2082)18/3A     Provention       Intervention     Book Nitrants     Statamento, CA 95605     Provention       Intervention     Douloct     Provention     Provention       Intervention     Douloct     Neet     Provention       Intervention     Douloct     Neet     Provention       Intervention     Douloct     Neet     Neet     Neet       Intervention     Doue     Neet     Neet     Neet       Interventin     Neet     Neet     Neet </th <th>Workorder: 7082918</th> <th>Workor</th> <th>Workorder Name:</th> <th>WELL C</th> <th>LUSTER</th> <th>WELL CLUSTER 26,27,28 ROUTINE</th> <th>ROUTINE</th> <th>-</th> <th>Results Requested By:</th> <th>By: 4/3/2019</th> <th></th> <th></th>	Workorder: 7082918	Workor	Workorder Name:	WELL C	LUSTER	WELL CLUSTER 26,27,28 ROUTINE	ROUTINE	-	Results Requested By:	By: 4/3/2019		
Methoding Interviewing Method	International model     Test America-Sacramento     Polynomia       Bood Mone Read     S80 Riverside Pkwy       Bood Mone Read     S80 Riverside Pkwy       Bood Not 1173     S80 Riverside Pkwy       Bood Not 1174     Defense       Bood Not 1174     Defense       Bood Not 1174     Defense       Bood Not 117     Defense       Bood Not 1174     Defense       Bood Not 1175     Defense       Bood Not 1175 <th>Report / Invoice To</th> <th></th> <th>Subco</th> <th>ntract To</th> <th></th> <th></th> <th></th> <th></th> <th>Reque</th> <th>sted Analysis</th> <th></th> <th></th>	Report / Invoice To		Subco	ntract To					Reque	sted Analysis		
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e of Sample Origin: NY       Preserved Containers     Preserved Containers     Profestion       Sample ID     Collect     Lab ID     Matrix     Preserved Containers       Sample ID     Collect     Collect     Lab ID     Matrix     Preserved Containers       Sample ID     Collect     Collect     Collect     Lab ID     Matrix     Preserved Containers       Save ID     Districtions     Collect     Collect     Collect     Preserved Containers       Save ID     Save ID     ID     X     ID     X     ID       Save ID     Save ID     Neet     ID     X     ID     ID       Save ID     Save ID     Neet     ID     X     ID     ID       Save ID     Save ID     ID     X     ID     ID     ID       Save ID     Save ID     ID     X     ID     ID     ID       Save ID     Save ID     ID     X     ID     ID     ID       Save ID     Save ID     ID     ID     ID     ID     ID       Save ID     Save ID     ID     ID     ID     ID     ID       Save ID     Save ID     ID     ID     ID     ID     ID       Save ID     ID     ID	e of Sample Origin: NY Sample Origin: NY Sample Origin: NY Sample OF Sample OF Samp	hone (631)694-3040 cmail: jennifer.aracri@pacel	abs.com	W est Dat	cramento,	00066 AD	n			1517 AN S			
Sumple ID     Collect     Collect     Lab ID     Matrix     Refer     P	Sample (L)         Collect DeterTime         Lab (L)         Matrix         Ref         Lab (L)         Lab (L) <thlab (l)<="" th="">         Lab (L)         Lab (L)</thlab>	state of Sample Origin:	ΥN				à	eserved Con	11	0-14/1			
320/2019 09:05       7082918001       Water       Nater	320/2019       09:05       7082918001       Water       Nater		00	ollect ate/Time	Lab ID	Matr				1014		LAB US	E ONLY
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$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		3/	/20/2019 09:15	7082918002					X			
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3/20/2019 11:25       7082918005       Water       Nater       X       X         3/20/2019 11:15       7082918005       Water       Nater       X       X         3/20/2019 11:15       7082918007       Water       Nater       X       X         3/20/2019 10:10       7082918007       Water       Nater       N       X         3/20/2019 10:10       7082918007       Water       Nater       N       X         3/20/2019 10:10       7082918007       Water       Nater       N       X         3/20/2019 10:10       7082918007       Water       Date/Time       X         3/20/2019 10:10       7082918007       Water       Date/Time $3/20/2019 10:10$ 2024140       2029144       Y $3/20/2019 10:10$ 202019       2029144       Y $3/22/19/2010       202019       2029144       Y         0 $	3/20/2019 11:25       7082918005       Water       Nater       Nate		31	/20/2019 10:08	7082918004		-						
$3/20/2019$ 11:15       7082918006       Water       Nater       X $3/20/2019$ 10:10       7082918007       Water       Date/Time       X $3/20/2019$ 10:10       7082918007       Water       Date/Time       X $3/20/2019$ 10:10       7082918007       Water       Date/Time       X $3/20/2019$ 10:10       7082918007       Water       Date/Time $3/20/2019$ 10:10       7082918007       Water       Date/Time $3/20/2019$ 10:10       202040/10       2040/10       20201/14/10 $3/22/1/9/10/0$ 2040/10       2040/10       2020/14/10 $\circ$ $0$ C       Custody Seal       Y or N $1.5^{\circ}$ C       1.5^{\circ}C       1.5^{\circ}C       1.5^{\circ}C	3/20/2019 11:15     7082918006     Water     Nater     X       3/20/2019 10:10     7082918007     Water     Nater     Nater       3/20/2019 10:10     7082918007     Water     Date/Time       3/221/19/70     3/221/19/70     3/231/19/70     3/231/19/70       3/221/19/70     3/221/19/70     3/231/19/70     3/231/19/70       °C     Custody Seal     Y or N     Received on Ice		3/	/20/2019 11:25	7082918005		-			×			
3/20/2019     10:10     7082918007     Water     Nater     Nater     Nater $3/20/2019$ Date/Time     Received By     Date/Time     Date/Time $3/12//9190$ De.Mulus     Cutody Seal Y or N     Received on Ice       °C     Custody Seal Y or N     Received on Ice	3/20/2019 10:10     7082918007     Water     Nater     X       Date/Time     Received By     Date/Time     Date/Time       3/12//9/90     Develor and an advector and advector advector and advector and advector advect		S.	/20/2019 11:15	7082918006					×			
°C Custody Seal Y or N Received on Ice	°C Custody Seal Y or N Received By 3/22/19190 Bedelin Clogga TA 524 3/23/14 9/1 °C Custody Seal Y or N Received on Ice		3	/20/2019 10:10	7082918007		-	_					
°C   Custody Seal Y or N Received on Ice 1.8°C	°C   Custody Seal Y or N Received on Ice 1.5°C			-							Comm	ients	
°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y 1.8°C	°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or 1.5°C		1 miles	Date/Ti	1.11	eived By			Date/Time	T	ry B Package	with NY EQuIS EDI	Os
°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y	°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or 1. S <sup>o</sup> C 2. Custody Seal Y or N Custody	\$-	AN A	127/2	-	enter	algebra	A 24	3/23/19	915			
°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y 1. S <sup>o</sup> C 320-48635 Chain of Custody	°C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or 1.8°C									T			
	7.8.1	cooler Temperature on	Receipt		Custody Se	>		Rece	ived on I	Y or	Samp	Y or	
								2.8.1			320-48635 Chain o	f Custody	

Page 87 of 88 4/4/2019

Client: Pace Analytical Services, LLC

# Login Number: 48635 List Number: 1 Creator: Her, David A

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Job Number: 320-48635-1

List Source: Eurofins TestAmerica, Sacramento



Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

July 18, 2019

Joe Guarino Town of Babylon 281 Phelps Lane North Babylon, NY 11703

RE: Project: GMP WELL ROUTINE 360+TAL METAL Pace Project No.: 7093107

Dear Joe Guarino:

Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

for las

Jennifer Aracri jennifer.aracri@pacelabs.com (631)694-3040 Project Manager

Enclosures





Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

## CERTIFICATIONS

Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

# Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747 New York Certification #: 10478 Primary Accrediting Body New Jersey Certification #: NY158 Pennsylvania Certification #: 68-00350 Connecticut Certification #: PH-0435 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

Maryland Certification #: 208 Rhode Island Certification #: LAO00340 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           SM22 5210B         VK1         1         PACE-MV           SM22 5210B         VK1         1         PACE-MV           SM22 5210B         SMK         3         PACE-MV           SM22 5210B         SMK         3         PACE-MV           SM22 5300.0         BNK         3         PACE-MV           SM22 4500.013H         BNK         1         PACE-MV           SM22 4500.N13H         BNK         1         PACE-MV           SM22 501B         KM1         1         PACE-MV           SM22 501D         JLN         1         PACE-MV           SM22 501D         JMW         2         PACE-MV           SM22 501D         JMM         1         PACE-MV           SM22 501D         KM1         1         PACE-MV	Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
FPA 82700 by SIM         STB         2         PASI-MI           FPA 180.1         KM1         1         PACE-MVI           SM22 23208         AK1         1         PACE-MVI           SM22 2340C         KS1         1         PACE-MVI           SM22 2340C         KS1         1         PACE-MVI           SM22 52108         VKS1         1         PACE-MVI           SM22 52108         SMC         3         PACE-MVI           SM22 52108         SMC         3         PACE-MVI           EPA 353.2         SDO         1         PACE-MVI           SM22 53108         KM1         1         PACE-MVI           SM22 23000         JMW         2         PACE-MVI           SM22 23108         KM1         1         PACE-MVI           SM22 23108         KM1         1         PACE-MVI           SM22 23202         JMI         1         PACE-MVI           SM22 23200         KM1         1         PACE-MVI <t< td=""><td>7093107001</td><td>GM-2D</td><td>EPA 6010C</td><td>JMW</td><td>22</td><td>PACE-MV</td></t<>	7093107001	GM-2D	EPA 6010C	JMW	22	PACE-MV
FPA 180.1KM11PACE-MVSM22 2320BAK11PACE-MVSM22 2540CKS11PACE-MVSM22 2540CKS11PACE-MVSM22 2540CKS11PACE-MVSM22 2510BVNS1PACE-MVEPA 300.0BNK3PACE-MVEPA 351.2SDO2PACE-MVSM22 5310BKM11PACE-MVSM22 5310BSDO1PACE-MVSM22 4500 NH3 HSNK3PACE-MVSM22 5310BKM11PACE-MVSM22 4500 NH3 HSNK1PACE-MVSM22 4500 NH3 HSNK1PACE-MVSM22 4500 NH3 HSNK1PACE-MVSM22 4500 NH3 HSNK1PACE-MVSM22 4500 NH3 HSNK<			EPA 7470A	JLN	1	PACE-MV
SIM22 2320BAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2540CKS1JCPACE-MVEPA 410.4JCA1PACE-MVSM22 5210BVNS1PACE-MVSM22 5210BVNS1PACE-MVEPA 30.0BNK3PACE-MVEPA 351.2SDO1PACE-MVSM22 4500 HN3 HBNK1PACE-MVSM22 4500 HN3 HSTB2PACE-MVEPA 7470AJLN1PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2310BVNS1PACE-MVSM22 4500 H13 HSNK3PACE-MVSM22 4500 H13 HSNK1PACE-MVSM22 4500 H13 HSNK1PACE-MV<			EPA 8270D by SIM	STB	2	PASI-M
SM22 2340C         AK1         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           EPA 410.4         JCA         1         PACE-MV           SM22 5210B         VRS         1         PACE-MV           SM22 5210B         SNC         1         PACE-MV           EPA 30.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 351.2         SDO         1         PACE-MV           SM22 4600 NH3 H         BNK         1         PACE-MV           SM22 4600 NH3 H         BNK         1         PACE-MV           SM22 4600 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2320C         AK1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           <			EPA 180.1	KM1	1	PACE-MV
SM22 2540C         KS1         1         PACE-MV           EPA 410.4         JCA         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 300.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           SM22 2300B         AK1         1         PACE-MV           SM22 2300C         KK1         1         PACE-MV           SM22 2310B<			SM22 2320B	AK1	1	PACE-MV
FPA 410.4         JCA         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 300.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 61/0C         JMW         2         PASI-MV           EPA 61/0C         JMW         1         PACE-MV           SM22 230B         KM1         1         PACE-MV           SM22 2320B         KM1         1         PACE-MV           SM22 2320B         KM1         1         PACE-MV           SM22 2500C         KK1         1         PACE-MV           SM22 2500B         KK1         1         PACE-MV           SM22 2510B         VNS         1         PACE-MV <td< td=""><td></td><td></td><td>SM22 2340C</td><td>AK1</td><td>1</td><td>PACE-MV</td></td<>			SM22 2340C	AK1	1	PACE-MV
SM22 5210BVNS1PACE-MVEPA 300.0BNK3PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO2PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 DH3 HSM2PASI-MVPACE-MVSM22 230BAK11PACE-MVSM22 230CKK11PACE-MVSM22 230CKK11PACE-MVSM22 230CKK11PACE-MVSM22 230CKK11PACE-MVSM22 230CKK11PACE-MVSM22 230CKK11PACE-MVSM22 230CSDO1PACE-MVSM22 4300 NH3 HSNC1PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HSNC1PACE-MVSM22 4500 NH3 HSNK1PACE-MVSM22 2500DJMW1PACE-MVSM22 2500DJMW1PACE-M			SM22 2540C	KS1	1	PACE-MV
FPA 300.0BNK3PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO2PACE-MVEPA 353.2SDO1PACE-MVSM22 500 NH3 HBNK1PACE-MVSM22 5310BKM11PACE-MVEPA 6010CJMW22PACE-MVEPA 6010CJMW22PACE-MVEPA 1470AJLN1PACE-MVEPA 1470AJLN1PACE-MVSM22 2320BAK11PACE-MVSM22 2320BAK11PACE-MVSM22 2320CKS11PACE-MVSM22 2510BVNS1PACE-MVEPA 310.1KM11PACE-MVSM22 2520BAK11PACE-MVEPA 350.2SDO1PACE-MVEPA 350.2SDO1PACE-MVEPA 350.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVEPA 6010CJMW1PACE-MVEPA 7470AJLN1PACE-MVEPA 6010CJMW1PACE-MVEPA 7470AJLN1PACE-MVEPA 6010CJMW1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470AJLN1PACE-MV <t< td=""><td></td><td></td><td>EPA 410.4</td><td>JCA</td><td>1</td><td>PACE-MV</td></t<>			EPA 410.4	JCA	1	PACE-MV
FPA 351.2SDO1PACE-MVEPA 353.2SDO2PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 53080CMW2PACE-MVEPA 6010CJUN1PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PACE-MVSM22 2320BAK11PACE-MVSM22 2320CKS11PACE-MVSM22 2320BAK11PACE-MVEPA 410.4JCA1PACE-MVEPA 350.0BNK3PACE-MVEPA 350.1SMD2SMD2SMD2SM22 5210BVNS1PACE-MVEPA 353.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVEPA 6010CJUW2PACE-MVEPA 6010CJUW2PACE-MVEPA 6010CJUW2PACE-MVEPA 8010KM11PACE-MVEPA 8010KM11PACE-MVEPA 8010CJUW2PACE-MVEPA 8010C <td></td> <td></td> <td>SM22 5210B</td> <td>VNS</td> <td>1</td> <td>PACE-MV</td>			SM22 5210B	VNS	1	PACE-MV
FPA 353.2SDO2PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVEPA 6010CJMW22PACE-MVEPA 8707 by SIMSTB2PASI-MEPA 8707 by SIMSTB2PASI-MSM22 2300BAK11PACE-MVSM22 230CAK11PACE-MVSM22 230CAK11PACE-MVSM22 230CKS11PACE-MVSM22 230CKS11PACE-MVSM22 250CKS11PACE-MVEPA 351.2SDO1PACE-MVEPA 351.2SDO1PACE-MVEPA 351.2SDO1PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVEPA 351.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 5310BKM11PACE-MVEPA 6010CJMW22PACE-MVEPA 6010CJMW2PACE-MVEPA 6010CJMW2PACE-MVEPA 6010CJMW2PACE-MVEPA 6010CJMW2PACE-MV <trr>EPA 6010CJMW2PAC</trr>			EPA 300.0	BNK	3	PACE-MV
FPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BJUN22PACE-MVEPA 6010CJUN22PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 180.1KM11PACE-MVSM22 2320BAK111PACE-MVSM22 2340CAK11PACE-MVSM22 540CKS11PACE-MVSM22 540CKS11PACE-MVSM22 540CKS11PACE-MVSM22 540CSS11PACE-MVEPA 410.4JCA1PACE-MVEPA 351.2SDO1PACE-MVEPA 351.2SDO1PACE-MVEPA 351.2SDO1PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MVEPA 6010CJUN1PACE-MV<			EPA 351.2	SDO	1	PACE-MV
SM22 4500 NH3 HBNK1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BJMW22PACE-MVEPA 6010CJMW22PACE-MVEPA 7470AJLN1PACE-MVEPA 8270D by SIMSTB2PASI-MEPA 180.1KM11PACE-MVSM22 2340CAK11PACE-MVSM22 2540CKS11PACE-MVEPA 410.4JCA1PACE-MVSM22 5210BVNS1PACE-MVEPA 350.2SDO1PACE-MVEPA 353.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 5310BKM11PACE-MVEPA 353.2SDO1PACE-MVSM22 5310BKM11PACE-MVSM22 5310BKM11PACE-MVEPA 353.2SDO1PACE-MVSM22 5310BKM11PACE-MVEPA 46010CJMW22PACE-MVEPA 6010CJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 7470ASTB2PASI-MEPA 7470ASTB2PASI-MEPA 7470ASTB2PASI-M<			EPA 353.2	SDO	2	PACE-MV
SM22 5310BKM11PACE-MVF093107002GM-4DEPA 6010CJMW22PACE-MVEPA 6010CJLN1PACE-MVEPA 8270D by SIMSTB2PASI-MEPA 8270D by SIMSTB2PASI-MEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PACE-MVSM22 2320BAK11PACE-MVSM22 2340CAK11PACE-MVEPA 410.4JCA1PACE-MVSM22 5210BVNS1PACE-MVEPA 300.0BNK3PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVEPA 6010CJLN1PACE-MVEPA 7470AJLN1PACE-MVEPA 8270D by SIMSTB2PASI-MEPA 8270D by SIMSTB2PASI-MEP			EPA 353.2	SDO	1	PACE-MV
7093107002GM-4DEPA 6010CJMW22PACE-MVEPA 7470AJLN1PACE-MVEPA 8270D by SIMSTB2PASI-MEPA 180.1KM11PACE-MVSM22 2320BAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2540CKS11PACE-MVSM22 2540CKS11PACE-MVSM22 5210BVNS1PACE-MVEPA 410.4JCA1PACE-MVEPA 300.0BNK3PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NB3HBNK1PACE-MVSM22 4500 NB3HBNK1PACE-MVSM22 4500 NB3HBNK1PACE-MVSM22 4500 NB3HBNK1PACE-MVSM22 4500 NB3HBNK1PACE-MVSM22 4500 NB3HBNK1PACE-MVEPA 7470AJLN1PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PACE-MVEPA 8270D by SIMSTB2PASI-MVEPA 180.1KM11PACE-MVSM22 2320BAK11PACE-MVSM22 2320CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2340CAK11PACE-MV			SM22 4500 NH3 H	BNK	1	PACE-MV
EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2320C         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           SM22 5310B         SNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           SM22 5300         IM         1         PACE-MV           SM22 5300         KM1         1         PACE-MV           SM22 5300         KM1         1         PACE-MV           SM22 5300         KM1         1         PACE-MV           EPA 6010C<			SM22 5310B	KM1	1	PACE-MV
EPA 8270D by SIMSTB2PASI-MEPA 180.1KM11PACE-MVSM22 2320BAK11PACE-MVSM22 2340CAK11PACE-MVSM22 2540CKS11PACE-MVSM22 2540CKS11PACE-MVSM22 2510BVNS1PACE-MVSM22 5210BVNS1PACE-MVEPA 300.0BNK3PACE-MVEPA 351.2SDO1PACE-MVEPA 353.2SDO1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HBNK1PACE-MVSM22 4500 NH3 HSM22PACE-MVEPA 6010CJMW22PACE-MVEPA 6270D by SIMSTB2PASI-MVEPA 8270D by SIMSTB2PASI-MVEPA 180.1KM11PACE-MVSM22 230CAK11PACE-MVSM22 230CAK11PACE-MVSM22 230CAK11PACE-MV	7093107002	GM-4D	EPA 6010C	JMW	22	PACE-MV
EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV           SM22 2340C         KS1         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           EPA 410.4         JCA         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 300.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           EPA 8270D by SIM         STB         2         PASI-MV           EPA 8270D by SIM         STB         2         PASI-MV			EPA 7470A	JLN	1	PACE-MV
SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           EPA 410.4         JCA         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 30.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 8201 MS1         KM1         1         PACE-MV           KM2 2320B         AK1         1         PACE-MV			EPA 8270D by SIM	STB	2	PASI-M
SM22 2340C         AK1         1         PACE-MV           SM22 2540C         KS1         1         PACE-MV           EPA 410.4         JCA         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 300.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV			EPA 180.1	KM1	1	PACE-MV
SM22 2540C         KS1         1         PACE-MV           EPA 410.4         JCA         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 300.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         2         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           EPA 8270D by SIM         STB         2         PASI-MV           EPA 8270D by SIM         STB         2         PASI-MV           SM22 2320B         AK1         1         PACE-MV			SM22 2320B	AK1	1	PACE-MV
EPA 410.4         JCA         1         PACE-MV           SM22 5210B         VNS         1         PACE-MV           EPA 300.0         BNK         3         PACE-MV           EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         2         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV </td <td></td> <td></td> <td>SM22 2340C</td> <td>AK1</td> <td>1</td> <td>PACE-MV</td>			SM22 2340C	AK1	1	PACE-MV
SM22 5210B       VNS       1       PACE-MV         EPA 300.0       BNK       3       PACE-MV         EPA 351.2       SDO       1       PACE-MV         EPA 353.2       SDO       2       PACE-MV         EPA 353.2       SDO       1       PACE-MV         SM22 4500 NH3 H       BNK       1       PACE-MV         SM22 4500 NH3 H       BNK       1       PACE-MV         SM22 5310B       KM1       1       PACE-MV         SM22 5310B       KM1       1       PACE-MV         EPA 6010C       JMW       22       PACE-MV         EPA 7470A       JLN       1       PACE-MV         EPA 8270D by SIM       STB       2       PASI-MV         EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			SM22 2540C	KS1	1	PACE-MV
EPA 300.0       BNK       3       PACE-MV         EPA 351.2       SDO       1       PACE-MV         EPA 353.2       SDO       2       PACE-MV         EPA 353.2       SDO       1       PACE-MV         SM22 4500 NH3 H       BNK       1       PACE-MV         SM22 5310B       KM1       1       PACE-MV         SM22 5310B       KM1       1       PACE-MV         EPA 6010C       JMW       22       PACE-MV         EPA 7470A       JLN       1       PACE-MV         EPA 8270D by SIM       STB       2       PASI-M         EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			EPA 410.4	JCA	1	PACE-MV
EPA 351.2         SDO         1         PACE-MV           EPA 353.2         SDO         2         PACE-MV           EPA 353.2         SDO         1         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV			SM22 5210B	VNS	1	PACE-MV
EPA 353.2         SDO         2         PACE-MV           EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           EPA 6010C         JMW         22         PACE-MV           EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV			EPA 300.0	BNK	3	PACE-MV
EPA 353.2         SDO         1         PACE-MV           SM22 4500 NH3 H         BNK         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         KM1         1         PACE-MV           SM22 5310B         SM0         JLN         1         PACE-MV           EPA 6010C         JLN         1         PACE-MV           EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV			EPA 351.2	SDO	1	PACE-MV
SM22 4500 NH3 H       BNK       1       PACE-MV         SM22 5310B       KM1       1       PACE-MV         7093107003       GM-5D       EPA 6010C       JMW       22       PACE-MV         EPA 6010C       JLN       1       PACE-MV         EPA 7470A       JLN       1       PACE-MV         EPA 8270D by SIM       STB       2       PASI-M         EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			EPA 353.2	SDO	2	PACE-MV
SM22 5310B       KM1       1       PACE-MV         F093107003       GM-5D       EPA 6010C       JMW       22       PACE-MV         EPA 7470A       JLN       1       PACE-MV         EPA 8270D by SIM       STB       2       PASI-M         EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			EPA 353.2	SDO	1	PACE-MV
7093107003         GM-5D         EPA 6010C         JMW         22         PACE-MV           EPA 7470A         JLN         1         PACE-MV           EPA 8270D by SIM         STB         2         PASI-M           EPA 180.1         KM1         1         PACE-MV           SM22 2320B         AK1         1         PACE-MV           SM22 2340C         AK1         1         PACE-MV			SM22 4500 NH3 H	BNK	1	PACE-MV
EPA 7470A       JLN       1       PACE-MV         EPA 8270D by SIM       STB       2       PASI-M         EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			SM22 5310B	KM1	1	PACE-MV
EPA 8270D by SIM       STB       2       PASI-M         EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV	7093107003	GM-5D	EPA 6010C	JMW	22	PACE-MV
EPA 180.1       KM1       1       PACE-MV         SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			EPA 7470A	JLN	1	PACE-MV
SM22 2320B       AK1       1       PACE-MV         SM22 2340C       AK1       1       PACE-MV			EPA 8270D by SIM	STB	2	PASI-M
SM22 2340C AK1 1 PACE-MV			EPA 180.1	KM1	1	PACE-MV
			SM22 2320B	AK1	1	PACE-MV
SM22 2540C KS1 1 PACE-MV			SM22 2340C	AK1	1	PACE-MV
			SM22 2540C	KS1	1	PACE-MV



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107004	GM-6D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107005	GM-7D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM22 5310B	KM1	1	PACE-MV
7093107006	GM-15D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107007	GM-16D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7093107008	GM-17D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107009	GM-18D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107010	GM-19D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV

# **REPORT OF LABORATORY ANALYSIS**

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Laboratory

PACE-MV

PACE-MV

Analytes Reported

1

1

Analysts

BNK

KM1

# SAMPLE ANALYTE COUNT

SM22 4500 NH3 H

SM22 5310B

Lab ID	Sample ID	Method
Pace Project No.:	7093107	
Project:	GMP WELL ROUTINE 360+TAL METAL	

REPORT OF LABORATORY A	NALYSIS
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Project: GMP WELL ROUTINE 360+TAL METAL

## Pace Project No.: 7093107

# Method: EPA 6010C

Description:6010 MET ICPClient:Town of BabylonDate:July 18, 2019

#### General Information:

10 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### QC Batch: 117823

B: Analyte was detected in the associated method blank.

- BLANK for HBN 117823 [MPRP/785 (Lab ID: 558052)
  - Thallium

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

## Pace Project No.: 7093107

# Method:EPA 7470ADescription:7470 MercuryClient:Town of Babylon

**Date:** July 18, 2019

#### **General Information:**

10 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

## Method: EPA 8270D by SIM

Description:8270D MSSV 14 Dioxane By SIMClient:Town of BabylonDate:July 18, 2019

## General Information:

10 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 613702

R1: RPD value was outside control limits.

- LCSD (Lab ID: 3315789)
  - 1,4-Dioxane (SIM)

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

## Pace Project No.: 7093107

 Method:
 EPA 180.1

 Description:
 180.1 Turbidity

 Client:
 Town of Babylon

 Date:
 July 18, 2019

#### **General Information:**

10 samples were analyzed for EPA 180.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

## Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

## Pace Project No.: 7093107

Method:	SM22 2320B
Description:	2320B Alkalinity
Client:	Town of Babylon
Date:	July 18, 2019

#### **General Information:**

10 samples were analyzed for SM22 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

 Method:
 SM22 2340C

 Description:
 2340C Hardness, Total

 Client:
 Town of Babylon

 Date:
 July 18, 2019

#### **General Information:**

10 samples were analyzed for SM22 2340C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### Method: SM22 2540C

Description:2540C Total Dissolved SolidsClient:Town of BabylonDate:July 18, 2019

#### General Information:

10 samples were analyzed for SM22 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### QC Batch: 118003

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 559705)
  - Total Dissolved Solids

## QC Batch: 118004

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 559709)
  - Total Dissolved Solids
- DUP (Lab ID: 559711)
  - Total Dissolved Solids

## Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

## Pace Project No.: 7093107

# Method: EPA 410.4

Description:410.4 CODClient:Town of BabylonDate:July 18, 2019

#### General Information:

10 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

## Pace Project No.: 7093107

 Method:
 SM22 5210B

 Description:
 5210B BOD, 5 day

 Client:
 Town of Babylon

 Date:
 July 18, 2019

#### **General Information:**

10 samples were analyzed for SM22 5210B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with SM22 5210B with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

 Method:
 EPA 300.0

 Description:
 300.0 IC Anions 28 Days

 Client:
 Town of Babylon

 Date:
 July 18, 2019

## **General Information:**

10 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

## Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### Method: EPA 351.2

Description:351.2 Total Kjeldahl NitrogenClient:Town of BabylonDate:July 18, 2019

#### General Information:

10 samples were analyzed for EPA 351.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 119268

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092926001,7093723002

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 566777)
  - Nitrogen, Kjeldahl, Total

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

## QC Batch: 119268

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

• DUP (Lab ID: 566780)

• Nitrogen, Kjeldahl, Total

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### Method: EPA 353.2

Description:353.2 Nitrogen, NO2/NO3 unpresClient:Town of BabylonDate:July 18, 2019

#### General Information:

10 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 117328

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7093035001,7093139001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
  - MS (Lab ID: 555675)
    - Nitrate-Nitrite (as N)

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:EPA 353.2Description:353.2 Nitrogen, NO2Client:Town of BabylonDate:July 18, 2019

#### **General Information:**

10 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: 117323

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7093101001,7093107001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 555564)
  - Nitrite as N

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:	SM22 4500 NH3 H
<b>Description:</b>	4500 Ammonia Water
Client:	Town of Babylon
Date:	July 18, 2019

## General Information:

10 samples were analyzed for SM22 4500 NH3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 119281

- B: Analyte was detected in the associated method blank.
  - BLANK for HBN 119281 [WETA/191 (Lab ID: 566889)
    - Nitrogen, Ammonia

## Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 119281

- A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7093468001
  - M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
    - MS (Lab ID: 566891)
    - Nitrogen, Ammonia

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 119281

- D6: The precision between the sample and sample duplicate exceeded laboratory control limits.
  - DUP (Lab ID: 566892)
    - Nitrogen, Ammonia

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:SM22 5310BDescription:5310B TOC as NPOCClient:Town of BabylonDate:July 18, 2019

## General Information:

10 samples were analyzed for SM22 5310B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID: 7093107001 Sample: GM-2D Collected: 06/11/19 13:10 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 236 ug/L 200 1 06/14/19 09:04 06/24/19 18:36 7429-90-5 06/14/19 09:04 06/24/19 18:36 7440-36-0 <60.0 60.0 Antimony ug/L 1 <10.0 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 18:36 7440-38-2 1 <200 200 Barium 06/14/19 09:04 06/24/19 18:36 7440-39-3 ug/L 1 <5.0 Beryllium ug/L 5.0 1 06/14/19 09:04 06/24/19 18:36 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 18:36 7440-43-9 Calcium 20800 ug/L 200 1 06/14/19 09:04 06/24/19 18:36 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:36 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:36 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-50-8 Iron 1020 ug/L 20.0 06/14/19 09:04 06/24/19 18:36 7439-89-6 1 Lead <5.0 ug/L 5.0 06/14/19 09:04 06/24/19 18:36 7439-92-1 1 06/14/19 09:04 06/24/19 18:36 7439-95-4 4750 200 Magnesium ug/L 1 71.7 Manganese 10.0 06/14/19 09:04 06/24/19 18:36 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 18:36 7440-02-0 ug/L 1 <5000 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:36 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:36 7440-22-4 Sodium 11600 ug/L 5000 06/14/19 09:04 06/24/19 18:36 7440-23-5 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-28-0 50.0 Vanadium <50.0 ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-62-2 Zinc <20.0 ug/L 20.0 06/14/19 09:04 06/24/19 18:36 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:31 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.13J 0.25 06/18/19 11:20 06/21/19 20:39 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 44 %. 30-125 1 06/18/19 11:20 06/21/19 20:39 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 3.0 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 24.2 mg/L 1.0 1 06/22/19 02:44 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 60.0 mg/L 5.0 1 06/24/19 15:17 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 129 10.0 06/17/19 10:34 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 <10.0 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:39 mg/L 1

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## Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-2D	Lab ID: 7093	3107001	Collected: 06/11/1	9 13:10	Received: 06	/11/19 15:56 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	/lethod:	SM22 5210B			
BOD, 5 day	1.4J	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:50		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide Chloride Sulfate	0.12J 16.4 44.4	mg/L mg/L mg/L	0.50 2.0 5.0	1 1 1		06/26/19 23:56 06/26/19 23:56 06/26/19 23:56	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	51.2 Preparation Met	hod: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.34	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:00	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	53.2					
Nitrate as N Nitrate-Nitrite (as N)	0.049J 0.049J	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:43 06/11/19 22:43		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 35	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:47	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	0.093J	mg/L	0.10	1		06/25/19 14:24	7664-41-7	В
5310B TOC as NPOC	Analytical Meth	od: SM22 :	5310B					
Total Organic Carbon	0.98J	mg/L	1.0	1		06/18/19 16:07	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-4D Lab ID: 7093107002 Collected: 06/11/19 10:45 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum <200 ug/L 200 1 06/14/19 09:04 06/24/19 18:41 7429-90-5 <60.0 60.0 06/14/19 09:04 06/24/19 18:41 7440-36-0 Antimony ug/L 1 <10.0 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 18:41 7440-38-2 1 200 Barium 24.7J 06/14/19 09:04 06/24/19 18:41 7440-39-3 ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-41-7 Beryllium <5.0 ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 18:41 7440-43-9 Calcium 18700 ug/L 200 1 06/14/19 09:04 06/24/19 18:41 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:41 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:41 7440-48-4 25.0 06/14/19 09:04 06/24/19 18:41 7440-50-8 Copper <25.0 ug/L 1 Iron 318 ug/L 20.0 06/14/19 09:04 06/24/19 18:41 7439-89-6 1 Lead <5.0 ug/L 5.0 06/14/19 09:04 06/24/19 18:41 7439-92-1 1 3890 200 06/14/19 09:04 06/24/19 18:41 7439-95-4 Magnesium ug/L 1 Manganese 112 10.0 06/14/19 09:04 06/24/19 18:41 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 18:41 7440-02-0 ug/L 1 4930J 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:41 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:41 7440-22-4 Sodium 22700 ug/L 5000 06/14/19 09:04 06/24/19 18:41 7440-23-5 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-28-0 <50.0 50.0 Vanadium ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-62-2 Zinc <20.0 ug/L 20.0 06/14/19 09:04 06/24/19 18:41 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:33 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.14J 0.25 06/18/19 11:20 06/21/19 19:20 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 47 1,4-Dioxane-d8 (S) %. 30-125 1 06/18/19 11:20 06/21/19 19:20 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 4.6 NTU 1.0 1 06/12/19 15:10 Analytical Method: SM22 2320B 2320B Alkalinity 06/22/19 02:52 Alkalinity, Total as CaCO3 32.9 mg/L 1.0 1 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 50.0 mg/L 5.0 1 06/24/19 17:04 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 175 10.0 06/17/19 10:34 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 38.9 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:39 mg/L 1

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## Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-4D	Lab ID: 7093	3107002	Collected: 06/1	1/19 10:4	5 Received: 06	6/11/19 15:56 N	Aatrix: Water	
Parameters	Results	Units	Report Limi	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparatio	n Method:	SM22 5210B			
BOD, 5 day	6.1	mg/L	2	0 1	06/13/19 10:33	06/18/19 10:52		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide Chloride Sulfate	2.5 183 36.7	mg/L mg/L mg/L	0.5 10 5	0 5		06/27/19 00:12 06/27/19 19:38 06/27/19 00:12	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 3	51.2 Preparation N	lethod: El	PA 351.2			
Nitrogen, Kjeldahl, Total	0.86	mg/L	0.1	0 1	06/25/19 13:02	06/26/19 08:01	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2					
Nitrate as N Nitrate-Nitrite (as N)	0.62 0.62	mg/L mg/L	0.05 0.05			06/11/19 22:45 06/11/19 22:45		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2					
Nitrite as N	<0.050	mg/L	0.05	0 1		06/11/19 20:50	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	0.44	mg/L	0.1	0 1		06/25/19 14:25	7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	12.6	mg/L	1.	0 1		06/18/19 17:05	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-5D Lab ID: 7093107003 Collected: 06/11/19 11:20 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 37.0J ug/L 200 1 06/14/19 09:04 06/25/19 15:01 7429-90-5 13.7J 60.0 06/14/19 09:04 06/25/19 15:01 7440-36-0 Antimony ug/L 1 15.4 10.0 Arsenic ug/L 06/14/19 09:04 06/25/19 15:01 7440-38-2 1 85.7J 200 06/14/19 09:04 06/25/19 15:01 7440-39-3 Barium ug/L 1 06/14/19 09:04 06/25/19 15:01 7440-41-7 Beryllium <5.0 ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/25/19 15:01 7440-43-9 Calcium 22100 ug/L 200 1 06/14/19 09:04 06/25/19 15:01 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/25/19 15:01 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/25/19 15:01 7440-48-4 25.0 06/14/19 09:04 06/25/19 15:01 7440-50-8 Copper 15.6J ug/L 1 Iron 27000 ug/L 20.0 06/14/19 09:04 06/25/19 15:01 7439-89-6 1 Lead <5.0 ug/L 5.0 06/14/19 09:04 06/25/19 15:01 7439-92-1 1 3460 200 06/14/19 09:04 06/25/19 15:01 7439-95-4 Magnesium ug/L 1 8060 Manganese 10.0 06/14/19 09:04 06/25/19 15:01 7439-96-5 ug/L 1 5.0J Nickel 40.0 06/14/19 09:04 06/25/19 15:01 7440-02-0 ug/L 1 6800 5000 Potassium ug/L 1 06/14/19 09:04 06/25/19 15:01 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/25/19 15:01 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/25/19 15:01 7440-22-4 Sodium 112000 ug/L 5000 06/14/19 09:04 06/25/19 15:01 7440-23-5 1 Thallium <10.0 10.0 06/14/19 09:04 06/25/19 15:01 ug/L 1 7440-28-0 <50.0 50.0 Vanadium ug/L 1 06/14/19 09:04 06/25/19 15:01 7440-62-2 Zinc 7.0J ug/L 20.0 06/14/19 09:04 06/25/19 15:01 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:35 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.084J 0.25 06/18/19 11:20 06/21/19 19:40 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 43 %. 30-125 1 06/18/19 11:20 06/21/19 19:40 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 22.0 NTU 2.0 2 06/12/19 15:10 Analytical Method: SM22 2320B 2320B Alkalinity 06/22/19 02:59 Alkalinity, Total as CaCO3 51.2 mg/L 1.0 1 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 80.0 mg/L 5.0 1 06/26/19 12:06 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 472 20.0 1 06/17/19 10:35 mg/L 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 21.2 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

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## Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-5D	Lab ID: 7093	3107003	Collected: 06/11/1	9 11:20	Received: 06	6/11/19 15:56 N	Aatrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Method: SM22 5210B Preparation Method: SM22 5210B									
BOD, 5 day	2.4J	mg/L	4.0	2	06/13/19 10:33	06/18/19 10:55				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide Chloride Sulfate	0.23J 221 41.2	mg/L mg/L mg/L	0.50 20.0 5.0	1 10 1		06/27/19 00:29 06/27/19 19:54 06/27/19 00:29	16887-00-6			
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2									
Nitrogen, Kjeldahl, Total	0.46	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:02	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2							
Nitrate as N Nitrate-Nitrite (as N)	0.10 0.10	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:46 06/11/19 22:46				
353.2 Nitrogen, NO2	Analytical Method: EPA 353.2									
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:51	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	0.072J	mg/L	0.10	1		06/25/19 14:27	7664-41-7	В		
5310B TOC as NPOC	Analytical Method: SM22 5310B									
Total Organic Carbon	5.9	mg/L	1.0	1		06/18/19 17:21	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID: 7093107004 Sample: GM-6D Collected: 06/11/19 12:00 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 105J ug/L 200 1 06/14/19 09:04 06/24/19 18:52 7429-90-5 06/14/19 09:04 06/24/19 18:52 7440-36-0 <60.0 60.0 Antimony ug/L 1 32.8 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 18:52 7440-38-2 1 196J 200 Barium 06/14/19 09:04 06/24/19 18:52 7440-39-3 ug/L 1 06/14/19 09:04 06/24/19 18:52 7440-41-7 <5.0 Beryllium ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 18:52 7440-43-9 Calcium 92100 ug/L 200 1 06/14/19 09:04 06/24/19 18:52 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:52 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:52 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 18:52 7440-50-8 Iron 17300 ug/L 20.0 06/14/19 09:04 06/24/19 18:52 7439-89-6 1 Lead 4.5J ug/L 5.0 06/14/19 09:04 06/24/19 18:52 7439-92-1 1 10400 200 06/14/19 09:04 06/24/19 18:52 7439-95-4 Magnesium ug/L 1 Manganese 279 10.0 06/14/19 09:04 06/24/19 18:52 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 18:52 7440-02-0 ug/L 1 16700 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:52 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:52 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:52 7440-22-4 Sodium 44100 ug/L 5000 06/14/19 09:04 06/24/19 18:52 7440-23-5 1 Thallium <10.0 10.0 06/14/19 09:04 06/24/19 18:52 ug/L 1 7440-28-0 Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:52 7440-62-2 Zinc <20.0 ug/L 20.0 06/14/19 09:04 06/24/19 18:52 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:36 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 5.0 0.25 06/18/19 11:20 06/21/19 20:00 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 46 %. 30-125 1 06/18/19 11:20 06/21/19 20:00 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 17.1 NTU 2.0 2 06/12/19 15:10 Analytical Method: SM22 2320B 2320B Alkalinity 06/22/19 03:12 Alkalinity, Total as CaCO3 262 1.0 1 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 260 mg/L 5.0 1 06/26/19 12:09 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 456 20.0 06/17/19 10:35 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 47.7 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

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## Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-6D	Lab ID: 7093	3107004	Collected: 06/11/1	9 12:00	Received: 06	6/11/19 15:56 N	Aatrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation M	lethod:	SM22 5210B				
BOD, 5 day	22.2	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:57			
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0						
Bromide Chloride Sulfate	1.5 106 16.0	mg/L mg/L mg/L	0.50 20.0 5.0	1 10 1		06/27/19 00:46 06/27/19 20:11 06/27/19 00:46	16887-00-6		
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 3	51.2 Preparation Met	hod: EP	A 351.2				
Nitrogen, Kjeldahl, Total	9.6	mg/L	0.50	5	06/25/19 13:02	06/26/19 08:38	7727-37-9		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2						
Nitrate as N Nitrate-Nitrite (as N)	0.054 0.054	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:49 06/11/19 22:49			
353.2 Nitrogen, NO2	Analytical Method: EPA 353.2								
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:53	14797-65-0		
4500 Ammonia Water	Analytical Method: SM22 4500 NH3 H								
Nitrogen, Ammonia	8.1	mg/L	0.50	5		06/25/19 16:19	7664-41-7		
5310B TOC as NPOC	Analytical Method: SM22 5310B								
Total Organic Carbon	15.1	mg/L	1.0	1		06/18/19 17:37	7440-44-0		



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-7D Lab ID: 7093107005 Collected: 06/11/19 12:35 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 892 ug/L 200 1 06/14/19 09:04 06/24/19 18:58 7429-90-5 06/14/19 09:04 06/24/19 18:58 7440-36-0 <60.0 60.0 Antimony ug/L 1 10.0 Arsenic 6.9J ug/L 06/14/19 09:04 06/24/19 18:58 7440-38-2 1 200 Barium 136J 06/14/19 09:04 06/24/19 18:58 7440-39-3 ug/L 1 <5.0 Beryllium ug/L 5.0 1 06/14/19 09:04 06/24/19 18:58 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 18:58 7440-43-9 Calcium 171000 ug/L 200 1 06/14/19 09:04 06/24/19 18:58 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:58 7440-47-3 1 Cobalt 3.8J ug/L 50.0 1 06/14/19 09:04 06/24/19 18:58 7440-48-4 25.0 Copper 36.2 ug/L 1 06/14/19 09:04 06/24/19 18:58 7440-50-8 Iron 5230 ug/L 20.0 06/14/19 09:04 06/24/19 18:58 7439-89-6 1 Lead 13.0 ug/L 5.0 06/14/19 09:04 06/24/19 18:58 7439-92-1 1 06/14/19 09:04 06/24/19 18:58 7439-95-4 26600 200 Magnesium ug/L 1 2220 Manganese 10.0 06/14/19 09:04 06/24/19 18:58 7439-96-5 ug/L 1 5.6J Nickel 40.0 06/14/19 09:04 06/24/19 18:58 7440-02-0 ug/L 1 9720 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:58 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:58 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:58 7440-22-4 Sodium 10100 ug/L 5000 06/14/19 09:04 06/24/19 18:58 7440-23-5 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:58 7440-28-0 Vanadium 10.9J ug/L 50.0 1 06/14/19 09:04 06/24/19 18:58 7440-62-2 Zinc 27.4 ug/L 20.0 06/14/19 09:04 06/24/19 18:58 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:38 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 <0.25 0.25 06/18/19 11:20 06/21/19 20:19 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 44 %. 30-125 1 06/18/19 11:20 06/21/19 20:19 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 9.4 NTU 2.0 2 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 470 mg/L 1.0 1 06/22/19 03:46 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 450 mg/L 5.0 1 06/24/19 17:15 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 570 20.0 06/17/19 10:36 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 72.0 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

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## Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-7D	Lab ID: 7093	3107005	Collected: 06/11/1	9 12:35	Received: 06	/11/19 15:56 N	latrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	/lethod:	SM22 5210B				
BOD, 5 day	1.2J	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:59			
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0						
Bromide	0.075J	mg/L	0.50	1		06/27/19 20:28			
Chloride Sulfate	5.8 49.9	mg/L mg/L	2.0 5.0	1 1		06/27/19 20:28 06/27/19 20:28			
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	1.9	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:06	7727-37-9		
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	53.2						
Nitrate as N	0.13	mg/L	0.050	1		06/11/19 22:51			
Nitrate-Nitrite (as N)	0.13	mg/L	0.050	1		06/11/19 22:51	7727-37-9		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 35	53.2						
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:54	14797-65-0		
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H						
Nitrogen, Ammonia	0.12	mg/L	0.10	1		06/25/19 14:29	7664-41-7	В	
5310B TOC as NPOC	Analytical Method: SM22 5310B								
Total Organic Carbon	15.9	mg/L	1.0	1		06/18/19 18:05	7440-44-0		



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-15D Lab ID: 7093107006 Collected: 06/11/19 15:10 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 429 ug/L 200 1 06/14/19 09:04 06/24/19 19:03 7429-90-5 <60.0 60.0 06/14/19 09:04 06/24/19 19:03 7440-36-0 Antimony ug/L 1 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 19:03 7440-38-2 11.5 1 200 Barium 230 06/14/19 09:04 06/24/19 19:03 7440-39-3 ug/L 1 06/14/19 09:04 06/24/19 19:03 7440-41-7 Beryllium <5.0 ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:03 7440-43-9 57000 Calcium ug/L 200 1 06/14/19 09:04 06/24/19 19:03 7440-70-2 Chromium 5.3J ug/L 10.0 06/14/19 09:04 06/24/19 19:03 7440-47-3 1 Cobalt 7.5J ug/L 50.0 1 06/14/19 09:04 06/24/19 19:03 7440-48-4 25.0 06/14/19 09:04 06/24/19 19:03 7440-50-8 Copper <25.0 ug/L 1 Iron 21200 ug/L 20.0 06/14/19 09:04 06/24/19 19:03 7439-89-6 1 Lead <5.0 ug/L 5.0 06/14/19 09:04 06/24/19 19:03 7439-92-1 1 9180 200 06/14/19 09:04 06/24/19 19:03 7439-95-4 Magnesium ug/L 1 578 Manganese 10.0 06/14/19 09:04 06/24/19 19:03 7439-96-5 ug/L 1 3.3J Nickel 40.0 06/14/19 09:04 06/24/19 19:03 7440-02-0 ug/L 1 22900 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:03 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:03 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:03 7440-22-4 Sodium 141000 ug/L 5000 06/14/19 09:04 06/24/19 19:03 7440-23-5 1 Thallium <10.0 10.0 06/14/19 09:04 06/24/19 19:03 7440-28-0 ug/L 1 <50.0 50.0 Vanadium ug/L 1 06/14/19 09:04 06/24/19 19:03 7440-62-2 Zinc 15.5J ug/L 20.0 06/14/19 09:04 06/24/19 19:03 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:40 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 16.2 0.25 06/18/19 11:20 06/21/19 22:17 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 46 %. 30-125 1 06/18/19 11:20 06/21/19 22:17 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 144 NTU 10.0 10 06/12/19 15:12 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 372 mg/L 1.0 1 06/22/19 04:03 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 100 mg/L 5.0 1 06/24/19 17:50 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 6.0J 10.0 06/17/19 10:36 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 123 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

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## Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-15D	Lab ID: 7093	3107006	Collected: 06/11/1	9 15:10	Received: 06	6/11/19 15:56 M	Aatrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Method: SM22 5210B Preparation Method: SM22 5210B									
BOD, 5 day	19.9	mg/L	4.0	2	06/13/19 10:33	06/18/19 11:01				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide Chloride Sulfate	3.0 177 <5.0	mg/L mg/L mg/L	0.50 10.0 5.0	1 5 1		06/27/19 20:45 06/27/19 21:01 06/27/19 20:45	16887-00-6			
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2									
Nitrogen, Kjeldahl, Total	25.8	mg/L	1.0	10	06/25/19 13:02	06/26/19 08:39	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2							
Nitrate as N Nitrate-Nitrite (as N)	0.044J 0.044J	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:52 06/11/19 22:52				
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:57	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	22.0	mg/L	1.0	10		06/25/19 16:21	7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	33.6	mg/L	1.0	1		06/18/19 18:22	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-16D Lab ID: 7093107007 Collected: 06/11/19 14:50 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 338 ug/L 200 1 06/14/19 09:04 06/24/19 19:08 7429-90-5 <60.0 60.0 06/14/19 09:04 06/24/19 19:08 7440-36-0 Antimony ug/L 1 <10.0 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 19:08 7440-38-2 1 200 Barium 79.9J 06/14/19 09:04 06/24/19 19:08 7440-39-3 ug/L 1 06/14/19 09:04 06/24/19 19:08 7440-41-7 Beryllium <5.0 ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:08 7440-43-9 Calcium 18000 ug/L 200 1 06/14/19 09:04 06/24/19 19:08 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:08 7440-47-3 1 Cobalt 26.8J ug/L 50.0 1 06/14/19 09:04 06/24/19 19:08 7440-48-4 25.0 06/14/19 09:04 06/24/19 19:08 7440-50-8 Copper <25.0 ug/L 1 Iron 24100 ug/L 20.0 06/14/19 09:04 06/24/19 19:08 7439-89-6 1 Lead 4.1J ug/L 5.0 06/14/19 09:04 06/24/19 19:08 7439-92-1 1 3070 200 06/14/19 09:04 06/24/19 19:08 7439-95-4 Magnesium ug/L 1 4690 Manganese 10.0 06/14/19 09:04 06/24/19 19:08 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 19:08 7440-02-0 ug/L 1 4490J 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:08 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:08 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:08 7440-22-4 Sodium 15900 ug/L 5000 06/14/19 09:04 06/24/19 19:08 7440-23-5 1 Thallium 6.4J 10.0 06/14/19 09:04 06/24/19 19:08 7440-28-0 ug/L 1 В <50.0 50.0 Vanadium ug/L 1 06/14/19 09:04 06/24/19 19:08 7440-62-2 Zinc 126 ug/L 20.0 06/14/19 09:04 06/24/19 19:08 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:41 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.087J 0.25 06/18/19 11:20 06/21/19 21:57 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 48 %. 30-125 1 06/18/19 11:20 06/21/19 21:57 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 18.4 NTU 2.0 2 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 44.6 1.0 1 06/24/19 12:18 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 60.0 mg/L 5.0 1 06/26/19 12:10 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 259 10.0 06/17/19 10:50 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 52.1 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-16D	Lab ID: 7093	3107007	Collected:	06/11/1	9 14:50	Received: 06	6/11/19 15:56	Matrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Prepa	aration N	lethod:	SM22 5210B			
BOD, 5 day	5.6	mg/L		2.0	1	06/13/19 10:33	06/18/19 11:04	1	
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.00						
Bromide Chloride	0.83 35.4	mg/L mg/L		0.50 2.0	1 1		06/27/19 21:18 06/27/19 21:18	3 16887-00-6	
Sulfate 351.2 Total Kjeldahl Nitrogen	22.6 Analytical Meth	mg/L od: EPA 3	51.2 Prepara	5.0 ition Met	1 hod: EP	PA 351.2	06/27/19 21:18	3 14808-79-8	
Nitrogen, Kjeldahl, Total	2.1	mg/L		0.10	1	06/25/19 13:02	06/26/19 08:07	7 7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2						
Nitrate as N Nitrate-Nitrite (as N)	0.046J 0.046J	mg/L mg/L		0.050 0.050	1 1		06/11/19 22:53 06/11/19 22:53		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2						
Nitrite as N	<0.050	mg/L		0.050	1		06/11/19 20:59	9 14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H						
Nitrogen, Ammonia	0.37	mg/L		0.10	1		06/25/19 14:34	4 7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B						
Total Organic Carbon	12.5	mg/L		1.0	1		06/18/19 19:0	5 7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-17D Lab ID: 7093107008 Collected: 06/11/19 14:35 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum <200 ug/L 200 1 06/14/19 09:04 06/24/19 19:14 7429-90-5 <60.0 60.0 06/14/19 09:04 06/24/19 19:14 7440-36-0 Antimony ug/L 1 <10.0 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 19:14 7440-38-2 1 200 Barium 25.6J 06/14/19 09:04 06/24/19 19:14 7440-39-3 ug/L 1 06/14/19 09:04 06/24/19 19:14 7440-41-7 Beryllium <5.0 ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:14 7440-43-9 Calcium 12100 ug/L 200 1 06/14/19 09:04 06/24/19 19:14 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:14 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:14 7440-48-4 25.0 06/14/19 09:04 06/24/19 19:14 7440-50-8 Copper <25.0 ug/L 1 Iron 249 ug/L 20.0 06/14/19 09:04 06/24/19 19:14 7439-89-6 1 Lead 3.1J ug/L 5.0 06/14/19 09:04 06/24/19 19:14 7439-92-1 1 6440 200 06/14/19 09:04 06/24/19 19:14 7439-95-4 Magnesium ug/L 1 26.5 Manganese 10.0 06/14/19 09:04 06/24/19 19:14 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 19:14 7440-02-0 ug/L 1 <5000 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:14 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:14 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:14 7440-22-4 Sodium 11500 ug/L 5000 06/14/19 09:04 06/24/19 19:14 7440-23-5 1 Thallium 4.1J 10.0 06/14/19 09:04 06/24/19 19:14 7440-28-0 ug/L 1 В <50.0 50.0 Vanadium ug/L 1 06/14/19 09:04 06/24/19 19:14 7440-62-2 Zinc 18.9J ug/L 20.0 06/14/19 09:04 06/24/19 19:14 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:43 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.077J 0.25 06/18/19 11:20 06/21/19 21:38 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 49 %. 30-125 1 06/18/19 11:20 06/21/19 21:38 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 1.2 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 26.7 mg/L 1.0 1 06/24/19 12:39 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 40.0 mg/L 5.0 1 06/24/19 17:22 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 118 10.0 06/17/19 10:50 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 30.0 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:41 mg/L 1

#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-17D	Lab ID: 709	3107008	Collected: 06/11/1	9 14:3	5 Received: 06	6/11/19 15:56 M	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	nod: SM22 5	5210B Preparation N	lethod:	: SM22 5210B			
BOD, 5 day	1.0J	mg/L	2.0	1	06/13/19 10:33	06/18/19 11:06		
300.0 IC Anions 28 Days	Analytical Meth	nod: EPA 30	0.0					
Bromide Chloride Sulfate	1.1 23.7 36.2	mg/L mg/L mg/L	0.50 2.0 5.0	1 1 1		06/27/19 21:35 06/27/19 21:35 06/27/19 21:35	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	nod: EPA 35	1.2 Preparation Met	hod: E	PA 351.2			
Nitrogen, Kjeldahl, Total	1.7	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:08	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	nod: EPA 35	3.2					
Nitrate as N Nitrate-Nitrite (as N)	0.028J <0.050	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:54 06/11/19 22:54		
353.2 Nitrogen, NO2	Analytical Meth	nod: EPA 35	3.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 21:00	14797-65-0	
4500 Ammonia Water	Analytical Meth	nod: SM22 4	1500 NH3 H					
Nitrogen, Ammonia	0.87	mg/L	0.10	1		06/25/19 14:35	7664-41-7	
5310B TOC as NPOC	Analytical Meth	nod: SM22 5	5310B					
Total Organic Carbon	10	mg/L	1.0	1		06/18/19 19:21	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-18D Lab ID: 7093107009 Collected: 06/11/19 14:10 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 137J ug/L 200 1 06/14/19 09:04 06/24/19 19:30 7429-90-5 <60.0 60.0 06/14/19 09:04 06/24/19 19:30 7440-36-0 Antimony ug/L 1 <10.0 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 19:30 7440-38-2 1 200 Barium 136J 06/14/19 09:04 06/24/19 19:30 7440-39-3 ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-41-7 Beryllium <5.0 ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:30 7440-43-9 Calcium 52400 ug/L 200 1 06/14/19 09:04 06/24/19 19:30 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:30 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:30 7440-48-4 25.0 Copper 12.7J ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-50-8 Iron 213 ug/L 20.0 06/14/19 09:04 06/24/19 19:30 7439-89-6 1 Lead <5.0 ug/L 5.0 06/14/19 09:04 06/24/19 19:30 7439-92-1 1 4670 200 06/14/19 09:04 06/24/19 19:30 7439-95-4 Magnesium ug/L 1 3350 Manganese 10.0 06/14/19 09:04 06/24/19 19:30 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 19:30 7440-02-0 ug/L 1 25400 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:30 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:30 7440-22-4 Sodium 67300 ug/L 5000 06/14/19 09:04 06/24/19 19:30 7440-23-5 1 Thallium 9.1J 10.0 ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-28-0 В 50.0 Vanadium <50.0 ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-62-2 Zinc 37.9 ug/L 20.0 06/14/19 09:04 06/24/19 19:30 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:49 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.15J 0.25 06/18/19 11:20 06/21/19 21:18 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 46 %. 30-125 1 06/18/19 11:20 06/21/19 21:18 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 1.6 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 136 1.0 1 06/24/19 12:48 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 140 mg/L 5.0 1 06/24/19 17:51 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 408 20.0 06/17/19 10:52 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 Chemical Oxygen Demand 16.8 10.0 06/19/19 09:15 06/19/19 11:42 mg/L 1

# **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-18D	Lab ID: 7093	3107009	Collected: 06/11/1	9 14:10	Received: 06	/11/19 15:56 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B			
BOD, 5 day	5.8	mg/L	2.0	1	06/13/19 10:33	06/18/19 11:09		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide Chloride Sulfate	1.1 172 10.3	mg/L mg/L mg/L	0.50 10.0 5.0	1 5 1		06/27/19 22:25 06/27/19 22:42 06/27/19 22:25	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 38	51.2 Preparation Met	hod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	3.1	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:09	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 38	53.2					
Nitrate as N Nitrate-Nitrite (as N)	0.032J <0.050	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:55 06/11/19 22:55		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 38	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 21:01	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	2.5	mg/L	0.10	1		06/25/19 14:36	7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	4.0	mg/L	1.0	1		06/18/19 19:37	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-19D Lab ID: 7093107010 Collected: 06/11/19 13:40 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 220 ug/L 200 1 06/14/19 09:04 06/24/19 19:35 7429-90-5 <60.0 60.0 06/14/19 09:04 06/24/19 19:35 7440-36-0 Antimony ug/L 1 <10.0 10.0 Arsenic ug/L 06/14/19 09:04 06/24/19 19:35 7440-38-2 1 200 Barium 76.1J 06/14/19 09:04 06/24/19 19:35 7440-39-3 ug/L 1 <5.0 06/14/19 09:04 06/24/19 19:35 7440-41-7 Beryllium ug/L 5.0 1 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:35 7440-43-9 30100 Calcium ug/L 200 1 06/14/19 09:04 06/24/19 19:35 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:35 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:35 7440-48-4 25.0 06/14/19 09:04 06/24/19 19:35 7440-50-8 Copper <25.0 ug/L 1 Iron 248 ug/L 20.0 06/14/19 09:04 06/24/19 19:35 7439-89-6 1 Lead <5.0 ug/L 5.0 06/14/19 09:04 06/24/19 19:35 7439-92-1 1 4490 200 06/14/19 09:04 06/24/19 19:35 7439-95-4 Magnesium ug/L 1 12.5 Manganese 10.0 06/14/19 09:04 06/24/19 19:35 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 19:35 7440-02-0 ug/L 1 5370 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:35 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:35 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:35 7440-22-4 Sodium 32600 ug/L 5000 06/14/19 09:04 06/24/19 19:35 7440-23-5 1 Thallium 3.9J 10.0 ug/L 1 06/14/19 09:04 06/24/19 19:35 7440-28-0 В 50.0 Vanadium <50.0 ug/L 1 06/14/19 09:04 06/24/19 19:35 7440-62-2 Zinc 13.0J ug/L 20.0 06/14/19 09:04 06/24/19 19:35 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:51 7439-97-6 Mercury 8270D MSSV 14 Dioxane By SIM Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 0.16J 0.25 06/18/19 11:20 06/21/19 20:59 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 42 %. 30-125 1 06/18/19 11:20 06/21/19 20:59 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 2.0 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity 06/24/19 12:52 Alkalinity, Total as CaCO3 6.2 mg/L 1.0 1 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 80.0 mg/L 5.0 1 06/24/19 17:51 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 324 10.0 06/17/19 11:03 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 12.4 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:42 mg/L 1

#### **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-19D	Lab ID: 7093	3107010	Collected:	06/11/1	9 13:40	Received: 06	6/11/19 15:56 N	Matrix: Water	
Parameters	Results	Units	Report	t Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22 8	5210B Prepa	aration M	lethod:	SM22 5210B			
BOD, 5 day	1.7J	mg/L		2.0	1	06/13/19 10:33	06/18/19 11:11		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0						
Bromide	1.3	mg/L		0.50	1		06/27/19 22:58	24959-67-9	
Chloride	107	mg/L		10.0	5		06/27/19 23:15		
Sulfate	26.9	mg/L		5.0	1		06/27/19 22:58	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 35	1.2 Prepara	tion Met	hod: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.91	mg/L		0.10	1	06/25/19 13:02	06/26/19 08:10	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 35	3.2						
Nitrate as N	3.2	mg/L		0.50	10		06/11/19 22:56	14797-55-8	
Nitrate-Nitrite (as N)	3.2	mg/L		0.50	10		06/11/19 22:56	7727-37-9	
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 35	3.2						
Nitrite as N	<0.050	mg/L		0.050	1		06/11/19 21:02	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22 4	4500 NH3 H						
Nitrogen, Ammonia	0.065J	mg/L		0.10	1		06/25/19 14:37	7664-41-7	В
5310B TOC as NPOC	Analytical Meth	od: SM22 (	5310B						
Total Organic Carbon	2.6	mg/L		1.0	1		06/18/19 19:52	7440-44-0	



Project: Pace Project No.:	GMP WELL ROU 7093107	TINE 360+TAL ME	TAL					
QC Batch:	118862		Analysis Meth	nod: E	PA 7470A			
QC Batch Method:	EPA 7470A		Analysis Dese	cription: 74	470 Mercury			
Associated Lab Sam		001, 7093107002, 7 009, 7093107010	7093107003, 7093 <sup>.</sup>	107004, 70931	07005, 709310	7006, 7093107	007, 7093107008,	
METHOD BLANK:	564845		Matrix:	Water				
Associated Lab Sam		001, 7093107002, 7 009, 7093107010	7093107003, 7093 <sup>,</sup>		07005, 709310	7006, 7093107	007, 7093107008,	
			Blank	Reporting				
Param	neter	Units	Result	Limit	Analyzed	Qualifie	ers	
Mercury		ug/L	<0.20	0.20	06/21/19 18:	28		
LABORATORY CON	ITROL SAMPLE:	564846	0.1					
Param	neter	Units	•	LCS lesult	LCS % Rec	% Rec Limits	Qualifiers	
Mercury		ug/L	1	1.0	101	80-120		
MATRIX SPIKE SAM	/IPLE:	564847						
Param	neter	Units	7093441002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury		ug/L	<0.2	0 1	0.81	78	75-125	
SAMPLE DUPLICAT	TE: 564848							
_			7093441002	Dup				
Param	neter	Units	Result	Result	RPD	Qualifiers		
Mercury		ug/L	<0.20	<0.20				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	GMP V	WELL ROUTINE 360+TAL ME	TAL				
Pace Project No.:	709310	07					
QC Batch:	11782	23	Analysis Meth	nod: EF	PA 6010C		
QC Batch Method:	EPA :	3005A	Analysis Desc	cription: 60	10 MET Water		
Associated Lab San	nples:	7093107001, 7093107002, 7 7093107009, 7093107010	093107003, 70931	107004, 709310	7005, 7093107006	i, 7093107007, 7093	107008,
METHOD BLANK:	558052	2	Matrix:	Water			
Associated Lab San	nples:	7093107001, 7093107002, 7 7093107009, 7093107010	7093107003, 70931	107004, 709310	7005, 7093107006	s, 7093107007, 7093	107008,
			Blank	Reporting			
Paran	neter	Units	Result	Limit	Analyzed	Qualifiers	
Aluminum		ug/L	<200	200	06/24/19 18:25		
Antimony		ug/L	<60.0	60.0	06/24/19 18:25		
Arsenic		ug/L	<10.0	10.0	06/24/19 18:25		
Barium		ug/L	<200	200	06/24/19 18:25		
Beryllium		ug/L	<5.0	5.0	06/24/19 18:25		
Cadmium		ug/L	<2.5	2.5	06/24/19 18:25		
Calcium		ug/L	<200	200	06/24/19 18:25		
Chromium		ug/L	<10.0	10.0	06/24/19 18:25		
Cobalt		ug/L	<50.0	50.0	06/24/19 18:25		
Copper		ug/L	<25.0	25.0	06/24/19 18:25		
Iron		ug/L	<20.0	20.0	06/24/19 18:25		
Lead		ug/L	<5.0	5.0	06/24/19 18:25		
Magnesium		ug/L	<200	200	06/24/19 18:25		
Manganese		ug/L	<10.0	10.0	06/24/19 18:25		
Nickel		ug/L	<40.0	40.0	06/24/19 18:25		
Potassium		ug/L	<5000	5000	06/24/19 18:25		
Selenium		ug/L	<10.0	10.0	06/24/19 18:25		
Silver		ug/L	<10.0	10.0	06/24/19 18:25		
Sodium		ug/L	<5000	5000	06/24/19 18:25		
Thallium		ug/L	5.3J	10.0	06/24/19 18:25		
Vanadium		ug/L	<50.0	50.0	06/24/19 18:25		
Zinc		ug/L	<20.0	20.0	06/24/19 18:25		

#### LABORATORY CONTROL SAMPLE: 558053

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Aluminum	ug/L	5000	5030	101	80-120	
Antimony	ug/L	750	780	104	80-120	
Arsenic	ug/L	500	508	102	80-120	
Barium	ug/L	500	519	104	80-120	
Beryllium	ug/L	50	53.0	106	80-120	
Cadmium	ug/L	50	52.2	104	80-120	
Calcium	ug/L	25000	26400	106	80-120	
Chromium	ug/L	250	261	105	80-120	
Cobalt	ug/L	500	526	105	80-120	
Copper	ug/L	250	264	106	80-120	
Iron	ug/L	2000	2090	104	80-120	
Lead	ug/L	500	523	105	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### LABORATORY CONTROL SAMPLE: 558053

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Magnesium	ug/L	25000	26100	104	80-120	
Manganese	ug/L	250	260	104	80-120	
lickel	ug/L	250	264	106	80-120	
otassium	ug/L	50000	50700	101	80-120	
Selenium	ug/L	750	765	102	80-120	
ilver	ug/L	250	252	101	80-120	
odium	ug/L	50000	51500	103	80-120	
nallium	ug/L	750	776	103	80-120	
anadium	ug/L	500	516	103	80-120	
inc	ug/L	1000	1040	104	80-120	

MATRIX SPIKE SAMPLE:

558055

MATRIX OF IRE SAME EE.	330033	7093379002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Aluminum	ug/L	<200	5000	4910	98	75-125	
Antimony	ug/L	<60.0	750	760	101	75-125	
Arsenic	ug/L	<10.0	500	499	100	75-125	
Barium	ug/L	<200	500	526	100	75-125	
Beryllium	ug/L	<5.0	50	51.8	104	75-125	
Cadmium	ug/L	<2.5	50	50.6	101	75-125	
Calcium	ug/L	77200	25000	102000	99	75-125	
Chromium	ug/L	16.1	250	265	99	75-125	
Cobalt	ug/L	<50.0	500	497	99	75-125	
Copper	ug/L	<25.0	250	252	99	75-125	
Iron	ug/L	299	2000	2320	101	75-125	
Lead	ug/L	<5.0	500	515	102	75-125	
Magnesium	ug/L	17100	25000	42400	101	75-125	
Vanganese	ug/L	28.5	250	261	93	75-125	
Nickel	ug/L	46.9	250	294	99	75-125	
Potassium	ug/L	<5000	50000	51600	94	75-125	
Selenium	ug/L	<10.0	750	760	101	75-125	
Silver	ug/L	<10.0	250	242	97	75-125	
Sodium	ug/L	6640	50000	55400	98	75-125	
Thallium	ug/L	<10.0	750	762	102	75-125	
Vanadium	ug/L	<50.0	500	496	99	75-125	
Zinc	ug/L	<20.0	1000	1010	100	75-125	

#### SAMPLE DUPLICATE: 558054

		7093379002	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Aluminum	ug/L	<200	<200		
Antimony	ug/L	<60.0	<60.0		
Arsenic	ug/L	<10.0	<10.0		
Barium	ug/L	<200	25.3J		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

SAMPLE	DUPLICATE:	558054
SAIVIFLE	DUFLICATE.	556054

		7093379002	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Beryllium	ug/L		<5.0		
Cadmium	ug/L	<2.5	<2.5		
Calcium	ug/L	77200	81700	6	
Chromium	ug/L	16.1	17.7	9	
Cobalt	ug/L	<50.0	<50.0		
Copper	ug/L	<25.0	<25.0		
Iron	ug/L	299	351	16	
Lead	ug/L	<5.0	2.7J		
Magnesium	ug/L	17100	18200	6	
Manganese	ug/L	28.5	8.0J		
Nickel	ug/L	46.9	49.4	5	
Potassium	ug/L	<5000	4840J		
Selenium	ug/L	<10.0	<10.0		
Silver	ug/L	<10.0	<10.0		
Sodium	ug/L	6640	6860	3	
Thallium	ug/L	<10.0	<10.0		
Vanadium	ug/L	<50.0	<50.0		
Zinc	ug/L	<20.0	<20.0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



	GMP WELL ROUT 093107	INE 360+TAL MET	AL								
QC Batch:	613702		Analys	is Method:	EF	PA 8270[	D by SIM				
QC Batch Method:	Batch Method: EPA 3510		Analys	is Descripti	on: 82	70D Wa	ter 14 Di	oxane by S	IM		
Associated Lab Samp		01, 7093107002, 70 09, 7093107010	093107003	, 70931070	04, 709310	07005, 7	0931070	06, 709310	7007, 7093	107008,	
METHOD BLANK: 3	315787		Ν	Aatrix: Wate	ər						
Associated Lab Samp		01, 7093107002, 70 09, 7093107010	093107003	, 70931070	04, 709310	07005, 7	0931070	06, 709310	7007, 7093	107008,	
			Blank	Re	eporting						
Parame	ter	Units	Result	t	Limit	Ana	lyzed	Qualif	iers		
1,4-Dioxane (SIM)		ug/L	<	<0.25	0.25	06/21/	19 12:29				
1,4-Dioxane-d8 (S)		%.		42	30-125	06/21/	19 12:29				
LABORATORY CONT	ROL SAMPLE &	LCSD: 3315788		3	315789						
			Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parame	ter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,4-Dioxane (SIM)		ug/L	10	4.6	9.0	46	90	40-125	65	20	R1
1,4-Dioxane-d8 (S)		%.				44	46	30-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:			IE 360+TAL ME	TAL				
Pace Project No.:	709310	)7						
QC Batch:	1174	21		Analysis N	lethod:	EPA 180.1		
QC Batch Method:	EPA	180.1		Analysis D	escription:	180.1 Turbidity		
Associated Lab Sa	mples:		, 7093107002, 7 , 7093107010	7093107003, 70	93107004, 709	3107005, 70931	07006, 709310	7007, 7093107008,
METHOD BLANK:	556069	)		Matri	ix: Water			
Associated Lab Sa	mples:		, 7093107002, 7 , 7093107010	7093107003, 70	93107004, 709	93107005, 70931	07006, 709310	7007, 7093107008,
				Blank	Reporting	I		
Para	meter		Units	Result	Limit	Analyze	d Qualif	iers
Turbidity			NTU	<1.	0	1.0 06/12/19 1	5:09	
LABORATORY CO	NTROL	SAMPLE: 5	56070					
				Spike	LCS	LCS	% Rec	
Para	meter		Units	Conc.	Result	% Rec	Limits	Qualifiers
Turbidity			NTU	10	10.1	101	90-110	
SAMPLE DUPLICA	TE: 55	6071						
				7093035001	Dup			
Para	meter		Units	Result	Result	RPD	Qualifiers	3
Turbidity			NTU	<1.	0	1.0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	GMP WELL ROU	TINE 360+TAL ME	ETAL					
Pace Project No .:	7093107							
QC Batch:	118942		Analysis Me	ethod:	SM22 2320B			
QC Batch Method:	SM22 2320B		Analysis De	scription:	2320B Alkalinity			
Associated Lab Sar	nples: 7093107	001, 7093107002,	7093107003, 7093	3107004, 7093	107005, 709310	07006		
METHOD BLANK:	565421		Matrix	: Water				
Associated Lab Sar	nples: 7093107	001, 7093107002,	7093107003, 7093	3107004, 7093	107005, 709310	7006		
			Blank	Reporting				
Paran	neter	Units	Result	Limit	Analyzed	Qualifie	ers	
Alkalinity, Total as C	CaCO3	mg/L	<1.0	1.	0 06/21/19 23:	:40		
LABORATORY CO	NTROL SAMPLE:	565422						
			Spike	LCS	LCS	% Rec		
Paran	neter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Alkalinity, Total as C	CaCO3	mg/L	25	26.2	105	85-115		
MATRIX SPIKE SAI	MPLE:	565424	7000454047	0			04 D	
Paran	neter	Units	7092454017 Result	' Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as C		mg/L		6.5 25	44.9			Quanners
Aikainiity, Totai as C	accos	ing/∟		0.0 20	44.5	11-	- 15-125	
SAMPLE DUPLICA	TE: 565423							
			7092454017	Dup				
Parar	neter	Units	Result	Result	RPD	Qualifiers		
Alkalinity, Total as C	- 000	mg/L	16.5	16.	6	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP	WELL ROU	TINE 360+TAL ME	TAL					
Pace Project No.: 7093	107							
QC Batch: 119	110		Analysis Met	hod:	SM22 2320B			
QC Batch Method: SM	22 2320B		Analysis Des	scription:	2320B Alkalinity			
Associated Lab Samples:	70931070	007, 7093107008, 7	7093107009, 7093	3107010				
METHOD BLANK: 5660	23		Matrix:	Water				
Associated Lab Samples:	70931070	007, 7093107008, 7	7093107009, 7093	3107010				
			Blank	Reporting				
Parameter		Units	Result	Limit	Analyzed	Qualifie	ers	
Alkalinity, Total as CaCO3		mg/L	<1.0	1.	0 06/24/19 11	:56		
LABORATORY CONTRO	L SAMPLE:	566024		1.00	1.00	0/ D		
Parameter		Units		LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Alkalinity, Total as CaCO3		mg/L	25	26.1	104	85-115		
MATRIX SPIKE SAMPLE		566025						
			7093107007	Spike	MS	MS	% Rec	
Parameter		Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Alkalinity, Total as CaCO3		mg/L	44	.6 25	71.3	107	7 75-125	
SAMPLE DUPLICATE:	566026							
			7093107007	Dup				
Parameter		Units	Result	Result	RPD	Qualifiers		
Alkalinity, Total as CaCO3		mg/L	44.6	45.	7	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: 0	GMP WELL ROU	TINE 360+TAL ME	TAL					
Pace Project No.:	7093107							
QC Batch:	119111		Analysis Met	thod:	SM22 2340C			
QC Batch Method:	SM22 2340C		Analysis Des	scription:	2340C Hardness	s, Total		
Associated Lab Samp	oles: 70931070	001, 7093107002,	7093107005, 7093	3107006, 7093	107008, 709310	07009, 7093107	010	
METHOD BLANK:	566027		Matrix:	Water				
Associated Lab Samp	oles: 70931070	001, 7093107002,	7093107005, 7093	3107006, 7093	107008, 709310	7009, 7093107	010	
			Blank	Reporting				
Parame	eter	Units	Result	Limit	Analyzed	Qualifie	ers	
Tot Hardness asCaC	O3 (SM 2340B	mg/L	<5.0	5.	0 06/24/19 13	46		
LABORATORY CON	TROL SAMPLE:	566028						
_				LCS	LCS	% Rec		
Parame	eter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Tot Hardness asCaC	O3 (SM 2340B	mg/L	100	99.0	99	90-110		
MATRIX SPIKE SAM	PI F <sup>.</sup>	566415						
			7093107008	Spike	MS	MS	% Rec	
Parame	eter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Tot Hardness asCaC	O3 (SM 2340B	mg/L	40	0.0 667	700	99	75-125	
SAMPLE DUPLICATE	: 566416		7093107008	Dup				
Parame	eter	Units	Result	Result	RPD	Qualifiers		
Tot Hardness asCaC	73 (SM 2340B	mg/L	40.0	33.	31	8		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



- <b>)</b>	JTINE 360+TAL ME	TAL					
Pace Project No.: 7093107 QC Batch: 119500		Analysis Met	hod: S	SM22 2340C			
QC Batch Method: SM22 2340C		Analysis Des		2340C Hardness	Total		
		-		540C Harunes	s, Total		
Associated Lab Samples: 7093107	003, 7093107004, 7	/09310/00/					
METHOD BLANK: 567889		Matrix:	Water				
Associated Lab Samples: 7093107	003, 7093107004, 7	7093107007					
		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	<5.0	5.0	0 06/26/19 12:	.05		
LABORATORY CONTROL SAMPLE:	567890						
		Spike	LCS	LCS	% Rec		
Parameter	Units	Conc. F	Result	% Rec	Limits	Qualifiers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	100	99.0	99	90-110		
MATRIX SPIKE SAMPLE:	567891						
		7093107003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Tot Hardness asCaCO3 (SM 2340B	mg/L	80	.0 2000	2060	99	75-125	
SAMPLE DUPLICATE: 567892							
		7093107003	Dup	555	0 11		
Parameter	Units	Result	Result	RPD	Qualifiers		
Tot Hardness asCaCO3 (SM 2340B	mg/L	80.0	80.0	)	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP WELL RC Pace Project No.: 7093107	OUTINE 360+TAL ME	TAL					
QC Batch: 118003		Analysis Meth	od: S	M22 2540C			
QC Batch Method: SM22 2540C		Analysis Desc	ription: 2	540C Total Diss	olved Solids		
Associated Lab Samples: 709310	7001, 7093107002,	7093107003, 70931	07004, 70931	07005, 709310	7006, 709310700	7, 7093107008	
METHOD BLANK: 559701		Matrix: V	Vater				
Associated Lab Samples: 709310	7001, 7093107002,	7093107003, 70931 Blank	07004, 70931 Reporting	07005, 709310	7006, 709310700	7, 7093107008	
Parameter	Units	Result	Limit	Analyzed	Qualifiers		
Total Dissolved Solids	mg/L	<10.0	10.0	06/17/19 09:	42		
LABORATORY CONTROL SAMPLE	: 559702						
Deremeter	Units	•	CS	LCS % Rec	% Rec	Jualifiers	
Parameter			esult				
Total Dissolved Solids	mg/L	500	568	114	85-115		
MATRIX SPIKE SAMPLE:	559704						
_		7092927006	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	596	600	1130	89	75-125	
MATRIX SPIKE SAMPLE:	559706						
_		7092454017	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	211	300	490	93	75-125	
SAMPLE DUPLICATE: 559703							
Parameter	Units	7092927006 Result	Dup Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	596	602	2	1		
SAMPLE DUPLICATE: 559705							
Parameter	Units	7092454017 Result	Dup Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	211	223	5	6 D6		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



QC Batch: 118004		Analysis Meth	iod: S	SM22 2540C			
QC Batch Method: SM22 2540C		Analysis Desc	ription: 2	2540C Total Diss	solved Solids		
Associated Lab Samples: 709310	7009, 7093107010						
METHOD BLANK: 559707		Matrix:	Water				
Associated Lab Samples: 709310	7009, 7093107010						
5		Blank	Reporting		0 11		
Parameter	Units	Result	Limit	Analyzed	Qualifier	S	
Total Dissolved Solids	mg/L	<10.0	10.0	0 06/17/19 10:	51		
LABORATORY CONTROL SAMPLE:	559708						
_			CS	LCS	% Rec		
Parameter	Units	Conc. R	esult	% Rec	Limits	Qualifiers	
Total Dissolved Solids	mg/L	500	540	108	85-115		
MATRIX SPIKE SAMPLE:	559710						
		7093107009	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	408	8 600	980	95	75-125	
MATRIX SPIKE SAMPLE:	559712						
		7093263004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	162	2 300	454	97	75-125	
SAMPLE DUPLICATE: 559709							
		7093107009	Dup		0		
Parameter	Units	Result	Result	RPD	Qualifiers	_	
Total Dissolved Solids	mg/L	408	480	0 1	6 D6		
SAMPLE DUPLICATE: 559711							
_		7093263004	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers	_	
Total Dissolved Solids	mg/L	162	17	_	8 D6		

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#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP WEL Pace Project No.: 7093107	L ROUTINE 360+TAL ME	ETAL					
QC Batch: 118376 QC Batch Method: EPA 410.	4	Analysis Metho Analysis Descr		PA 410.4 10.4 COD			
	93107001, 7093107002, 93107009, 7093107010	7093107003, 709310	07004, 70931	07005, 709310	7006, 70931070	07, 7093107008,	
METHOD BLANK: 562201		Matrix: W	/ater				
	93107001, 7093107002, 93107009, 7093107010		·	07005, 709310	7006, 70931070	07, 7093107008,	
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifier	s	
Chemical Oxygen Demand	mg/L	<10.0	10.0	06/19/19 11:	37		
ABORATORY CONTROL SAM	1PLE: 562202						
Parameter	Units		CS sult	LCS % Rec	% Rec Limits	Qualifiers	
Chemical Oxygen Demand	mg/L	500	531	106	90-110		
MATRIX SPIKE SAMPLE:	562203						
Parameter	Units	7093107001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	<10.0	1000	1010	100	90-110	
MATRIX SPIKE SAMPLE:	562205						
Parameter	Units	7093260004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	<10.0	1000	1050	105	90-110	
SAMPLE DUPLICATE: 56220	4						
Parameter	Units	7093107001 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	<10.0	<10.0	)		_	
SAMPLE DUPLICATE: 56220	6						
Parameter	Units	7093260004 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Demand	mg/L	<10.0	<10.0			-	

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#### **REPORT OF LABORATORY ANALYSIS**



Project:	GMP WEL	L ROUTINE 360-	FAL METAL						
Pace Project No.:	7093107								
QC Batch:	117575		An	alysis Me	ethod:	SM	22 5210B		
QC Batch Method:	SM22 52	210B	An	alysis De	scription:	521	0B BOD, 5	day	
Associated Lab Sar		93107001, 7093 <sup>.</sup> 93107009, 7093 <sup>.</sup>		003, 709	3107004, 709	93107	7005, 70931	07006, 709310	7007, 7093107008,
METHOD BLANK:	556869			Matrix	: Water				
Associated Lab Sar		93107001, 7093 <sup>,</sup> 93107009, 7093 <sup>,</sup>	,	003, 709	3107004, 709	93107	7005, 70931	07006, 709310	7007, 7093107008,
			В	lank	Reporting	ļ			
Parar	neter	Ui	nits R	esult	Limit		Analyze	d Qualif	iers
BOD, 5 day		m	g/L	<2.0		2.0	06/18/19 10	):34	
LABORATORY CO		MPLE: 556870							
LABORATORY CO	NTROL SAI	WPLE: 556870	Spik	(e	LCS	I	LCS	% Rec	
Parar	neter	Ui	nits Con		Result		Rec	Limits	Qualifiers
BOD, 5 day		m	g/L	198	176		89	84.5-115.4	
SAMPLE DUPLICA	TE: 55687	71	<b>_</b>		-				
Doror	motor			221001	Dup		RPD	Qualifiers	
Parar	netei			esult	Result		RPD		
BOD, 5 day		m	g/L	202	1	88		7	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Pace Project No.:	GMP WEL 7093107	L ROUTINE 360+TAL MET	ΓAL					
QC Batch:	119378		Analysis Metho	od: E	PA 300.0			
QC Batch Method:	EPA 300.	0	Analysis Descr		00.0 IC Anions			
Associated Lab Sar		93107001, 7093107002, 7 93107009, 7093107010	093107003, 709310	07004, 70931	07005, 709310	07006, 7093107	007, 7093107008,	
METHOD BLANK:	567505		Matrix: V	Vater				
Associated Lab Sar		93107001, 7093107002, 7 93107009, 7093107010		·	07005, 709310	07006, 7093107	007, 7093107008,	
5			Blank	Reporting		0 11		
Parar	neter	Units	Result	Limit	Analyzed		ers	
Bromide		mg/L	<0.50	0.50				
Chloride		mg/L	<2.0 <5.0	2.0				
Sulfate		mg/L	<0.0	5.0	06/26/19/23	.22		
LABORATORY CO	NTROL SAM	IPLE: 567506						
Parar	neter	Units		CS sult	LCS % Rec	% Rec Limits	Qualifiers	
Bromide		mg/L	1	1.1	108	90-110		
Chloride		mg/L	10	10.2	102	90-110		
Sulfate		mg/L	10	10.3	103	90-110		
MATRIX SPIKE SA	MPLE:	567507						
			7094769001	Spike	MS	MS	% Rec	
Parar	neter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromide		mg/L	ND	1	1.1	105	80-120	
Chloride		mg/L	10.9	10	20.5	96	80-120	
Sulfate		mg/L	<5.0	10	15.1	102	80-120	
SAMPLE DUPLICA	TE: 56750	18						
			7094769001	Dup				
Parar	neter	Units	Result	Result	RPD	Qualifiers		
Bromide		mg/L	ND	<0.50				
Childrida		mg/L	10.9	10.8		0		
Chloride			<5.0	4.7J				

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#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP Pace Project No.: 70931	WELL ROUTINE 360 07	0+TAL METAL						
QC Batch: 1192	-		lysis Methoo lysis Descrij		PA 351.2 51.2 TKN			
Associated Lab Samples:	7093107001, 7093 7093107009, 7093	3107002, 70931070 3107010	03, 709310	7004, 70931	07005, 709310	7006, 70931070	07, 7093107008,	
METHOD BLANK: 56677	5		Matrix: W	ater				
Associated Lab Samples:	7093107001, 7093 7093107009, 7093				07005, 709310	7006, 70931070	07, 7093107008,	
Parameter	ι		ank l sult	Reporting Limit	Analyzed	Qualifier	s	
Nitrogen, Kjeldahl, Total	r	ng/L	<0.10	0.10	06/26/19 07:	51		
LABORATORY CONTROL	SAMPLE: 566776							
Parameter	ι	Spike Jnits Conc			LCS % Rec	% Rec Limits	Qualifiers	
Nitrogen, Kjeldahl, Total	r	ng/L	4	4.0	99	90-110		
MATRIX SPIKE SAMPLE:	566777							
Parameter	ι		2926001 esult	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	r	ng/L	97.9	20	94.6	-16	90-110	M6
MATRIX SPIKE SAMPLE:	566779	9						
Parameter	ι		3723002 esult	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	r	ng/L	4.7	4	9.1	110	90-110	
SAMPLE DUPLICATE: 5	66778							
Parameter	ι	70929 Jnits Re	26001 sult	Dup Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total	r	ng/L	97.9	91.2		7	_	
SAMPLE DUPLICATE: 5	66780							
Parameter	ι	70937 Jnits Re	23002 sult	Dup Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total			4.7	3.8		2 D6	_	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROU Pace Project No.: 7093107	TINE 360+TAL ME	TAL					
QC Batch: 117323		Analysis Metho	d: E	EPA 353.2			
QC Batch Method: EPA 353.2		Analysis Descri	ption: 3	353.2 Nitrite, Un	pres.		
	001, 7093107002, 7 009, 7093107010	7093107003, 709310		107005, 709310	17006, 7093107(	007, 7093107008,	
IETHOD BLANK: 555560		Matrix: W	/ater				
	001, 7093107002, 7 009, 7093107010	7093107003, 709310	·	107005, 709310	7006, 70931070	007, 7093107008,	
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifie	rs	
Vitrite as N	mg/L	<0.050	0.050	06/11/19 20:	34		
ABORATORY CONTROL SAMPLE:	555561						
Parameter	Units	Spike LC Conc. Re		LCS % Rec	% Rec Limits	Qualifiers	
Vitrite as N	mg/L	1	1.0	104	90-110		
ATRIX SPIKE SAMPLE:	555562						
Parameter	Units	7093101001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
litrite as N	mg/L	<0.050	0.5	0.55	110	90-110	
ATRIX SPIKE SAMPLE:	555564						
Demonstra	11-26-	7093107001	Spike	MS	MS	% Rec	0
Parameter Vitrite as N	Units mg/L		Conc. 	Result 0.56	% Rec 112	Limits 	Qualifiers
	mg/∟	<0.000	0.5	0.50	112	90-110 1	VI I
SAMPLE DUPLICATE: 555563		7093101001	Dun				
Parameter	Units	Result	Dup Result	RPD	Qualifiers		
Nitrite as N	mg/L	<0.050	<0.050	0			
SAMPLE DUPLICATE: 555565							
· · · · · · · · · · · · · · · · · · ·							
Parameter	Units	7093107001 Result	Dup Result	RPD	Qualifiers		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

#### **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROU Pace Project No.: 7093107	TINE 360+TAL ME	TAL					
QC Batch: 117328		Analysis Metho	od: E	EPA 353.2			
QC Batch Method: EPA 353.2		Analysis Descr		353.2 Nitrate, Un	pres.		
	001, 7093107002, 7 009, 7093107010	7093107003, 709310	•		•	07, 7093107008	
METHOD BLANK: 555671		Matrix: V	Vater				
	001, 7093107002, 7 009, 7093107010	7093107003, 709310		107005, 709310	7006, 70931070	07, 7093107008	
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifie	ſS	
Nitrate-Nitrite (as N)	mg/L	<0.050	0.050	06/11/19 22:2	25		
ABORATORY CONTROL SAMPLE:	555672						
Parameter	Units	•	CS sult	LCS % Rec	% Rec Limits	Qualifiers	
Nitrate-Nitrite (as N)	mg/L	1	1.0	102	90-110		
ATRIX SPIKE SAMPLE:	555673						
Parameter	Units	7093035001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	4.0	5	8.5	91	90-110	
MATRIX SPIKE SAMPLE:	555675						
Devenuerten	l la ita	7093139001	Spike	MS	MS	% Rec	Qualifiana
Parameter Vitrate-Nitrite (as N)	Units mg/L	_ Result 0.69	Conc. 0.5	Result	% Rec 86	Limits 	Qualifiers
villale-Mille (as N)	mg/∟	0.00	0.5	1.1	00	90-110	VI I
SAMPLE DUPLICATE: 555674		7093035001	Dup				
Parameter	Units	Result	Dup Result	RPD	Qualifiers	_	
litrate-Nitrite (as N)	mg/L	4.0	4.(	)	1		
SAMPLE DUPLICATE: 555676							
Parameter	Units	7093139001 Result	Dup Result	RPD	Qualifiers		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: Pace Project No.:	GMP WE 7093107	LL ROUTINE	E 360+TAL ME	TAL						
QC Batch:	119281			Analysis Me	ethod:	S	M22 4500 NH3	Н		
QC Batch Method:		500 NH3 H		Analysis De		-	500 Ammonia			
Associated Lab San	nples: 7	093107001,	7093107002, 1 7093107010	7093107003, 709	•			7006, 709310	7007, 709310	07008,
METHOD BLANK:	566889			Matrix	: Water					
Associated Lab San			7093107002, 1 7093107010	7093107003, 709	3107004, 7	0931	07005, 709310	7006, 709310	7007, 709310	07008,
				Blank	Report	-				
Paran	neter		Units	Result	Limi	:	Analyzed	Qualif	iers	
Nitrogen, Ammonia			mg/L	0.036J		0.10	06/25/19 14:	09		
LABORATORY CON	NTROL SA	MPLE: 56	6890							
Paran	neter		Units	Spike Conc.	LCS Result		LCS % Rec	% Rec Limits	Qualifiers	
Nitrogen, Ammonia			mg/L	1	1.(	)	101	90-110		_
MATRIX SPIKE SAM	MPLE:	56	6891							
				7093468002	l Spik	е	MS	MS	% Rec	
Paran	neter		Units	Result	Con	с.	Result	% Rec	Limits	Qualifiers
Nitrogen, Ammonia			mg/L	2	2.4	10	29.0	6	57 75	-125 M6
SAMPLE DUPLICA	TE: 5668	92								
-				7093468001	Dup			<b>o</b>		
Paran	neter		Units	Result	Resu	lt	RPD	Qualifier	S	
Nitrogen, Ammonia			mg/L	22.4		17.7	2	3 D6		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Pace Project No.:	GMP W 709310		INE 360+TAL ME	TAL						
QC Batch:	11815	54		Analysis M	ethod:	S	M22 5310B			
QC Batch Method:	SM22	5310B		Analysis De	escription:	53	310B TOC			
Associated Lab San	nples:		01, 7093107002, 09, 7093107010	7093107003, 709	93107004,	70931	07005, 709310	7006, 7093107	7007, 7093107008,	
METHOD BLANK:	560764	Ļ		Matriz	x: Water					
Associated Lab San	nples:		01, 7093107002, 09, 7093107010	7093107003, 709	93107004,	70931	07005, 709310	7006, 7093107	7007, 7093107008,	
				Blank	Repo	-				
Paran	neter		Units	Result	Lin	it	Analyzed	Qualifi	ers	
Total Organic Carbo	'n		mg/L	<1.(	)	1.0	06/18/19 15:	35		
LABORATORY CON		SAMPLE:	560765	0.1						
Paran	neter		Units	Spike Conc.	LCS Result		LCS % Rec	% Rec Limits	Qualifiers	
Total Organic Carbo	'n		mg/L	10	9	2	92	85-115		
MATRIX SPIKE SAM	MPLE:		560767							
				709310700	1 Spi	ke	MS	MS	% Rec	
Paran	neter		Units	Result	Co	nc.	Result	% Rec	Limits	Qualifiers
Total Organic Carbo	'n		mg/L	0.	98J	10	11.1	10 <sup>,</sup>	1 75-125	
SAMPLE DUPLICA	TE: 56	0766								
				7093107001	Du	р				
Paran	neter		Units	Result	Res	ult	RPD	Qualifiers		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### QUALIFIERS

Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

#### LABORATORIES

PACE-MV Pace Analytical Services - Melville

PASI-M Pace Analytical Services - Minneapolis

#### ANALYTE QUALIFIERS

- B Analyte was detected in the associated method blank.
- D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- R1 RPD value was outside control limits.



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7093107001	GM-2D	EPA 3005A	117823	EPA 6010C	117836
7093107002	GM-4D	EPA 3005A	117823	EPA 6010C	117836
093107003	GM-5D	EPA 3005A	117823	EPA 6010C	117836
093107004	GM-6D	EPA 3005A	117823	EPA 6010C	117836
093107005	GM-7D	EPA 3005A	117823	EPA 6010C	117836
093107006	GM-15D	EPA 3005A	117823	EPA 6010C	117836
093107007	GM-16D	EPA 3005A	117823	EPA 6010C	117836
093107008	GM-17D	EPA 3005A	117823	EPA 6010C	117836
093107009	GM-18D	EPA 3005A	117823	EPA 6010C	117836
093107010	GM-19D	EPA 3005A	117823	EPA 6010C	117836
093107001	GM-2D	EPA 7470A	118862	EPA 7470A	118885
093107002	GM-4D	EPA 7470A	118862	EPA 7470A	118885
093107003	GM-5D	EPA 7470A	118862	EPA 7470A	118885
093107004	GM-6D	EPA 7470A	118862	EPA 7470A	118885
093107005	GM-7D	EPA 7470A	118862	EPA 7470A	118885
093107006	GM-15D	EPA 7470A	118862	EPA 7470A	118885
093107007	GM-16D	EPA 7470A	118862	EPA 7470A	118885
093107008	GM-17D	EPA 7470A	118862	EPA 7470A	118885
093107009	GM-18D	EPA 7470A	118862	EPA 7470A	118885
093107010	GM-19D	EPA 7470A	118862	EPA 7470A	118885
093107001	GM-2D	EPA 3510	613702	EPA 8270D by SIM	614675
093107002	GM-4D	EPA 3510	613702	EPA 8270D by SIM	614675
093107003	GM-5D	EPA 3510	613702	EPA 8270D by SIM	614675
093107004	GM-6D	EPA 3510	613702	EPA 8270D by SIM	614675
093107005	GM-7D	EPA 3510	613702	EPA 8270D by SIM	614675
093107006	GM-15D	EPA 3510	613702	EPA 8270D by SIM	614675
093107007	GM-16D	EPA 3510	613702	EPA 8270D by SIM	614675
093107008	<b>GM-17D</b>	EPA 3510	613702	EPA 8270D by SIM	614675
093107009	GM-18D	EPA 3510	613702	EPA 8270D by SIM	614675
093107010	GM-19D	EPA 3510	613702	EPA 8270D by SIM	614675
093107001	GM-2D	EPA 180.1	117421		
093107002	GM-4D	EPA 180.1	117421		
093107003	GM-5D	EPA 180.1	117421		
093107004	GM-6D	EPA 180.1	117421		
093107005	GM-7D	EPA 180.1	117421		
093107006	GM-15D	EPA 180.1	117421		
093107007	GM-16D	EPA 180.1	117421		
093107008	GM-17D	EPA 180.1	117421		
093107009	GM-18D	EPA 180.1	117421		
093107010	GM-19D	EPA 180.1	117421		
093107001	GM-2D	SM22 2320B	118942		
093107002	GM-4D	SM22 2320B	118942		
093107003	GM-5D	SM22 2320B	118942		
093107004	GM-6D	SM22 2320B	118942		
093107005	GM-7D	SM22 2320B	118942		
093107006	GM-15D	SM22 2320B	118942		



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
7093107007	 GM-16D	SM22 2320B	119110		·
7093107008	GM-17D	SM22 2320B	119110		
093107009	GM-18D	SM22 2320B	119110		
7093107010	GM-19D	SM22 2320B	119110		
093107001	GM-2D	SM22 2340C	119111		
7093107002	GM-4D	SM22 2340C	119111		
093107003	GM-5D	SM22 2340C	119500		
7093107004	GM-6D	SM22 2340C	119500		
	GM-7D				
7093107005	-	SM22 2340C	119111		
093107006	GM-15D	SM22 2340C	119111		
7093107007	GM-16D	SM22 2340C	119500		
7093107008	GM-17D	SM22 2340C	119111		
7093107009	GM-18D	SM22 2340C	119111		
7093107010	GM-19D	SM22 2340C	119111		
7093107001	GM-2D	SM22 2540C	118003		
093107002	GM-4D	SM22 2540C	118003		
093107003	GM-5D	SM22 2540C	118003		
093107004	GM-6D	SM22 2540C	118003		
093107005	GM-7D	SM22 2540C	118003		
093107006	GM-15D	SM22 2540C	118003		
093107007	GM-16D	SM22 2540C	118003		
093107008	GM-17D	SM22 2540C	118003		
093107009	GM-18D	SM22 2540C	118004		
7093107010	GM-19D	SM22 2540C	118004		
7093107001	GM-2D	EPA 410.4	118376	EPA 410.4	118422
7093107002	GM-4D	EPA 410.4	118376	EPA 410.4	118422
093107003	GM-5D	EPA 410.4	118376	EPA 410.4	118422
093107004	GM-6D	EPA 410.4	118376	EPA 410.4	118422
093107005	GM-7D	EPA 410.4	118376	EPA 410.4	118422
093107006	GM-15D	EPA 410.4	118376	EPA 410.4	118422
093107007	GM-16D	EPA 410.4	118376	EPA 410.4	118422
093107008	GM-17D	EPA 410.4	118376	EPA 410.4	118422
093107009	GM-18D	EPA 410.4	118376	EPA 410.4	118422
093107010	GM-19D	EPA 410.4	118376	EPA 410.4	118422
093107001	GM-2D	SM22 5210B	117575	SM22 5210B	118399
093107002	GM-4D	SM22 5210B	117575	SM22 5210B	118399
093107003	GM-5D	SM22 5210B	117575	SM22 5210B	118399
093107004	GM-6D	SM22 5210B	117575	SM22 5210B	118399
093107005	GM-7D	SM22 5210B	117575	SM22 5210B	118399
093107006	GM-15D	SM22 5210B	117575	SM22 5210B	118399
093107007	GM-16D	SM22 5210B	117575	SM22 5210B	118399
093107008	GM-17D	SM22 5210B	117575	SM22 5210B	118399
093107009	GM-18D	SM22 5210B	117575	SM22 5210B	118399
093107009	GM-19D	SM22 5210B	117575	SM22 5210B	118399



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch	
7093107001	GM-2D	EPA 300.0	119378			
7093107002	GM-4D	EPA 300.0	119378			
093107003	GM-5D	EPA 300.0	119378			
093107004	GM-6D	EPA 300.0	119378			
093107005	GM-7D	EPA 300.0	119378			
093107006	GM-15D	EPA 300.0	119378			
093107007	GM-16D	EPA 300.0	119378			
093107008	GM-17D	EPA 300.0	119378			
093107009	GM-18D	EPA 300.0	119378			
093107010	GM-19D	EPA 300.0	119378			
093107001	GM-2D	EPA 351.2	119268	EPA 351.2	119309	
093107002	GM-4D	EPA 351.2	119268	EPA 351.2	119309	
093107003	GM-5D	EPA 351.2	119268	EPA 351.2	119309	
093107004	GM-6D	EPA 351.2	119268	EPA 351.2	119309	
093107005	GM-7D	EPA 351.2	119268	EPA 351.2	119309	
093107006	GM-15D	EPA 351.2	119268	EPA 351.2	119309	
093107007	GM-16D	EPA 351.2	119268	EPA 351.2	119309	
093107008	GM-17D	EPA 351.2	119268	EPA 351.2	119309	
093107009	GM-18D	EPA 351.2	119268	EPA 351.2	119309	
093107010	GM-19D	EPA 351.2	119268	EPA 351.2	119309	
093107001	GM-2D	EPA 353.2	117328			
093107002	GM-4D	EPA 353.2	117328			
093107003	GM-5D	EPA 353.2	117328			
093107004	GM-6D	EPA 353.2	117328			
093107005	GM-7D	EPA 353.2	117328			
093107006	GM-15D	EPA 353.2	117328			
093107007	GM-16D	EPA 353.2	117328			
093107008	<b>GM-17D</b>	EPA 353.2	117328			
093107009	GM-18D	EPA 353.2	117328			
093107010	GM-19D	EPA 353.2	117328			
093107001	GM-2D	EPA 353.2	117323			
093107002	GM-4D	EPA 353.2	117323			
093107003	GM-5D	EPA 353.2	117323			
093107004	GM-6D	EPA 353.2	117323			
093107005	GM-7D	EPA 353.2	117323			
093107006	GM-15D	EPA 353.2	117323			
093107007	GM-16D	EPA 353.2	117323			
093107008	GM-17D	EPA 353.2	117323			
093107009	GM-18D	EPA 353.2	117323			
093107010	GM-19D	EPA 353.2	117323			
093107001	GM-2D	SM22 4500 NH3 H	119281			
093107002	GM-4D	SM22 4500 NH3 H	119281			
093107003	GM-5D	SM22 4500 NH3 H	119281			
093107004	GM-6D	SM22 4500 NH3 H	119281			
093107005	GM-7D	SM22 4500 NH3 H	119281			
093107006	GM-15D	SM22 4500 NH3 H	119281			
093107007	GM-16D	SM22 4500 NH3 H	119281			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7093107008	GM-17D	SM22 4500 NH3 H	119281		
7093107009	GM-18D	SM22 4500 NH3 H	119281		
7093107010	GM-19D	SM22 4500 NH3 H	119281		
7093107001	GM-2D	SM22 5310B	118154		
7093107002	GM-4D	SM22 5310B	118154		
7093107003	GM-5D	SM22 5310B	118154		
7093107004	GM-6D	SM22 5310B	118154		
7093107005	GM-7D	SM22 5310B	118154		
7093107006	GM-15D	SM22 5310B	118154		
7093107007	GM-16D	SM22 5310B	118154		
7093107008	GM-17D	SM22 5310B	118154		
7093107009	GM-18D	SM22 5310B	118154		
7093107010	GM-19D	SM22 5310B	118154		

(N/A) ntact Samples SAMPLE CONDITIONS (N/A) Cooler paleag WO#:7093107 Custody Regulatory Agency State / Location (N/A) 80 Received on ź Residual Chlorine (Y/N) 9 LEMP In C 0 8 TIME vi Requested Analysis Filtered (Y/N) 6-11-19 1/1 DATE SA79/AO79 × × × × × × × × × × 0 MIS 0728 yd ensxoid 4,1 × × × × × × × × × × CHAIN-OF-CUSTODY / Analytical Request Doc The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b COC × × × × × × × × × × DATE Signed: COD'NH3'NO3'LKN'Lyeuo × × × × × × × × × × No2, ALK, TDS × × × × × × × × × × jennifer aracri@pacelabs.com. P ACCEPTED BY / AFFILIATION BOD, Br, CI, SO4, Turbidity × × × × × × × × × × TAL Metals & Hardness × × × × × × × × × × N/A Analyses Test 1 in Ofher Brien Nichols Nethanol LINES 5 Preservatives EOSS26N HOBN 5271 Pace Project Manager. ICH Section C Invoice Information: SIGNATURE of SAMPLER: EONH Company Name Pace Frofile # POS2H Pace Guote. No. Address. TIME Attention: haviazaigni. 0 10 2 # OF CONTAINERS 2 2 0 2 0 0 9 SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: SAMPLE TEMP AT COLLECTION 6/11/19 DATE IYS 1510 1433 0711 1200 1235 01410 e/11/19/340 9/119 1210 S TIME GMP Wells Routine 360 +TAL Metals END DATE > COLLECTED Zion RELINQUISHED BY / AFFILIATION TIME START Brien Nichels / DATE Required Project Information: Joe Guarino SAMPLE TYPE (G=GRAB C=COMP) 5 5 5 5 5 M 5 5 5 5 Purchase Order #. MATRIX CODE (see valid codes to left) Project Name: Report To: Section B Copy To: Project # CODE WVT WVT SL OL AR AR AR VP AR MATRIX Water Water Vaste Water Waste Water Soluct Soluct Soluct Soluct Mupe Cher Tissue Tissue ADDITIONAL COMMENTS One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique Fax SAMPLE ID Email jguarino@townofbabylon.com 281 Pheips Lane Town of Babylon 631-422-7640 Pace Analytical Required Client Information: North Babylon, NY 11703 Part 360 Routine GMP Wells Requested Due Date GM-15D GM-16D GM-17D GM-18D GM-19D GM-2D GM-4D GM-5D GM-6D GM-7D Company: Section A Address. Phone: Page 68 of 118 10 2 3 4 5 9 00 6 1 12 # WJTI 2 -

	Sam	ple Co	onditio	on Upon	Receipt
Pace Analytical*					WO#:7093107
	Client Nar		1	Pi	
	Ba	eta/l	ow		PM: JSA Due Date: 06/25/19
Courier: Fed Ex UPS USPS	t Commerci	al 🔤 Pac	e Dthe	er	CLIENT: BAB-ECO
Tracking #:		<u> </u>	t. []	Vac	Temporature Blank Present:
Custody Seal on Cooler/Box Present: Yes				Yes No	Temperature Blank Present: Yes No
Packing Material: Bubble Wrap Bubble B	ags 🗌 Ziploc	LWone	Dther	$\cap$	Type of Ice: Wet Blue None
Thermometer Used: (H091	Correction			d_	Samples on ice, cooling process has begun
Cooler Temperature (°C): 2.6	Cooler Temp	perature	Correcte	d (°C): 7	2 Date/Time 5035A kits placed in freezer
Temp should be above freezing to 6.0°C					a lullat P
USDA Regulated Soil ( 🖾 N/A, water sample)					itials of person examining contents: ()/////////
Did samples originate in a quarantine zone within the L NM, NY, OK, OR, SC, TN, TX, or VA (check map)?	I YESI I	NO			Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes . No
If Yes to either question, fil	l out a Regula	ited Soil	Checklis	t (F-LI-C-010)	and include with SCUR/COC paperwork.
	du			1.	COMMENTS.
Chain of Custody Present:	A Yes			2.	
Chain of Custody Filled Out:	DYes			3.	
Chain of Custody Relinquished:	ØYes dru		□n/A	4.	•
Sampler Name & Signature on COC:	DYes .			5.	1
Samples Arrived within Hold Time:	DYes			6.	
Short Hold Time Analysis (<72hr):	PYes	□No		7.	
Rush Turn Around Time Requested:	□Yes	ZNo		8.	
Sufficient Volume: (Triple volume provided for MS/MSD	- /			9.	
Correct Containers Used:	PYes	No		9.	
-Pace Containers Used:	ØYes		•	10.	¢
Containers Intact:	PYes	□No	CI/UA		e if sediment is visible in the dissolved container.
Filtered volume received for Dissolved tests	□Yes	□No	G/N/A	12.	
Sample Labels match COC:	PYes	□No		12.	
-Includes date/time/ID/Analysis Matrix SL					HNO3 🗆 H2SO4 🗆 NaOH 🗆 HCI
	PYes	□No	□N/A	13.	
pH paper Lot # HCG63463			•	Sample #	
All containers needing preservation are found to be in compliance with EPA recommendation?				Campion	
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCI, NaOH>9 Sulfide,	Yes	□No	□N/A		
NAOH>12 Cyanide) Exceptions: VOA, Coliform, TCCDOC, Oil and Grease,					Le la la sui de la sui Del Time reconstino addad
DRO/8015 (water). Per Method, VOA pH is checked after analysis				Initial when co	ompleted: Lot # of added preservative: Date/Time preservative added
Samples checked for dechlorination:	□Yes	□No	DN/A	14.	
KI starch test strips Lot #	1.00		/		
Residual chlorine strips Lot #				Posi	tive for Res. Chlorine? Y N
Headspace in VOA Vials ( >6mm):	□Yes	□No	ZN/A	15.	
Trip Blank Present:	□Yes	□No	ØN/A	16.	
Trip Blank Custody Seals Present	□Yes	□No	1/IN/A		
Pace Trip Blank Lot # (if applicable):					
Client Notification/ Resolution:	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -			Field Data Re	
Person Contacted:				Dat	e/Time:
Comments/ Resolution:					

\* PM (Project Manager) review is documented electronically in LIMS.

F-LI-C-002-rev.02

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# **ANALYTICAL REPORT**

Job Number: 420-155308-1 SDG Number: 7093107 Job Description: Pace Analytical Sevices, Inc.-Mellville

> For: Pace Analytical Mellville 575 Broadhollow Road Melville, NY 11747

Attention: James Murphy

Gaura marciano

Laura L Marciano Customer Service Manager Imarciano@envirotestlaboratories.com 06/25/2019

cc: Ms. Jen Aracri Betty Harrison Accounts Payable Sophia Sparkes

NYSDOH ELAP does not certify for all parameters. EnviroTest Laboratories does hold certification for all analytes where certification is offered by ELAP unless otherwise specified in the Certification Information section of this report Pursuant to NELAP, this report may not be reproduced, except in full, without written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554



# **EXECUTIVE SUMMARY - Detections**

Client: Pace Analytical Mellville

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method	
<b>420-155308-5</b> Phenolics, Total Rec	GM-7D	0.016	0.010	mg/L	420.4 Rev. 1.0	
420-155308-7	GM-16D	0.010	0.010	mg/∟	420.4 Nev. 1.0	
Phenolics, Total Rec		0.012	0.010	mg/L	420.4 Rev. 1.0	
420-155308-9	GM-18D					
Phenolics, Total Rec	coverable	0.013	0.010	mg/L	420.4 Rev. 1.0	

# **METHOD SUMMARY**

#### Job Number: 420-155308-1 Client: Pace Analytical Mellville SDG Number: 7093107 Description Lab Location Method **Preparation Method** Matrix: Water Phenols Semi-Automated EnvTest EPA 420.4 Rev. 1.0 Distillation/Phenolics EnvTest Distill/Phenol Lab References: EnvTest = EnviroTest Method References:

EPA = US Environmental Protection Agency

# METHOD / ANALYST SUMMARY

Client: Pace Analytical Mellville

Job Number: 420-155308-1 SDG Number: 7093107

Method

EPA 420.4 Rev. 1.0

Analyst

Mastrobuono, Danielle

Analyst ID

DM

# SAMPLE SUMMARY

#### Client: Pace Analytical Mellville

Job Number: 420-155308-1 SDG Number: 7093107

			Date/Time	Date/Time
ab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
120-155308-1	GM-2D	Water	06/11/2019 1310	06/14/2019 1015
120-155308-2	GM-4D	Water	06/11/2019 1045	06/14/2019 1015
120-155308-3	GM-5D	Water	06/11/2019 1120	06/14/2019 1015
20-155308-4	GM-6D	Water	06/11/2019 1200	06/14/2019 1015
20-155308-5	GM-7D	Water	06/11/2019 1235	06/14/2019 1015
20-155308-6	GM-15D	Water	06/11/2019 1510	06/14/2019 1015
20-155308-7	GM-16D	Water	06/11/2019 1450	06/14/2019 1015
20-155308-8	GM-17D	Water	06/11/2019 1435	06/14/2019 1015
20-155308-9	GM-18D	Water	06/11/2019 1410	06/14/2019 1015
20-155308-10	GM-19D	Water	06/11/2019 1340	06/14/2019 1015

# SAMPLE RESULTS

**Analytical Data** 

Client: Pace Analytical Mellville

Job Number: 420-155308-1 Sdg Number: 7093107

			General Chemis	try			
Client Sample ID:	GM-2D						
Lab Sample ID: Client Matrix:	420-155308-1 Water				Date Sampled: Date Received:		1/2019 1310 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Recoverable Anly Batch: Prep Batch:		<0.010	,	0.010 9/2019 1602 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-4D						
Lab Sample ID: Client Matrix:	420-155308-2 Water				Date Sampled: Date Received:		1/2019 1045 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1603 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-5D						
Lab Sample ID: Client Matrix:	420-155308-3 Water				Date Sampled: Date Received:		1/2019 1120 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1603 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-6D						
Lab Sample ID: Client Matrix:	420-155308-4 Water				Date Sampled: Date Received:		1/2019 1200 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 0/2019 1604 0/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-7D						
Lab Sample ID: Client Matrix:	420-155308-5 Water				Date Sampled: Date Received:		1/2019 1235 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	0.016		0.010 9/2019 1615 9/2019 0946	0.010	1.0	420.4 Rev. 1.0

Client: Pace Analytical Mellville

Job Number: 420-155308-1 Sdg Number: 7093107

			General Chemistr	у			
Client Sample ID:	GM-15D						
Lab Sample ID: Client Matrix:	420-155308-6 Water				Date Sampled: Date Received:		1/2019 1510 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 2019 1605 2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-16D						
Lab Sample ID: Client Matrix:	420-155308-7 Water				Date Sampled: Date Received:		1/2019 1450 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	0.012	,	0.010 2019 1616 2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-17D						
Lab Sample ID: Client Matrix:	420-155308-8 Water				Date Sampled: Date Received:		1/2019 1435 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 2019 1611 2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-18D						
Lab Sample ID: Client Matrix:	420-155308-9 Water				Date Sampled: Date Received:		1/2019 1410 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	0.013	,	0.010 2019 1612 2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-19D						
Lab Sample ID: Client Matrix:	420-155308-10 Water				Date Sampled: Date Received:		1/2019 1340 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 2019 1612 2019 0946	0.010	1.0	420.4 Rev. 1.0

# DATA REPORTING QUALIFIERS

Lab Section

Qualifier

Description

# The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Solids (Fixed), Solids (Percent), Solids (Percent Moisture), Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, 1,2,4,5-Tetramethylbenzene, 4-Ethyl toluene, p-Diethylbenzene, Iron Bacteria, Salmonella, Sulfur Reducing Bacteria, & UOD (Ultimate Oxygen Demand).

# The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), o-Xylene (502.2, 524), Sulfide (SM4500SD), Acenaphthene (525.2), Acenaphthylene (525.2), Fluoranthene (525.2), Fluorene (525.2), Phenanthrene (525.2), Anthracene (525.2), Pyrene (525.2), Benzo[a]anthracene (525.2), Benzo[b]fluoranthene (525.2), Benzo[g,h,i]perylene (525.2), Benzo[k]fluoranthene (525.2), Indeno[1,2,3-cd]pyrene (525.2), & Dibenz(a,h)anthracene (525.2).

# The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

## The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), MCPA (8151A), Propylene Glycol (8015D).

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

# **QUALITY CONTROL RESULTS**

#### Client: Pace Analytical Mellville

Job Number: 420-155308-1 Sdg Number: 7093107

# **QC Association Summary**

		Report Basis			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 420-132681					
LCS 420-132681/28-A	Lab Control Spike	Т	Water	Distill/Phenol	
MB 420-132681/27-A	Method Blank	Т	Water	Distill/Phenol	
420-155302-A-2-B DU	Duplicate	Т	Water	Distill/Phenol	
420-155302-A-2-C MS	Matrix Spike	Т	Water	Distill/Phenol	
420-155308-1	GM-2D	Т	Water	Distill/Phenol	
420-155308-2	GM-4D	Т	Water	Distill/Phenol	
420-155308-3	GM-5D	Т	Water	Distill/Phenol	
420-155308-4	GM-6D	Т	Water	Distill/Phenol	
420-155308-5	GM-7D	Т	Water	Distill/Phenol	
420-155308-6	GM-15D	Т	Water	Distill/Phenol	
420-155308-7	GM-16D	Т	Water	Distill/Phenol	
420-155308-7DU	Duplicate	Т	Water	Distill/Phenol	
420-155308-7MS	Matrix Spike	Т	Water	Distill/Phenol	
420-155308-8	GM-17D	Т	Water	Distill/Phenol	
420-155308-9	GM-18D	Т	Water	Distill/Phenol	
420-155308-10	GM-19D	Т	Water	Distill/Phenol	
Analysis Batch:420-13270	7				
LCS 420-132681/28-A	Lab Control Spike	т	Water	420.4 Rev. 1.0	420-132681
MB 420-132681/27-A	Method Blank	Ť	Water	420.4 Rev. 1.0	420-132681
420-155302-A-2-B DU	Duplicate	T	Water	420.4 Rev. 1.0	420-132681
420-155302-A-2-C MS	Matrix Spike	T	Water	420.4 Rev. 1.0	420-132681
420-155308-1	GM-2D	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-2	GM-2D GM-4D	Т	Water	420.4 Rev. 1.0	420-132681
120-155308-2 120-155308-3	GM-4D GM-5D	Т	Water	420.4 Rev. 1.0 420.4 Rev. 1.0	420-132681
420-155308-3	GM-6D	Т	Water	420.4 Rev. 1.0 420.4 Rev. 1.0	420-132681
		Т			
420-155308-5	GM-7D	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-6	GM-15D		Water	420.4 Rev. 1.0	420-132681
120-155308-7	GM-16D	T	Water	420.4 Rev. 1.0	420-132681
120-155308-7DU	Duplicate	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-7MS	Matrix Spike	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-8	GM-17D	T	Water	420.4 Rev. 1.0	420-132681
120-155308-9	GM-18D	T	Water	420.4 Rev. 1.0	420-132681
420-155308-10	GM-19D	Т	Water	420.4 Rev. 1.0	420-132681

## Report Basis

T = Total

**Surrogate Recovery Report** 

Lab Sample ID Client Sample ID

Surrogate

Acceptance Limits

Calculations are performed before rounding to avoid round-off errors in calculated results.

Job Number: 420-155308-1 Sdg Number: 7093107

#### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID:MB 420-132681/27-AAnalysis Batch: 420-132707Client Matrix:WaterPrep Batch: 420-132681Dilution:1.0Units: mg/LDate Analyzed:06/19/2019 1601Date Prepared:06/19/2019 0946					Instrument ID: Lab File ID: Initial Weight/V Final Weight/Vo	OM_6-19- olume:	ikchem 8500 FIA 2019_03-35-07PM.( mL mL			
Analyte		Resul	t	Qual	RL		RL			
Phenolics, Total	Recoverable	<0.01	0		0.010 0.010					
Lab Control S	bike - Batch: 420-132681				Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol					
Lab Sample ID:LCS 420-132681/28-AClient Matrix:WaterDilution:1.0Date Analyzed:06/19/2019 1601Date Prepared:06/19/2019 0946		,	Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L			Instrument ID: Lachat Quikchem 8500 Lab File ID: OM_6-19-2019_03-35-0 Initial Weight/Volume: mL Final Weight/Volume: mL				
Analyte		Spike Amount	Result	% Red	c. Li	mit	Qual			
Phenolics, Total Recoverable		0.0500	0.056	112	57	57 - 123				

Client: Pace Analytical Mellville

Method Blank	- Batch: 420-132681		N F
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	MB 420-132681/27-A Water 1.0 06/19/2019 1601 06/19/2019 0946	Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L	lı L F

Calculations are performed before rounding to avoid round-off errors in calculated results.

# **Quality Control Results**

Job Number: 420-155308-1 Sdg Number: 7093107

> Page 85 of 118 06/25/2019

#### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID:420-155302-A-2-C MSAnalysis Batch:420-13270Client Matrix:WaterPrep Batch:420-132681Dilution:1.0Units:mg/LDate Analyzed:06/19/20191540Date Prepared:06/19/20190946				Lab Fi Initial								
Analyte		Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual					
Phenolics, Total	Recoverable	0.011	0.0300	0.039	94	55 - 136						
Matrix Spike -	Batch: 420-132681		Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol									
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155308-7 Water 1.0 06/19/2019 1607 06/19/2019 0946		Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L			Instrument ID: Lachat Quikchem 8500 FIA Lab File ID: OM_6-19-2019_03-35-07PM. Initial Weight/Volume: mL Final Weight/Volume: mL						
Analyte		Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual					
Phenolics, Total	Recoverable	0.012	0.0300	0.038	55 - 136							

Client: Pace Analytical Mellville

Matrix Spike - Batch: 420-132681

Calculations are performed before rounding to avoid round-off errors in calculated results.

# **Quality Control Results**

Job Number: 420-155308-1 Sdg Number: 7093107

#### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155302-A-2-B DU Water 1.0 06/19/2019 1539 06/19/2019 0946	Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L		Instrument ID: Lab File ID: Initial Weight/Vo Final Weight/Vo	olume: mL	nem 8500 FIA 9_03-35-07PM.(
Analyte		Sample Result/Qual	Result	RPD	Limit	Qual
Phenolics, Total	Recoverable	0.011	0.011	0	15	
Duplicate - Ba	tch: 420-132681			Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol		
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155308-7 Water 1.0 06/19/2019 1606 06/19/2019 0946	Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L		Instrument ID: Lab File ID: Initial Weight/Vo Final Weight/Vo	olume: mL	nem 8500 FIA 9_03-35-07PM.(
Analyte		Sample Result/Qual	Result	RPD	Limit	Qual
Phenolics, Total Recoverable		0.012	0.012	1	15	

Duplicate - Batch: 420-132681

Client: Pace Analytical Mellville

# Chain of Custody

155308

Pace Analytical www.pacelabs.com paldz

Work	order: 7093107	Workorder Name:	GMP WELL	ROUTINE	360 <sup>.</sup>	+TA	L ME1	TAL		R	esul	ts Re	eque	sted E	<b>iy:</b> 6	6/25/	2019	9		
Repor	/ Invoice To	Subcon	tract To										F	Request	ed An	alysis	3	·		
Pace / 575 B Melvill Phone Email:	er Aracri Analytical Melville road Hollow Road e, NY 11747 : (631)694-3040 jennifer.aracri@pacelabs.col of Sample Origin: NY	315 Fullerto Newburgh, I		<sup>.</sup> nc. P.O.			07JSA		1ers	cs, Total Recoverable										
ltem	Sample ID	Collect Date/Time	Lab ID	Matrix	H2SO4	Unpreserved				120.1 Phenoli										LAB USE ONLY
1	GM-2D	6/11/2019 13:10	7093107001	Water	[ (					X										
2	GM-4D	6/11/2019 10:45	7093107002	Water						X										
3	GM-5D	6/11/2019 11:20	7093107003	Water	I					X										
4	GM-6D	6/11/2019 12:00	7093107004	Water	1					X										
5	GM-7D	6/11/2019 12:35	7093107005	Water	1					X										
6	GM-15D	6/11/2019 15:10	7093107006	Water						X										
7	GM-16D	6/11/2019 14:50	7093107007	Water	li					X			ŀ							
8	GM-17D	6/11/2019 14:35	7093107008	Water	li					X										
9	GM-18D	6/11/2019 14:10	7093107009	Water	1	Γ	Π		Т	X										
10	GM-19D	6/11/2019 13:40	7093107010	Water						X										
11											ŀ	1	1							
12					Γ		Π													
13												Τ								
14																				



GM-2D

Date Sampled. 6/11/2019 420-1350311

PEDER P.O 1068 0079 3227

FMT-ALL-C-002rev.00 24March2009

											l	55	30	f 1920	10
13					1				I					P3 20	12
14															
Transfers	Released By	Date/Time	Received By/		Date	/Time				 Commer	nts				
1	Aundato	6/13/19/800	Ana	· · · · · · · · · · · · · · · · · · ·	06/	14/196	<u> </u>								
2	<u> </u>					115									
3 Cooler Te	mperature on Receipt <u>2, 4</u> °C	Custod	l y Seal Y or N	R	eceived	l on Ice		or N		Sample	es Inta	c	)or M	J	

# LOGIN SAMPLE RECEIPT CHECK LIST

#### Client: Pace Analytical Mellville

Job Number: 420-155308-1 SDG Number: 7093107

# Login Number: 155308

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	2.4 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C $$	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	



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## **ANALYSIS REPORT**

Prepared by:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 Prepared for:

TestAmerica Sacramento 880 Riverside Parkway West Sacramento CA 95605

Report Date: July 16, 2019 14:16

#### Project: Pace PFAS Testing

Account #: 01042 Group Number: 2049636 SDG: TAC05 State of Sample Origin: NY

Electronic Copy To TestAmerica

Attn: Cesar C Cortes

Respectfully Submitted,

Kay Klow

Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to <u>https://www.eurofinsus.com/environment-</u> <u>testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-</u> <u>environmental/</u>. Historical copies may be requested through your project manager.



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# SAMPLE INFORMATION

Client Sample Description	Sample Collection	ELLE#
	Date/Time	
GM-2D (320-51333-1) Water	06/11/2019 13:10	1083882
GM-4D (320-51333-2) Water	06/11/2019 10:45	1083883
GM-5D (320-51333-3) Water	06/11/2019 11:20	1083884
GM-6D (320-51333-4) Water	06/11/2019 12:00	1083885
GM-7D (320-51333-5) Water	06/11/2019 12:35	1083886
GM-15D (320-51333-6) Water	06/11/2019 15:10	1083887
GM-16D (320-51333-7) Water	06/11/2019 14:50	1083888
GM-17D (320-51333-8) Water	06/11/2019 14:35	1083889
GM-18D (320-51333-9) Water	06/11/2019 14:10	1083890
GM-19D (320-51333-10) Water	06/11/2019 13:40	1083891

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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Sample Description:	GM-2D (320-51333-1) Water Pace PFAS Testing	TestAm ELLE Sa ELLE G		
Project Name:	Pace PFAS Testing	Matrix:		
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 13:10 TAC05-01			

TestAmerica Sacr	amento
ELLE Sample #:	WW 1083882
ELLE Group #:	2049636
Matrix: Water	

Miscellaneous EPA 537 Vers Modified     Person and the accord method of the accord	27619-97-2 39108-34-4 2991-50-6 orooctanesulfonam 2355-31-9	N.D.	ng/l 0.98 2.0 0.98 0.98	ng/l 2.0 5.9 2.9 2.9	1 1 1
2-Fluorotelomersulfonic acid <sup>1</sup> EtFOSAA <sup>1</sup> EtFOSAA is the acronym for N-ethyl perflu MeFOSAA <sup>1</sup> MeFOSAA is the acronym for N-methyl per rfluorobutanesulfonic acid <sup>1</sup>	39108-34-4 2991-50-6 orooctanesulfonam 2355-31-9 rfluorooctanesulfona	N.D. N.D. idoacetic Acid. N.D.	2.0 0.98	5.9 2.9	1 1
EtFOSAA <sup>1</sup> EtFOSAA is the acronym for N-ethyl perflu MeFOSAA <sup>1</sup> MeFOSAA is the acronym for N-methyl per rfluorobutanesulfonic acid <sup>1</sup>	2991-50-6 orooctanesulfonam 2355-31-9 ffluorooctanesulfona	N.D. idoacetic Acid. N.D.	0.98	2.9	1
EtFOSAA is the acronym for N-ethyl perflu MeFOSAA <sup>1</sup> MeFOSAA is the acronym for N-methyl per rfluorobutanesulfonic acid <sup>1</sup>	orooctanesulfonam 2355-31-9 rfluorooctanesulfona	idoacetic Acid. N.D.			1
MeFOSAA1 MeFOSAA is the acronym for N-methyl per rfluorobutanesulfonic acid1	2355-31-9 fluorooctanesulfona	N.D.	0.98	2.9	1
NeFOSAA is the acronym for N-methyl per rfluorobutanesulfonic acid <sup>1</sup>	rfluorooctanesulfona		0.98	2.9	1
rfluorobutanesulfonic acid1		amidoacetic Acid.			
	375-73-5				
rfluorobutanoic Acid <sup>1</sup>		0.77 J	0.29	0.98	1
	375-22-4	2.8 J	2.0	5.9	1
rfluorodecanesulfonic acid1	335-77-3	N.D.	0.59	2.0	1
rfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	0.88	2.0	1
rfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.49	2.0	1
rfluoroheptanesulfonic acid <sup>1</sup>	375-92-8	N.D.	0.39	2.0	1
rfluoroheptanoic Acid <sup>1</sup>	375-85-9	1.2	0.39	0.98	1
rfluorohexanesulfonic acid <sup>1</sup>	355-46-4	1.5 J	0.39	2.0	1
rfluorohexanoic Acid <sup>1</sup>	307-24-4	1.1 J	0.39	2.0	1
rfluorononanoic Acid <sup>1</sup>	375-95-1	N.D.	0.39	2.0	1
rfluorooctanesulfonamide1	754-91-6	N.D.	0.49	2.9	1
rfluorooctanesulfonic acid1	1763-23-1	N.D.	0.39	2.0	1
rfluorooctanoic Acid <sup>1</sup>	335-67-1	0.57 J	0.29	0.98	1
rfluoropentanoic Acid <sup>1</sup>	2706-90-3	N.D.	2.0	5.9	1
rfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.29	0.98	1
rfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.39	0.98	1
rfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	0.39	2.0	1
eri eri eri eri eri	fluorohexanesulfonic acid <sup>1</sup> fluorohexanoic Acid <sup>1</sup> fluorononanoic Acid <sup>1</sup> fluorooctanesulfonamide <sup>1</sup> fluorooctanesulfonic acid <sup>1</sup> fluorooctanoic Acid <sup>1</sup> fluoropentanoic Acid <sup>1</sup> fluorotetradecanoic Acid <sup>1</sup> fluorotridecanoic Acid <sup>1</sup> fluoroundecanoic Acid <sup>1</sup> fluoroundecanoic Acid <sup>1</sup> fluoroundecanoic Acid <sup>1</sup>	fluorohexanesulfonic acid <sup>1</sup> 355-46-4           fluorohexanoic Acid <sup>1</sup> 307-24-4           fluorononanoic Acid <sup>1</sup> 375-95-1           fluorooctanesulfonamide <sup>1</sup> 754-91-6           fluorooctanesulfonic acid <sup>1</sup> 1763-23-1           fluorooctanoic Acid <sup>1</sup> 335-67-1           fluoropentanoic Acid <sup>1</sup> 2706-90-3           fluorotetradecanoic Acid <sup>1</sup> 376-06-7           fluorotridecanoic Acid <sup>1</sup> 72629-94-8	Illuorohexanesulfonic acid <sup>1</sup> 355-46-4       1.5       J         Illuorohexanoic Acid <sup>1</sup> 307-24-4       1.1       J         Illuorononanoic Acid <sup>1</sup> 375-95-1       N.D.         Illuorooctanesulfonamide <sup>1</sup> 754-91-6       N.D.         Illuorooctanesulfonic acid <sup>1</sup> 1763-23-1       N.D.         Illuorooctanesulfonic acid <sup>1</sup> 335-67-1       0.57       J         Illuorootetradecanoic Acid <sup>1</sup> 2706-90-3       N.D.         Illuorotetradecanoic Acid <sup>1</sup> 376-06-7       N.D.         Illuoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.         Illuoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.	Illuorohexanesulfonic acid <sup>1</sup> 355-46-4       1.5       J       0.39         Illuorohexanoic Acid <sup>1</sup> 307-24-4       1.1       J       0.39         Illuorononanoic Acid <sup>1</sup> 375-95-1       N.D.       0.39         Illuorooctanesulfonamide <sup>1</sup> 754-91-6       N.D.       0.49         Illuorooctanesulfonic acid <sup>1</sup> 1763-23-1       N.D.       0.39         Illuorooctanoic Acid <sup>1</sup> 335-67-1       0.57       J       0.29         Illuorootetradecanoic Acid <sup>1</sup> 2706-90-3       N.D.       2.0         Illuorotetradecanoic Acid <sup>1</sup> 376-06-7       N.D.       0.29         Illuoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.       0.39         Illuoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.       0.39	Ifluorohexanesulfonic acid <sup>1</sup> 355-46-4       1.5       J       0.39       2.0         Ifluorohexanoic Acid <sup>1</sup> 307-24-4       1.1       J       0.39       2.0         Ifluorononanoic Acid <sup>1</sup> 375-95-1       N.D.       0.39       2.0         Ifluorooctanesulfonamide <sup>1</sup> 754-91-6       N.D.       0.49       2.9         Ifluorooctanesulfonic acid <sup>1</sup> 1763-23-1       N.D.       0.39       2.0         Ifluorooctanesulfonic acid <sup>1</sup> 1763-23-1       N.D.       0.39       2.0         Ifluorootanesulfonic acid <sup>1</sup> 335-67-1       0.57       J       0.29       0.98         Ifluorootanoic Acid <sup>1</sup> 3376-06-7       N.D.       2.0       5.9         Ifluorotetradecanoic Acid <sup>1</sup> 376-06-7       N.D.       0.29       0.98         Ifluoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.       0.39       0.98         Ifluoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.       0.39       2.0         Ifluoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.       0.39       2.0         Ifluoroundecanoic Acid <sup>1</sup> 2058-94-8       N.D.       0.39       2.0

The recovery for extraction standard 13C2-8:2 FTS is outside of QC acceptance limits as noted on the QC Summary.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

		Labo	oratory S	Sample Analy	sis Record		
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 00:34	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1



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Sample Description:	GM-4D (320-51333-2) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 10:45 TAC05-02

TestAmerica Sacra	amento
ELLE Sample #:	WW 1083883
ELLE Group #:	2049636
Matrix: Water	

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
C/MS		PA 537 Version 1.1	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid		N.D.	9.6	19	1
4473	8:2-Fluorotelomersulfonic acid		N.D.	19	57	1
4473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	9.6	29	1
	NEtFOSAA is the acronym for	N-ethyl perfluorooctanesulfonal	midoacetic Acid.			
4473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	9.6	29	1
		r N-methyl perfluorooctanesulfo				
4473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	N.D.	2.9	9.6	1
4473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	N.D.	19	57	1
4473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	5.7	19	1
4473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	8.6	19	1
4473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	4.8	19	1
4473	Perfluoroheptanesulfonic acid	375-92-8	N.D.	3.8	19	1
1473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	4.0 J	3.8	9.6	1
4473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	N.D.	3.8	19	1
4473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	5.0 J	3.8	19	1
4473	Perfluorononanoic Acid1	375-95-1	N.D.	3.8	19	1
4473	Perfluorooctanesulfonamide1	754-91-6	N.D.	4.8	29	1
4473	Perfluorooctanesulfonic acid1	1763-23-1	N.D.	3.8	19	1
4473	Perfluorooctanoic Acid1	335-67-1	7.6 J	2.9	9.6	1
1473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	N.D.	19	57	1
4473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	2.9	9.6	1
4473	Perfluorotridecanoic Acid1	72629-94-8	N.D.	3.8	9.6	1
4473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	3.8	19	1
Targe samp was t repor	Perfluoroundecanoic Acid <sup>1</sup> et analytes were detected in the iles as noted on the QC Summar aken: The sample was reextract ted from the original extraction. I ata package.	method blank associated with th ry. The following corrective actic ed outside holding time. The da	ne on ta is	3.8	19	1

The recovery for the sample injection standard and the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

		L	aboratory S	Sample Analy	sis Record		
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
	*=This limit was used in the evaluation of the final result						



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Sample Description:	GM-4D (320-51333-2) Water	TestAmerica Sacramento				
	Pace PFAS Testing	ELLE Sample #: ELLE Group #:	WW 1083883 2049636			
Project Name:	Pace PFAS Testing	Matrix: Water				
Submittal Date/Time:	06/19/2019 10:10					
Collection Date/Time:	06/11/2019 10:45					
SDG#:	TAC05-02					

		Labo	oratory a	sample Analys	sis Record		
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 00:52	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1



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Sample Description:	GM-5D (320-51333-3) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 11:20 TAC05-03

TestAmerica Sacra	amento
ELLE Sample #:	WW 1083884
ELLE Group #:	2049636
Matrix: Water	

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS		PA 537 Version 1.1	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid		18 JB	9.5	19	1
14473	8:2-Fluorotelomersulfonic acid	<sup>1</sup> 39108-34-4	N.D.	19	57	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	9.5	29	1
	NEtFOSAA is the acronym for	N-ethyl perfluorooctanesulfonam	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	9.5	29	1
	NMeFOSAA is the acronym fo	r N-methyl perfluorooctanesulfor				
14473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	N.D.	2.9	9.5	1
14473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	N.D.	19	57	1
14473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	5.7	19	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	8.6	19	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	4.8	19	1
14473	Perfluoroheptanesulfonic acid <sup>1</sup>	375-92-8	N.D.	3.8	19	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	10	3.8	9.5	1
14473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	N.D.	3.8	19	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	16 J	3.8	19	1
14473	Perfluorononanoic Acid1	375-95-1	N.D.	3.8	19	1
14473	Perfluorooctanesulfonamide1	754-91-6	N.D.	4.8	29	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	7.4 J	3.8	19	1
14473	Perfluorooctanoic Acid1	335-67-1	16	2.9	9.5	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	26 J	19	57	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	2.9	9.5	1
14473	Perfluorotridecanoic Acid1	72629-94-8	N.D.	3.8	9.5	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	3.8	19	1
samp was repoi the d	et analytes were detected in the loles as noted on the QC Summar aken: The sample was reextract ted from the original extraction. If ata package.	y. The following corrective actior ed outside holding time. The data Both sets of data are included in	n a is			

The recovery for the sample injection standard and the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor	
	*=This limit was used in the evaluation of the final result							



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Sample Description:	GM-5D (320-51333-3) Water	TestAmerica Sacramento	merica Sacramento		
	Pace PFAS Testing	ELLE Sample #: WW 1083884 ELLE Group #: 2049636			
Project Name:	Pace PFAS Testing	Matrix: Water			
Submittal Date/Time:	06/19/2019 10:10				
Collection Date/Time:	06/11/2019 11:20				
SDG#:	TAC05-03				

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:01	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1



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Sample Description:	GM-6D (320-51333-4) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 12:00 TAC05-04

<b>TestAmerica Sacr</b>	amento
ELLE Sample #:	WW 1083885
ELLE Group #:	2049636
Matrix: Water	

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
.C/MS		Version 1.1	ng/l	ng/l	ng/l	
	Modified					
14473	6:2-Fluorotelomersulfonic acid <sup>1</sup>	27619-97-2	N.D.	9.7	19	1
4473	8:2-Fluorotelomersulfonic acid1	39108-34-4	N.D.	19	58	1
4473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	9.7	29	1
	NEtFOSAA is the acronym for N-ethyl	perfluorooctanesulfona	midoacetic Acid.			
4473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	9.7	29	1
	NMeFOSAA is the acronym for N-meth	yl perfluorooctanesulfo	onamidoacetic Acid.			
4473	Perfluorobutanesulfonic acid1	375-73-5	6.1 J	2.9	9.7	1
4473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	33 J	19	58	1
4473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	5.8	19	1
4473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	8.8	19	1
4473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	4.9	19	1
4473	Perfluoroheptanesulfonic acid <sup>1</sup>	375-92-8	N.D.	3.9	19	1
4473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	12	3.9	9.7	1
4473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	6.0 J	3.9	19	1
4473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	30	3.9	19	1
4473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	8.5 J	3.9	19	1
4473	Perfluorooctanesulfonamide1	754-91-6	N.D.	4.9	29	1
4473	Perfluorooctanesulfonic acid <sup>1</sup>	1763-23-1	7.9 J	3.9	19	1
4473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	42	2.9	9.7	1
4473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	N.D.	19	58	1
4473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	2.9	9.7	1
4473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	3.9	9.7	1
4473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	3.9	19	1
samp was t repor	et analytes were detected in the method b les as noted on the QC Summary. The for aken: The sample was reextracted outsic ted from the original extraction. Both sets ata package.	llowing corrective action le holding time. The date	on ita is			

The recovery for the sample injection standard and the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

		L	aboratory S	Sample Analy	/sis Record		
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
	*=This limit was used in the evaluation of the final result						



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Sample Description:	GM-6D (320-51333-4) Water	TestAmerica Sacramento			
	Pace PFAS Testing	ELLE Sample #: ELLE Group #:	WW 1083885 2049636		
Project Name:	Pace PFAS Testing	Matrix: Water			
Submittal Date/Time:	06/19/2019 10:10				
Collection Date/Time:	06/11/2019 12:00				
SDG#:	TAC05-04				

	Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor	
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:10	Danielle D McCully	1	
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1	



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Sample Description:	GM-7D (320-51333-5) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 12:35 TAC05-05

TestAmerica Sacramento					
ELLE Sample #:	WW 1083886				
ELLE Group #:	2049636				
Matrix: Water					

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS	/MS Miscellaneous EPA 537 Modified	7 Version 1.1 d	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid1	27619-97-2	N.D.	0.97	1.9	1
14473	8:2-Fluorotelomersulfonic acid1	39108-34-4	N.D.	1.9	5.8	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	0.97	2.9	1
	NEtFOSAA is the acronym for N-ethyl	l perfluorooctanesulfona	midoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.97	2.9	1
	NMeFOSAA is the acronym for N-met	thyl perfluorooctanesulfo	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	4.9	0.29	0.97	1
14473	Perfluorobutanoic Acid1	375-22-4	18	1.9	5.8	1
14473	Perfluorodecanesulfonic acid1	335-77-3	N.D.	0.58	1.9	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	1.7 J	0.87	1.9	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.48	1.9	1
14473	Perfluoroheptanesulfonic acid1	375-92-8	2.2	0.39	1.9	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	35	0.39	0.97	1
14473	Perfluorohexanesulfonic acid1	355-46-4	27	0.39	1.9	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	41	0.39	1.9	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	20	0.39	1.9	1
14473	Perfluorooctanesulfonamide <sup>1</sup>	754-91-6	N.D.	0.48	2.9	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	110	0.39	1.9	1
14473	Perfluorooctanoic Acid1	335-67-1	110	0.29	0.97	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	38	1.9	5.8	1
14473	Perfluorotetradecanoic Acid1	376-06-7	N.D.	0.29	0.97	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.39	0.97	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	0.39	1.9	1

The recovery for extraction standards is outside of QC acceptance limits due to the matrix of the sample.

The sample injection standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:19	Danielle D McCully	1



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Sample Description:	GM-7D (320-51333-5) Water Pace PFAS Testing	TestAmerica Sacramento ELLE Sample #: WW 1083886 ELLE Group #: 2049636
Project Name:	Pace PFAS Testing	Matrix: Water
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 12:35 TAC05-05	

	Laboratory Sample Analysis Record						
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1



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Sample Description:	GM-15D (320-51333-6) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time:	06/19/2019 10:10 06/11/2019 15:10
SDG#:	TAC05-06

TestAmerica Sacramento					
ELLE Sample #:	WW 1083887				
ELLE Group #:	2049636				
Matrix: Water					

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS		PA 537 Version 1.1	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid		1.9 JB	0.99	2.0	1
14473	8:2-Fluorotelomersulfonic acid		N.D.	2.0	5.9	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	6.8	0.99	3.0	1
		N-ethyl perfluorooctanesulfonal	nidoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	2.0 J	0.99	3.0	1
11110		r N-methyl perfluorooctanesulfo		0.00	0.0	
14473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	5.7	0.30	0.99	1
14473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	48	2.0	5.9	1
14473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	0.59	2.0	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	0.89	2.0	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.49	2.0	1
14473	Perfluoroheptanesulfonic acid		N.D.	0.40	2.0	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	16	0.40	0.99	1
14473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	5.7	0.40	2.0	1
14473	Perfluorohexanoic Acid1	307-24-4	52	0.40	2.0	1
14473	Perfluorononanoic Acid1	375-95-1	70	0.40	2.0	1
14473	Perfluorooctanesulfonamide1	754-91-6	N.D.	0.49	3.0	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	9.0	0.40	2.0	1
14473	Perfluorooctanoic Acid1	335-67-1	84	0.30	0.99	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	26	2.0	5.9	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.30	0.99	1
14473	Perfluorotridecanoic Acid1	72629-94-8	N.D.	0.40	0.99	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	0.40	2.0	1
samp was repoi the d	et analytes were detected in the bles as noted on the QC Summar taken: The sample was reextract rted from the original extraction. I lata package. recovery for the sample injection	ry. The following corrective actic ed outside holding time. The da Both sets of data are included in	n ta is			

The recovery for the sample injection standard and the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

#### **Sample Comments**

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
*=This limit was used in the evaluation of the final result							



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Sample Description:	GM-15D (320-51333-6) Water	TestAmerica Sacramento		
	Pace PFAS Testing	ELLE Sample #: ELLE Group #:	WW 1083887 2049636	
Project Name:	Pace PFAS Testing	Matrix: Water		
Submittal Date/Time:	06/19/2019 10:10			
Collection Date/Time:	06/11/2019 15:10			
SDG#:	TAC05-06			

# Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:28	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1



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Sample Description:	GM-16D (320-51333-7) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time:	06/19/2019 10:10 06/11/2019 14:50
SDG#:	TAC05-07

TestAmerica Sacramento		
ELLE Sample #:	WW 1083888	
ELLE Group #:	2049636	
Matrix: Water		

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS	/MS Miscellaneous EPA 5 Modif	537 Version 1.1 ied	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid <sup>1</sup>	27619-97-2	N.D.	9.6	19	1
14473	8:2-Fluorotelomersulfonic acid1	39108-34-4	N.D.	19	57	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	9.6	29	1
	NEtFOSAA is the acronym for N-et	hyl perfluorooctanesulfonar	midoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	9.6	29	1
	NMeFOSAA is the acronym for N-r	methyl perfluorooctanesulfo	namidoacetic Acid.			
14473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	N.D.	2.9	9.6	1
14473	Perfluorobutanoic Acid1	375-22-4	N.D.	19	57	1
14473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	5.7	19	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	8.6	19	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	4.8	19	1
14473	Perfluoroheptanesulfonic acid1	375-92-8	N.D.	3.8	19	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	5.1 J	3.8	9.6	1
14473	Perfluorohexanesulfonic acid1	355-46-4	N.D.	3.8	19	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	6.8 J	3.8	19	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	5.2 J	3.8	19	1
14473	Perfluorooctanesulfonamide1	754-91-6	N.D.	4.8	29	1
14473	Perfluorooctanesulfonic acid1	1763-23-1	N.D.	3.8	19	1
14473	Perfluorooctanoic Acid1	335-67-1	8.8 J	2.9	9.6	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	N.D.	19	57	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	2.9	9.6	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	3.8	9.6	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	3.8	19	1
	et analyte 6:2 FTS was detected in th as noted on the QC Summary.	e associated method				

The recovery for extraction standards is outside of QC acceptance limits due to the matrix of the sample.

The sample injection standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

#### Sample Comments

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:37	Danielle D McCully	1



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Sample Description:	GM-16D (320-51333-7) Water Pace PFAS Testing	TestAmerica Sacramento ELLE Sample #: WW 1083888 ELLE Group #: 2049636
Project Name:	Pace PFAS Testing	Matrix: Water
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 14:50 TAC05-07	

	Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor	
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1	



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Sample Description:	GM-17D (320-51333-8) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 14:35 TAC05-08

<b>TestAmerica Sacra</b>	amento
ELLE Sample #:	WW 1083889
ELLE Group #:	2049636
Matrix: Water	

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
C/MS	/MS Miscellaneous EPA 537 Modified	Version 1.1	ng/l	ng/l	ng/l	
4473	6:2-Fluorotelomersulfonic acid1	27619-97-2	31 B	0.95	1.9	1
1473	8:2-Fluorotelomersulfonic acid <sup>1</sup>	39108-34-4	N.D.	1.9	5.7	1
1473	NEtFOSAA <sup>1</sup>	2991-50-6	N.D.	0.95	2.9	1
	NEtFOSAA is the acronym for N-ethyl	perfluorooctanesulfona	midoacetic Acid.			
473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.95	2.9	1
	NMeFOSAA is the acronym for N-meth	yl perfluorooctanesulfo	namidoacetic Acid.			
473	Perfluorobutanesulfonic acid <sup>1</sup>	375-73-5	0.66 J	0.29	0.95	1
473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	5.9	1.9	5.7	1
473	Perfluorodecanesulfonic acid <sup>1</sup>	335-77-3	N.D.	0.57	1.9	1
473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	N.D.	0.86	1.9	1
473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.48	1.9	1
473	Perfluoroheptanesulfonic acid1	375-92-8	N.D.	0.38	1.9	1
473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	3.4	0.38	0.95	1
473	Perfluorohexanesulfonic acid <sup>1</sup>	355-46-4	0.57 J	0.38	1.9	1
473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	5.4	0.38	1.9	1
473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	0.82 J	0.38	1.9	1
473	Perfluorooctanesulfonamide1	754-91-6	N.D.	0.48	2.9	1
473	Perfluorooctanesulfonic acid1	1763-23-1	2.0	0.38	1.9	1
473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	6.9	0.29	0.95	1
473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	6.4	1.9	5.7	1
473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.29	0.95	1
473	Perfluorotridecanoic Acid1	72629-94-8	N.D.	0.38	0.95	1
473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	0.38	1.9	1
blank analy	et analyte 6:2 FTS was detected in the as as noted on the QC Summary. The reco te 6:2 FTS in this sample is ten times hig rery in the associated method blank, ther ted.	very for target her than the				

The recovery for extraction standards is outside of QC acceptance limits due to the matrix of the sample.

The sample injection standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

#### **Sample Comments**

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.



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Sample Description:	GM-17D (320-51333-8) Water	TestAmerica Sacramento	
	Pace PFAS Testing	ELLE Sample #: WW 1083889 ELLE Group #: 2049636	
Project Name:	Pace PFAS Testing	Matrix: Water	
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 14:35 TAC05-08		
	11000 00		-

	Laboratory Sample Analysis Record							
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor	
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:46	Danielle D McCully	1	
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1	



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Sample Description:	GM-18D (320-51333-9) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 14:10 TAC05-09

TestAmerica Sacramento					
ELLE Sample #:	WW 1083890				
ELLE Group #:	2049636				
Matrix: Water					

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS		PA 537 Version 1.1 Iodified	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic ac		6.2 B	0.97	1.9	1
14473	8:2-Fluorotelomersulfonic ac		N.D.	1.9	5.8	1
14473	NEtFOSAA <sup>1</sup>	2991-50-6	2.6 J	0.97	2.9	1
		or N-ethyl perfluorooctanesulfonar	midoacetic Acid.			
14473	NMeFOSAA <sup>1</sup>	2355-31-9	N.D.	0.97	2.9	1
		for N-methyl perfluorooctanesulfo		0.01	2.0	
14473	Perfluorobutanesulfonic acid		5.8	0.29	0.97	1
14473	Perfluorobutanoic Acid <sup>1</sup>	375-22-4	27	1.9	5.8	1
14473	Perfluorodecanesulfonic acid		N.D.	0.58	1.9	1
14473	Perfluorodecanoic Acid <sup>1</sup>	335-76-2	3.6	0.87	1.9	1
14473	Perfluorododecanoic Acid <sup>1</sup>	307-55-1	N.D.	0.48	1.9	1
14473	Perfluoroheptanesulfonic aci		0.58 J	0.39	1.9	1
14473	Perfluoroheptanoic Acid <sup>1</sup>	375-85-9	17	0.39	0.97	1
14473	Perfluorohexanesulfonic acid	<sup>1</sup> 355-46-4	11	0.39	1.9	1
14473	Perfluorohexanoic Acid <sup>1</sup>	307-24-4	25	0.39	1.9	1
14473	Perfluorononanoic Acid <sup>1</sup>	375-95-1	10	0.39	1.9	1
14473	Perfluorooctanesulfonamide <sup>1</sup>	754-91-6	1.3 J	0.48	2.9	1
14473	Perfluorooctanesulfonic acid	1763-23-1	31	0.39	1.9	1
14473	Perfluorooctanoic Acid <sup>1</sup>	335-67-1	33	0.29	0.97	1
14473	Perfluoropentanoic Acid <sup>1</sup>	2706-90-3	29	1.9	5.8	1
14473	Perfluorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.29	0.97	1
14473	Perfluorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.39	0.97	1
14473	Perfluoroundecanoic Acid <sup>1</sup>	2058-94-8	2.8	0.39	1.9	1
samp was t repor	les as noted on the QC Summ aken: The sample was reextra	e method blank associated with th ary. The following corrective actic cted outside holding time. The dat . Both sets of data are included in	n ta is			

and the labe used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

# **Sample Comments**

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record								
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor		
	*=This limit was used in the evaluation of the final result								

This limit was used in the evaluation of the final result



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GM-18D (320-51333-9) Water	TestAmerica Sacramento		
Pace PFAS Testing	ELLE Sample #: ELLE Group #:	WW 1083890 2049636	
Pace PFAS Testing	Matrix: Water		
06/19/2019 10:10			
14003-09			
	Pace PFAS Testing Pace PFAS Testing	Pace PFÀS TestingELLE Sample #: ELLE Group #: Matrix: WaterPace PFAS TestingMatrix: Water06/19/2019 10:10 06/11/2019 14:10Matrix: Water	

# Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 01:55	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1

\*=This limit was used in the evaluation of the final result



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Sample Description:	GM-19D (320-51333-10) Water Pace PFAS Testing
Project Name:	Pace PFAS Testing
Submittal Date/Time: Collection Date/Time: SDG#:	06/19/2019 10:10 06/11/2019 13:40 TAC05-10

#### **TestAmerica Sacramento** ELLE Sample #: WW 1083891 ELLE Group #: 2049636 Matrix: Water

Aiscellaneous EPA 537 Modified luorotelomersulfonic acid <sup>1</sup> luorotelomersulfonic acid <sup>1</sup> OSAA <sup>1</sup> OSAA is the acronym for N-ethyl pe FOSAA is the acronym for N-methy uorobutanesulfonic acid <sup>1</sup> uorobutanoic Acid <sup>1</sup> uorodecanesulfonic acid <sup>1</sup> uorodecanoic Acid <sup>1</sup>	2355-31-9 /I perfluorooctanesulfo 375-73-5 375-22-4 335-77-3 335-76-2	N.D.	ng/l 0.97 1.9 0.97 0.97 0.29 1.9 0.58	ng/l 1.9 5.8 2.9 2.9 0.97 5.8	1 1 1 1 1 1
Iuorotelomersulfonic acid <sup>1</sup> OSAA <sup>1</sup> OSAA is the acronym for N-ethyl per FOSAA <sup>1</sup> FOSAA is the acronym for N-methy Jorobutanesulfonic acid <sup>1</sup> Jorobutanoic Acid <sup>1</sup> Jorodecanesulfonic acid <sup>1</sup> Jorodecanoic Acid <sup>1</sup>	39108-34-4 2991-50-6 erfluorooctanesulfona 2355-31-9 /l perfluorooctanesulfo 375-73-5 375-22-4 335-77-3 335-76-2	N.D. N.D. midoacetic Acid. N.D. onamidoacetic Acid. 2.0 8.3 N.D.	1.9 0.97 0.97 0.29 1.9	5.8 2.9 2.9 0.97 5.8	1 1 1 1
OSAA <sup>1</sup> OSAA is the acronym for N-ethyl per FOSAA <sup>1</sup> FOSAA is the acronym for N-methy Jorobutanesulfonic acid <sup>1</sup> Jorobutanoic Acid <sup>1</sup> Jorodecanesulfonic acid <sup>1</sup> Jorodecanoic Acid <sup>1</sup>	2991-50-6 erfluorooctanesulfona 2355-31-9 /l perfluorooctanesulfo 375-73-5 375-22-4 335-77-3 335-76-2	N.D. midoacetic Acid. N.D. onamidoacetic Acid. 2.0 8.3 N.D.	0.97 0.97 0.29 1.9	2.9 2.9 0.97 5.8	1 1 1
OSAA is the acronym for N-ethyl pe FOSAA <sup>1</sup> FOSAA is the acronym for N-methy Jorobutanesulfonic acid <sup>1</sup> Jorobutanoic Acid <sup>1</sup> Jorodecanesulfonic acid <sup>1</sup> Jorodecanoic Acid <sup>1</sup>	erfluorooctanesulfona 2355-31-9 /l perfluorooctanesulfo 375-73-5 375-22-4 335-77-3 335-76-2	midoacetic Acid. N.D. onamidoacetic Acid. 2.0 8.3 N.D.	0.97 0.29 1.9	2.9 0.97 5.8	1
FOSAA <sup>1</sup> FOSAA is the acronym for N-methy Jorobutanesulfonic acid <sup>1</sup> Jorobutanoic Acid <sup>1</sup> Jorodecanesulfonic acid <sup>1</sup> Jorodecanoic Acid <sup>1</sup>	2355-31-9 /I perfluorooctanesulfo 375-73-5 375-22-4 335-77-3 335-76-2	N.D. mamidoacetic Acid. 2.0 8.3 N.D.	0.29 1.9	0.97 5.8	1
FOSAA is the acronym for N-methy uorobutanesulfonic acid <sup>1</sup> uorobutanoic Acid <sup>1</sup> uorodecanesulfonic acid <sup>1</sup> uorodecanoic Acid <sup>1</sup>	/l perfluorooctanesulfc 375-73-5 375-22-4 335-77-3 335-76-2	namidoacetic Acid. 2.0 8.3 N.D.	0.29 1.9	0.97 5.8	1
uorobutanesulfonic acid <sup>1</sup> uorobutanoic Acid <sup>1</sup> uorodecanesulfonic acid <sup>1</sup> uorodecanoic Acid <sup>1</sup>	375-73-5 375-22-4 335-77-3 335-76-2	2.0 8.3 N.D.	1.9	5.8	•
uorobutanoic Acid <sup>1</sup> uorodecanesulfonic acid <sup>1</sup> uorodecanoic Acid <sup>1</sup>	375-22-4 335-77-3 335-76-2	8.3 N.D.	1.9	5.8	•
uorodecanesulfonic acid¹ uorodecanoic Acid¹	335-77-3 335-76-2	N.D.			1
uorodecanoic Acid <sup>1</sup>	335-76-2		0.58		
		12 1	0.00	1.9	1
uorododecanoic Acid <sup>1</sup>		1.2 0	0.88	1.9	1
	307-55-1	N.D.	0.49	1.9	1
uoroheptanesulfonic acid <sup>1</sup>	375-92-8	0.85 J	0.39	1.9	1
uoroheptanoic Acid <sup>1</sup>	375-85-9	12	0.39	0.97	1
uorohexanesulfonic acid <sup>1</sup>	355-46-4	3.6	0.39	1.9	1
uorohexanoic Acid <sup>1</sup>	307-24-4	14	0.39	1.9	1
uorononanoic Acid <sup>1</sup>	375-95-1	4.1	0.39	1.9	1
uorooctanesulfonamide <sup>1</sup>	754-91-6	N.D.	0.49	2.9	1
uorooctanesulfonic acid <sup>1</sup>	1763-23-1	39	0.39	1.9	1
uorooctanoic Acid <sup>1</sup>	335-67-1	61	0.29	0.97	1
uoropentanoic Acid <sup>1</sup>	2706-90-3	15	1.9	5.8	1
uorotetradecanoic Acid <sup>1</sup>	376-06-7	N.D.	0.29	0.97	1
uorotridecanoic Acid <sup>1</sup>	72629-94-8	N.D.	0.39	0.97	1
uoroundecanoic Acid <sup>1</sup>	2058-94-8	N.D.	0.39	1.9	1
	orohexanesulfonic acid <sup>1</sup> orohexanoic Acid <sup>1</sup> orononanoic Acid <sup>1</sup> orooctanesulfonamide <sup>1</sup> orooctanesulfonic acid <sup>1</sup> orooctanoic Acid <sup>1</sup> oropentanoic Acid <sup>1</sup> orotetradecanoic Acid <sup>1</sup> oroundecanoic Acid <sup>1</sup> es were detected in the method b ioted on the QC Summary. The foi he sample was reextracted outside	orohexanesulfonic acid <sup>1</sup> 355-46-4         orohexanoic Acid <sup>1</sup> 307-24-4         orononanoic Acid <sup>1</sup> 375-95-1         orooctanesulfonamide <sup>1</sup> 754-91-6         orooctanesulfonic acid <sup>1</sup> 1763-23-1         orooctanoic Acid <sup>1</sup> 335-67-1         oropentanoic Acid <sup>1</sup> 2706-90-3         orotetradecanoic Acid <sup>1</sup> 376-06-7         oroundecanoic Acid <sup>1</sup> 2058-94-8         es were detected in the method blank associated with th         oroted on the QC Summary. The following corrective actif         he sample was reextracted outside holding time. The data         or the original extraction. Both sets of data are included in	orohexanesulfonic acid¹355-46-43.6orohexanoic Acid¹307-24-414orononanoic Acid¹375-95-14.1orooctanesulfonamide¹754-91-6N.D.orooctanesulfonic acid¹1763-23-139orooctanoic Acid¹335-67-161oropentanoic Acid¹2706-90-315orotetradecanoic Acid¹376-06-7N.D.orotidecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.oroundecanoic Acid¹2058-94-8N.D.ore of the QC Summary. The following corrective actionHe sample was reextracted outside holding time. The data ison the original extraction. Both sets of data are included inHermitian and and and and are included in	orohexanesulfonic acid¹355-46-43.60.39orohexanoic Acid¹307-24-4140.39orononanoic Acid¹375-95-14.10.39orooctanesulfonamide¹754-91-6N.D.0.49orooctanesulfonic acid¹1763-23-1390.39orooctanoic Acid¹335-67-1610.29oropentanoic Acid¹2706-90-3151.9orotetradecanoic Acid¹376-06-7N.D.0.29orotidecanoic Acid¹72629-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39oroundecanoic Acid¹2058-94-8N.D.0.39ore of the QC Summary. The following corrective action he sample was reextracted outside holding time. The data is on the original extraction. Both sets of data are included in	orohexanesulfonic acid <sup>1</sup> 355-46-4 3.6 0.39 1.9 orohexanoic Acid <sup>1</sup> 307-24-4 14 0.39 1.9 orononanoic Acid <sup>1</sup> 375-95-1 4.1 0.39 1.9 orooctanesulfonamide <sup>1</sup> 754-91-6 N.D. 0.49 2.9 orooctanesulfonic acid <sup>1</sup> 1763-23-1 39 0.39 1.9 orooctanoic Acid <sup>1</sup> 335-67-1 61 0.29 0.97 oropentanoic Acid <sup>1</sup> 2706-90-3 15 1.9 5.8 orotetradecanoic Acid <sup>1</sup> 376-06-7 N.D. 0.29 0.97 orotidecanoic Acid <sup>1</sup> 72629-94-8 N.D. 0.39 0.97 oroundecanoic Acid <sup>1</sup> 2058-94-8 N.D. 0.39 1.9

The recovery for the sample injection standard and the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

# **Sample Comments**

<sup>1</sup> = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

	Laboratory Sample Analysis Record								
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor		
	*=This limit was used in the evaluation of the final result								

This limit was used in the evaluation of the final result



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Sample Description:	GM-19D (320-51333-10) Water	TestAmerica Sacramento		
	Pace PFAS Testing	ELLE Sample #: ELLE Group #:	WW 1083891 2049636	
Project Name:	Pace PFAS Testing	Matrix: Water		
Submittal Date/Time:	06/19/2019 10:10			
Collection Date/Time:	06/11/2019 13:40			
SDG#:	TAC05-10			

Laboratory Sa	mple Anal	ysis Record
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CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	21 PFAS	EPA 537 Version 1.1 Modified	1	19175003	07/02/2019 02:04	Danielle D McCully	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19175003	06/24/2019 15:00	Isaac Phillips-Cary	1

\*=This limit was used in the evaluation of the final result



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# **Quality Control Summary**

Client Name: TestAmerica Sacramento
Reported: 07/16/2019 14:16

Group Number: 2049636

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

# **Method Blank**

Analysis Name	Result	MDL**	LOQ
	ng/l	ng/l	ng/l
Batch number: 19175003	Sample num	ber(s): 1083882-	1083891
6:2-Fluorotelomersulfonic acid	1.3 J	1.0	2.0
8:2-Fluorotelomersulfonic acid	N.D.	2.0	6.0
NEtFOSAA	N.D.	1.0	3.0
NMeFOSAA	N.D.	1.0	3.0
Perfluorobutanesulfonic acid	N.D.	0.30	1.0
Perfluorobutanoic Acid	N.D.	2.0	6.0
Perfluorodecanesulfonic acid	N.D.	0.60	2.0
Perfluorodecanoic Acid	N.D.	0.90	2.0
Perfluorododecanoic Acid	N.D.	0.50	2.0
Perfluoroheptanesulfonic acid	N.D.	0.40	2.0
Perfluoroheptanoic Acid	N.D.	0.40	1.0
Perfluorohexanesulfonic acid	N.D.	0.40	2.0
Perfluorohexanoic Acid	N.D.	0.40	2.0
Perfluorononanoic Acid	N.D.	0.40	2.0
Perfluorooctanesulfonamide	N.D.	0.50	3.0
Perfluorooctanesulfonic acid	N.D.	0.40	2.0
Perfluorooctanoic Acid	N.D.	0.30	1.0
Perfluoropentanoic Acid	N.D.	2.0	6.0
Perfluorotetradecanoic Acid	N.D.	0.30	1.0
Perfluorotridecanoic Acid	N.D.	0.40	1.0
Perfluoroundecanoic Acid	N.D.	0.40	2.0

# LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 19175003	Sample number(	s): 1083882-1	083891						
6:2-Fluorotelomersulfonic acid	15.17	16.27	15.17	16.68	107	110	66-155	2	30
8:2-Fluorotelomersulfonic acid	15.33	18.69	15.33	20.55	122	134	66-148	10	30
NEtFOSAA	5.44	6.57	5.44	5.90	121	109	55-169	11	30
NMeFOSAA	5.44	6.57	5.44	5.70	121	105	44-147	14	30
Perfluorobutanesulfonic acid	4.81	4.72	4.81	4.60	98	96	73-128	3	30
Perfluorobutanoic Acid	5.44	6.45	5.44	6.37	119	117	74-142	1	30
Perfluorodecanesulfonic acid	5.24	5.23	5.24	5.03	100	96	60-135	4	30
Perfluorodecanoic Acid	5.44	5.71	5.44	5.60	105	103	69-148	2	30

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



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# **Quality Control Summary**

Client Name: TestAmerica Sacramento Reported: 07/16/2019 14:16

Group Number: 2049636

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Perfluorododecanoic Acid	5.44	5.58	5.44	5.93	103	109	75-136	6	30
Perfluoroheptanesulfonic acid	5.18	4.98	5.18	5.30	96	102	64-135	6	30
Perfluoroheptanoic Acid	5.44	5.65	5.44	5.91	104	109	76-140	5	30
Perfluorohexanesulfonic acid	5.14	4.56	5.14	4.99	89	97	71-131	9	30
Perfluorohexanoic Acid	5.44	5.61	5.44	5.63	103	103	75-135	0	30
Perfluorononanoic Acid	5.44	5.32	5.44	5.27	98	97	72-148	1	30
Perfluorooctanesulfonamide	5.44	6.36	5.44	5.95	117	109	65-164	7	30
Perfluorooctanesulfonic acid	5.20	4.81	5.20	4.62	93	89	67-138	4	30
Perfluorooctanoic Acid	5.44	5.36	5.44	5.38	98	99	72-138	0	30
Perfluoropentanoic Acid	5.44	5.53	5.44	5.80	102	107	74-134	5	30
Perfluorotetradecanoic Acid	5.44	6.16	5.44	6.32	113	116	74-135	3	30
Perfluorotridecanoic Acid	5.44	5.67	5.44	5.67	104	104	61-145	0	30
Perfluoroundecanoic Acid	5.44	5.27	5.44	5.58	97	103	75-146	6	30

# Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 21 PFAS Batch number: 19175003

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA
1083882	92	102	94	86	89	85
1083883	93	99	91	86	78	86
1083884	95	108	97	91	79	88
1083885	86	100	93	91	76	85
1083886	95	105	155*	67	106	85
1083887	90	114	151*	78	113	108
1083888	100	118	112	102	93	99
1083889	90	97	99	76	71	82
1083890	98	113	165*	78	104	90
1083891	91	101	95	87	98	99
Blank	83	85	76	85	86	84
LCS	92	88	90	90	97	88
LCSD	91	90	86	91	92	88
Limits:	33-123	31-157	26-148	35-138	34-126	35-126
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	13C2-8:2-FTS
1083882	126	88	92	107	89	165*
1083883	320*	92	97	123	91	252*
1083884	229*	95	89	114	99	277*

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



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# **Quality Control Summary**

Client Name: TestAmerica Sacramento
Reported: 07/16/2019 14:16

Group Number: 2049636

# Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Jaion numbe	me: 21 PFAS er: 19175003					
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	13C2-8:2-FTS
083885	266*	89	97	137	89	249*
083886	275*	97	96	100	94	230*
083887	425*	99	90	130	94	287*
083888	261*	99	106	136	105	293*
083889	317*	90	86	152*	88	242*
083890	319*	103	97	100	98	246*
083891	180*	94	89	108	95	239*
Blank	86	87	87	88	86	71
CS	91	92	94	103	89	78
CSD	86	91	93	99	97	82
imits:	32-170	48-122	50-121	41-144	47-125	27-164
	d3-NMeFOSAA	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA	13C8-PFOSA
083882	113	89	129	86	76	33
083883	165*	91	182*	74	72	48
083884	167*	95	180*	84	79	51
083885	160*	84	170*	76	74	45
083886	99	96	119	79	73	23
083887	191*	89	200*	67	72	49
083888	185*	96	192*	85	84	53
083889	163*	79	167*	64	57	41
083890	111	113	141	98	99	23
083891	128*	91	159*	75	70	28
	91	86	92	83	87	64
Blank			94	91	89	68
Blank ₋CS	94	95	94	31	00	00
	94 108	95 100	94 107	97	94	73

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

# **Eurofins TestAmerica, Sacramento**

880 Riverside Parkway

West Sacramento, CA 95605

-508200

1042 2049636 6083882-91

1.20

# Chain of Custody Record



🕼 eurofins Envirorment Testing TestAmerica

Phone: 916-373-5600 Fax: 916-372-1059																		
Client Information (Sub Contract Lab)	Sampler:			Lab PM Corte:		əsar C	)				C	arrier 7	racking	g No(s):			COC No: 320-151814.1	
Client Contact: Shipping/Receiving	Phone:							ericain				tate of Iew Y					Page: Page 1 of 2	
Company: Eurofins Lancaster Laboratories Env LLC							is Requ √ew Y	iired (See 'ork	e note):								Job #: 320-51333-1	
Address: 2425 New Holland Pike,      ,	Due Date Requeste 6/26/2019	ue Date Requested: //26/2019				Analysis Requested											Preservation Cod	es:
City: Lancaster	TAT Requested (da	ys):												T			A - HCL B - NaOH C - Zn Acetate	M - Hexane N - None O - AsNaO2
State, Zip: PA, 17601				Sector -													D - Nitric Acid E - NaHSO4 F - MeOH	P - Na2O4S Q - Na2SO3 R - Na2S2O3
Phone: 717-656-2300(Tel)	PO #:				8												G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
Email:	WO #:				S Of N	Subcontract Method)										5	l - Ice J - DI Water K - EDTA	U - Acetone V - MCAA W - pH 4-5
Project Name: Pace PFAS Testing	Project #: 32010619				le (Ye 'es or	tract M	ŀ									ntaine	L - EDA	Z - other (specify)
Site:	SSOW#:				samp SD (Y	ubcon										of cont	Other:	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Type	Matrix (W=water, S=solid, D=wastefoil, Tissue, A=Air)	Field Filtered	SUB (General S										Total Number	Special In	structions/Note:
	$\sim$	$\geq$	Preservation	i Code:	$\underline{X}$											$\mathbb{X}$		
GM-2D (320-51333-1)	6/11/19	13:10 Eastern		Water		X										2		
GM-4D (320-51333-2)	6/11/19	10:45 Eastern		Water		X										2		
GM-5D (320-51333-3)	6/11/19	11:20 Eastern		Water		X										2		
GM-6D (320-51333-4)	6/11/19	12:00 Eastern		Water		X										2		
GM-7D (320-51333-5)	6/11/19	12:35 Eastern		Water		X										2		
GM-15D (320-51333-6)	6/11/19	15:10 Eastern		Water		X										2		and the store of
GM-16D (320-51333-7)	6/11/19	14:50 Eastern		Water		X										2		
GM-17D (320-51333-8)	6/11/19	14:35 Eastern		Water		X										9		
GM-18D (320-51333-9)	6/11/19	14:10 Eastern		Water		X										2		
Note: Since laboratory accreditations are subject to change, TestAmerica Laborato currently maintain accreditation in the State of Origin listed above for analysis/tests Laboratories, Inc. attention immediately. If all requested accreditations are current	s/matrix being analyze	ed, the sample	es must be shipped	I back to the "	TestAr	merica	labora	tory or ot	her ins	ructions	ies. Thi s will be	is samp provid	ed. An	oment is vy chanç	forwarde jes to acc	d unde reditati	er chain-of-custody. If ion status should be br	the laboratory does not ought to TestAmerica
Possible Hazard Identification			·	· · · · · ·	Sa	ample	e Disj	posal (	A fee	may	be as	sesse	ed if s	ampl	es are i	etain	ed longer than 1	month)
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Delivera	hio Pank: (	<u></u>					n To Ch uctions		L		<u>.</u>	l By L	ab		Arch	hive For	Months
Empty Kit Relinguished by:	-	Date:	-	ľ			1 1150	uctions		vequin	ement		othed o	of Shipn	opt			
			Cor		Time		eived b	oy:				IVI	etnoa o		/Time:			Company
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Relinquished by:	Date/Time:		Cor	mpany		TRec	evec/c	DY:		đ		>		Date	/Time: <b>-iG-</b> ]	9	10.10	Company
Custody Seals Intact: Custody Seal No.:	A				-00	Co	fier Ten	nperature	ə(ş) 'C	and Oth	er Rem	arks:		10				Page 114 of

# Eurofins TestAmerica, Sacramento 880 Riverside Parkway

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# Chain of Custody Record

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Phone: 916-373-5600 Fax: 916-372-105	West Sad	cramento, C	A 956	605

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Client Information (Sub Contract Lab)	Sampler:			Cor		Cesar (	С					Carr	ier i ra	cking	N0(S):				COC No: 320-151814.2		
Client Contact: Shipping/Receiving	Receiving					E-Mail: cesar.cortes@testamericainc.com							e of Ori v Yor					1	Page: Page 2 of 2		
Company: Eurofins Lancaster Laboratories Env LLC						Accreditations Required (See note): NELAP - New York												Ţ	Job#: 320-51333-1	,	
Address:	Due Date Request	ed:													<u></u>				Preservation Cod	es:	
2425 New Holland Pike, ,	6/26/2019				(Sec.1)				An	alysi	s Re	que	sted						A - HCL	M - Hexane	
City: Lancaster	TAT Requested (d	ays):																	B - NaOH C - Zn Acetate	N - None O - AsNaO2	
State, Zip: PA, 17601											ľ								D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3	
Phone: 717-656-2300(Tel)	PO #:																	604	F - MeOH G - Amchlor H - Ascorbic Acid	R - Na2S2O3 S - H2SO4 T - TSP Dodecahyd	
Email:	WO #:	•••			or No	() (pod)													I - Ice J - DI Water	U - Acetone V - MCAA	
roject Name: Pace PFAS Testing	Project #: 32010619			••••	50 <i>K</i> )	s or N act Me											124450	ainer	K - EDTA L - EDA	W - pH 4-5 Z - other (specify)	
Site:	SSOW#:				Sample (Yes of No	MSD (Yes of No) Subcontract Method)												of containers	Other:		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C≃comp, G≖grab) в	Matrix (W=water, S=solid, O=waste/oil,	ered	Pertorm MS/MS SUB (General Sul												Total Number o	Sussially		
Sample Identification - Client ID (Lab ID)	Sample Date		Preservati	**************************************	- (大)	A o	8 88 C			39. S.			133		<u> 6055</u>			X	Special In	structions/Note:	
GM-19D (320-51333-10)	6/11/19	13:40 Eastern		Water		X	11 25592		83346	<u> (200 000</u>		<u> </u>				2002003	CRC 45200 2	2			
		-																			
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Note: Since laboratory accreditations are subject to change, TestAmerica Labo currently maintain accreditation in the State of Origin listed above for analysis/t Laboratories, Inc. attention immediately. If all requested accreditations are cur	ests/matrix being analy;	zed, the sample	es must be shipp	ed back to th	ie Test	tAmerica	a labora	atory or (	other i	nstructi	ons wil	This s I be pr	ample ovided.	shipm Any	rent is chang	forwa es to	rded ur accredi	nder litatio	chain-of-custody. If on status should be be	he laboratory does n ought to TestAmerica	
Possible Hazard Identification																es ar			ed longer than 1	month)	
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliver	able Rank:	2			Specia		n To C					osal E	By Lε	ab		A	lrchi	ive For	Months	
			<i>L</i>					ucuon	5/00	, redi	nenk	ants:	<b>1</b>		~			Name and Address			
Empty Kit Relinquished by:		Date:	lo	ompany	Tin		ceived I	ov:					Meth	od of	Shipm	ient: Time:				Company	
Relinquished by:	Date/Time: 6K8/c1	1620		empany ETAS	Correson and	~															
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Relinquished by:	Date/Time:		C	ompany		Rei	ceived I	by:	Ģ		2	L	2		Date/	Time: ÁG	49	}	10:10	Company	
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No	1H-					line and	aler Ter	nperatu	re(s) <sup>c</sup>	'C and	Other F	emark	15:	<u></u>	1.~			·		Page 115	
Δ Yes Δ No	[VT		Pa	age 26 (	of 2	line and						Carrier			l	[		ó <b>n m</b> inala d			

Seurofins Lancaster Laboratories Environmental		•	ministration Imentation Log		og ID: 25187 میں ایک
Client: <u>TestAmerica</u>					
	Delivery	y and R	eceipt Information		
Delivery Method:	Fed Ex		Arrival Timestamp:	<u>06/19/2019 10</u>	<u>):10</u>
Number of Packages:	<u>1</u>		Number of Projects:	2	
State/Province of Origin:	<u>NY</u>				
	Arriva	al Cond	ition Summary		
Shipping Container Sealed:		Yes	Sample IDs on COC ma	atch Containers:	Yes
Custody Seal Present:		Yes	Sample Date/Times ma	tch COC:	Yes
Custody Seal Intact:		Yes	VOA Vial Headspace ≥	6mm:	N/A
Samples Chilled:		Yes	Total Trip Blank Qty:	(	0
Paperwork Enclosed:		Yes	Air Quality Samples Pre	esent:	No
Samples Intact:		Yes			
Missing Samples:		No			
Extra Samples:		No			
Discrepancy in Container Qty	on COC:	No			
Unpacked by Nicole Reiff (25	5684) at 12:42 c	on 06/19/2	2019		
	e.	mnlee	Chilled Details		

Thermometer Types:		s: DT = Dig	ital (Temp. Botti	'e) IR =	Infrared (Su	face Temp)	All Temperatures in °C.
<u>Cooler #</u>	Thermometer ID	Corrected Temp	<u>Therm. Type</u>	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.7	DT	Wet	Y	Loose	Ν

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# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)			
С	degrees Celsius	MPN	Most Probable Number			
cfu	colony forming units	N.D.	non-detect			
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)			
F	degrees Fahrenheit	NTU	nephelometric turbidity units			
g	gram(s)	pg/L	picogram/liter			
IU	International Units	RL	Reporting Limit			
kg	kilogram(s)	TNTC	Too Numerous To Count			
L	liter(s)	μg	microgram(s)			
lb.	pound(s)	μL	microliter(s)			
m3	cubic meter(s)	umhos/cm	micromhos/cm			
meq	milliequivalents	MCL	Maximum Contamination Limit			
mg	milligram(s)					
<	less than					
>	greater than					
ppm		pe equivalent to milli	kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weigh juivalent to one microliter per liter of gas.			
ppb	parts per billion					
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an an analyte basis					

# Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

as-received basis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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# **Data Qualifiers**

Qualifier Definition

Lancaster Laboratories

С	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
Р	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised
	due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

June 28, 2019

Joe Guarino Town of Babylon 281 Phelps Lane North Babylon, NY 11703

RE: Project: GMP WELL ROUTINE 360+TAL METAL Pace Project No.: 7093107

Dear Joe Guarino:

Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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

Sincerely,

for las

Jennifer Aracri jennifer.aracri@pacelabs.com (631)694-3040 Project Manager

Enclosures





Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

# CERTIFICATIONS

Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### **Minnesota Certification IDs**

1700 Elm Street SE, Minneapolis, MN 55414-2485 A2LA Certification #: 2926.01 Alabama Certification #: 40770 Alaska Contaminated Sites Certification #: 17-009 Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014 Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 CNMI Saipan Certification #: MP0003 Colorado Certification #: MN00064 Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137 Florida Certification #: E87605 Georgia Certification #: 959 Guam EPA Certification #: MN00064 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062 Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: 03086 Louisiana DW Certification #: MN00064 Maine Certification #: MN00064 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

# Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747 New York Certification #: 10478 Primary Accrediting Body New Jersey Certification #: NY158 Pennsylvania Certification #: 68-00350 Connecticut Certification #: PH-0435 Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647 North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Primary Certification #: MN300001 Oregon Secondary Certification #: MN200001 Pennsylvania Certification #: 68-00563 Puerto Rico Certification #: MN00064 South Carolina Certification #:74003001 Tennessee Certification #: TN02818 Texas Certification #: T104704192 Utah Certification #: MN00064 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

Maryland Certification #: 208 Rhode Island Certification #: LAO00340 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7093107001	GM-2D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107002	GM-4D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107003	GM-5D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7093107004	GM-6D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7093107005	GM-7D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM22 5310B	KM1	1	PACE-MV
7093107006	GM-15D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7093107007	GM-16D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
7093107008	GM-17D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107009	GM-18D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV
		SM22 4500 NH3 H	BNK	1	PACE-MV
		SM22 5310B	KM1	1	PACE-MV
093107010	GM-19D	EPA 6010C	JMW	22	PACE-MV
		EPA 7470A	JLN	1	PACE-MV
		EPA 8270D by SIM	STB	2	PASI-M
		EPA 180.1	KM1	1	PACE-MV
		SM22 2320B	AK1	1	PACE-MV
		SM22 2340C	AK1	1	PACE-MV
		SM22 2540C	KS1	1	PACE-MV
		EPA 410.4	JCA	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
		EPA 300.0	BNK	3	PACE-MV
		EPA 351.2	SDO	1	PACE-MV
		EPA 353.2	SDO	2	PACE-MV
		EPA 353.2	SDO	1	PACE-MV

# **REPORT OF LABORATORY ANALYSIS**

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Laboratory

PACE-MV

PACE-MV

Analytes Reported

1

1

Analysts

BNK

KM1

# SAMPLE ANALYTE COUNT

SM22 4500 NH3 H

SM22 5310B

	Lab ID	Sample ID	Method
Pace Project No.:		7093107	
	Project:	GMP WELL ROUTINE 360+TAL METAL	

REPORT OF LABORATORY ANALYSI
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Project: GMP WELL ROUTINE 360+TAL METAL

# Pace Project No.: 7093107

# Method: EPA 6010C

Description:6010 MET ICPClient:Town of BabylonDate:June 28, 2019

## General Information:

10 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

## Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### QC Batch: 117823

B: Analyte was detected in the associated method blank.

- BLANK for HBN 117823 [MPRP/785 (Lab ID: 558052)
  - Thallium

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

# Pace Project No.: 7093107

# Method: EPA 7470A Description: 7470 Mercury

Client: Town of Babylon Date: June 28, 2019

# General Information:

10 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

# Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

# Method: EPA 8270D by SIM

Description:8270D MSSV 14 Dioxane By SIMClient:Town of BabylonDate:June 28, 2019

# General Information:

10 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

## Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

## Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

## Surrogates:

All surrogates were within QC limits with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

# Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 613702

R1: RPD value was outside control limits.

- LCSD (Lab ID: 3315789)
  - 1,4-Dioxane (SIM)

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

# Pace Project No.: 7093107

 Method:
 EPA 180.1

 Description:
 180.1 Turbidity

 Client:
 Town of Babylon

 Date:
 June 28, 2019

# **General Information:**

10 samples were analyzed for EPA 180.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

# Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

# Pace Project No.: 7093107

Method:	SM22 2320B
<b>Description:</b>	2320B Alkalinity
Client:	Town of Babylon
Date:	June 28, 2019

### **General Information:**

10 samples were analyzed for SM22 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:SM22 2340CDescription:2340C Hardness, TotalClient:Town of BabylonDate:June 28, 2019

# **General Information:**

10 samples were analyzed for SM22 2340C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### Method: SM22 2540C

Description:2540C Total Dissolved SolidsClient:Town of BabylonDate:June 28, 2019

# General Information:

10 samples were analyzed for SM22 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

# QC Batch: 118004

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 559709)
  - Total Dissolved Solids
- DUP (Lab ID: 559711)
  - Total Dissolved Solids

# Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

# Pace Project No.: 7093107

# Method: EPA 410.4

Description:410.4 CODClient:Town of BabylonDate:June 28, 2019

# **General Information:**

10 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

# Pace Project No.: 7093107

 Method:
 SM22 5210B

 Description:
 5210B BOD, 5 day

 Client:
 Town of Babylon

 Date:
 June 28, 2019

# **General Information:**

10 samples were analyzed for SM22 5210B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with SM22 5210B with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

 Method:
 EPA 300.0

 Description:
 300.0 IC Anions 28 Days

 Client:
 Town of Babylon

 Date:
 June 28, 2019

# **General Information:**

10 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### Method: EPA 351.2

Description:351.2 Total Kjeldahl NitrogenClient:Town of BabylonDate:June 28, 2019

# General Information:

10 samples were analyzed for EPA 351.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

## Sample Preparation:

The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## QC Batch: 119268

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7092926001,7093723002

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 566777)
  - Nitrogen, Kjeldahl, Total

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

# QC Batch: 119268

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

• DUP (Lab ID: 566780)

• Nitrogen, Kjeldahl, Total

## Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### Method: EPA 353.2

Description:353.2 Nitrogen, NO2/NO3 unpresClient:Town of BabylonDate:June 28, 2019

# General Information:

10 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

## QC Batch: 117328

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7093035001,7093139001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
  - MS (Lab ID: 555675)
    - Nitrate-Nitrite (as N)

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:EPA 353.2Description:353.2 Nitrogen, NO2Client:Town of BabylonDate:June 28, 2019

# **General Information:**

10 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:	SM22 4500 NH3 H				
<b>Description:</b>	4500 Ammonia Water				
Client:	Town of Babylon				
Date:	June 28, 2019				

# General Information:

10 samples were analyzed for SM22 4500 NH3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 119281

- B: Analyte was detected in the associated method blank.
  - BLANK for HBN 119281 [WETA/191 (Lab ID: 566889)
    - Nitrogen, Ammonia

# Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 119281

- A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 7093468001
  - M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
    - MS (Lab ID: 566891)
    - Nitrogen, Ammonia

## **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 119281

- D6: The precision between the sample and sample duplicate exceeded laboratory control limits.
  - DUP (Lab ID: 566892)
    - Nitrogen, Ammonia

## Additional Comments:



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Method:SM22 5310BDescription:5310B TOC as NPOCClient:Town of BabylonDate:June 28, 2019

# General Information:

10 samples were analyzed for SM22 5310B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

# Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



# ANALYTICAL RESULTS

Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-2D Lab ID: 7093107001 Collected: 06/11/19 13:10 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 236 ug/L 200 1 06/14/19 09:04 06/24/19 18:36 7429-90-5 06/14/19 09:04 06/24/19 18:36 7440-36-0 <60.0 60.0 Antimony ug/L 1 Arsenic <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:36 7440-38-2 1 200 Barium <200 06/14/19 09:04 06/24/19 18:36 7440-39-3 ug/L 1 <5.0 Beryllium ug/L 5.0 1 06/14/19 09:04 06/24/19 18:36 7440-41-7 Cadmium <2.5 ug/L 2.5 06/14/19 09:04 06/24/19 18:36 7440-43-9 1 Calcium 20800 ug/L 200 1 06/14/19 09:04 06/24/19 18:36 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:36 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:36 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-50-8 Iron 1020 ug/L 20.0 06/14/19 09:04 06/24/19 18:36 7439-89-6 1 Lead <5.0 5.0 06/14/19 09:04 06/24/19 18:36 7439-92-1 ug/L 1 06/14/19 09:04 06/24/19 18:36 7439-95-4 4750 200 Magnesium ug/L 1 Manganese 71.7 10.0 ug/L 06/14/19 09:04 06/24/19 18:36 7439-96-5 1 Nickel <40.0 40.0 06/14/19 09:04 06/24/19 18:36 7440-02-0 ug/L 1 <5000 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:36 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:36 7440-22-4 Sodium 11600 5000 06/14/19 09:04 06/24/19 18:36 7440-23-5 ug/L 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:36 7440-28-0 Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:36 7440-62-2 Zinc <20.0 ug/L 20.0 06/14/19 09:04 06/24/19 18:36 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:31 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.13J 0.25 06/18/19 11:20 06/21/19 20:39 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 44 %. 30-125 1 06/18/19 11:20 06/21/19 20:39 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 3.0 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 24.2 1.0 1 06/22/19 02:44 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 60.0 mg/L 5.0 1 06/24/19 15:17 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 129 10.0 06/17/19 10:34 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 <10.0 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:39 mg/L 1

# **REPORT OF LABORATORY ANALYSIS**

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# ANALYTICAL RESULTS

# Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-2D	Lab ID: 7093	3107001	Collected: 06/11/1	9 13:10	Received: 06	6/11/19 15:56 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B			
BOD, 5 day	1.4J	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:50		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide	0.12J	mg/L	0.50	1		06/26/19 23:56	24959-67-9	
Chloride	16.4	mg/L	2.0	1		06/26/19 23:56	16887-00-6	
Sulfate	44.4	mg/L	5.0	1		06/26/19 23:56	14808-79-8	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 3	51.2 Preparation Met	hod: EP	A 351.2			
Nitrogen, Kjeldahl, Total	0.34	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:00	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2					
Nitrate as N	0.049J	mg/L	0.050	1		06/11/19 22:43	14797-55-8	
Nitrate-Nitrite (as N)	0.049J	mg/L	0.050	1		06/11/19 22:43	7727-37-9	
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:47	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	0.093J	mg/L	0.10	1		06/25/19 14:24	7664-41-7	В
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	0.98J	mg/L	1.0	1		06/18/19 16:07	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-4D Lab ID: 7093107002 Collected: 06/11/19 10:45 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum <200 ug/L 200 1 06/14/19 09:04 06/24/19 18:41 7429-90-5 06/14/19 09:04 06/24/19 18:41 7440-36-0 <60.0 60.0 Antimony ug/L 1 Arsenic <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:41 7440-38-2 1 200 Barium 24.7J 06/14/19 09:04 06/24/19 18:41 7440-39-3 ug/L 1 Beryllium <5.0 ug/L 5.0 1 06/14/19 09:04 06/24/19 18:41 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 18:41 7440-43-9 Calcium 18700 ug/L 200 1 06/14/19 09:04 06/24/19 18:41 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:41 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:41 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-50-8 Iron 318 ug/L 20.0 06/14/19 09:04 06/24/19 18:41 7439-89-6 1 Lead <5.0 5.0 06/14/19 09:04 06/24/19 18:41 7439-92-1 ug/L 1 3890 200 06/14/19 09:04 06/24/19 18:41 7439-95-4 Magnesium ug/L 1 Manganese 112 10.0 06/14/19 09:04 06/24/19 18:41 7439-96-5 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 18:41 7440-02-0 ug/L 1 4930J 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:41 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:41 7440-22-4 Sodium 22700 5000 06/14/19 09:04 06/24/19 18:41 7440-23-5 ug/L 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:41 7440-28-0 Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:41 7440-62-2 Zinc <20.0 ug/L 20.0 06/14/19 09:04 06/24/19 18:41 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:33 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.14J 0.25 06/18/19 11:20 06/21/19 19:20 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 47 1,4-Dioxane-d8 (S) %. 30-125 1 06/18/19 11:20 06/21/19 19:20 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 4.6 NTU 1.0 1 06/12/19 15:10 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 32.9 1.0 1 06/22/19 02:52 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 50.0 mg/L 5.0 1 06/24/19 17:04 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 175 10.0 06/17/19 10:34 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 38.9 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:39 mg/L

## **REPORT OF LABORATORY ANALYSIS**

1



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-4D	Lab ID: 7093	3107002	Collected: 06/11/1	9 10:45	Received: 06	6/11/19 15:56 N	latrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B					
BOD, 5 day	6.1	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:52				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide	2.5	mg/L	0.50	1		06/27/19 00:12				
Chloride Sulfate	183 36.7	mg/L mg/L	10.0 5.0	5 1		06/27/19 19:38 06/27/19 00:12				
351.2 Total Kjeldahl Nitrogen	Analytical Meth	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	0.86	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:01	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2							
Nitrate as N	0.62	mg/L	0.050	1		06/11/19 22:45				
Nitrate-Nitrite (as N)	0.62	mg/L	0.050	1		06/11/19 22:45	7727-37-9			
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:50	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	0.44	mg/L	0.10	1		06/25/19 14:25	7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	12.6	mg/L	1.0	1		06/18/19 17:05	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-5D Lab ID: 7093107003 Collected: 06/11/19 11:20 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 37.0J ug/L 200 1 06/14/19 09:04 06/25/19 15:01 7429-90-5 06/14/19 09:04 06/25/19 15:01 7440-36-0 13.7J 60.0 Antimony ug/L 1 10.0 Arsenic 15.4 ug/L 06/14/19 09:04 06/25/19 15:01 7440-38-2 1 85.7J 200 Barium 06/14/19 09:04 06/25/19 15:01 7440-39-3 ug/L 1 Beryllium <5.0 ug/L 5.0 1 06/14/19 09:04 06/25/19 15:01 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/25/19 15:01 7440-43-9 Calcium 22100 ug/L 200 1 06/14/19 09:04 06/25/19 15:01 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/25/19 15:01 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/25/19 15:01 7440-48-4 25.0 Copper 15.6J ug/L 1 06/14/19 09:04 06/25/19 15:01 7440-50-8 Iron 27000 ug/L 20.0 06/14/19 09:04 06/25/19 15:01 7439-89-6 1 Lead <5.0 5.0 06/14/19 09:04 06/25/19 15:01 7439-92-1 ug/L 1 3460 200 Magnesium ug/L 06/14/19 09:04 06/25/19 15:01 7439-95-4 1 8060 06/14/19 09:04 06/25/19 15:01 7439-96-5 Manganese 10.0 ug/L 1 5.0J Nickel 40.0 06/14/19 09:04 06/25/19 15:01 7440-02-0 ug/L 1 6800 5000 Potassium ug/L 1 06/14/19 09:04 06/25/19 15:01 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/25/19 15:01 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/25/19 15:01 7440-22-4 Sodium 112000 ug/L 5000 06/14/19 09:04 06/25/19 15:01 7440-23-5 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/25/19 15:01 7440-28-0 Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/25/19 15:01 7440-62-2 Zinc 7.0J ug/L 20.0 06/14/19 09:04 06/25/19 15:01 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:35 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.084J 0.25 06/18/19 11:20 06/21/19 19:40 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 43 %. 30-125 1 06/18/19 11:20 06/21/19 19:40 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 22.0 NTU 2.0 2 06/12/19 15:10 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 51.2 1.0 1 06/22/19 02:59 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 80.0 mg/L 5.0 1 06/26/19 12:06 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 472 20.0 06/17/19 10:35 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 Chemical Oxygen Demand 21.2 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-5D	Lab ID: 7093	3107003	Collected: 06/11/1	9 11:20	Received: 06	6/11/19 15:56 N	Aatrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	10B Preparation Method: SM22 521						
BOD, 5 day	2.4J	mg/L	4.0	2	06/13/19 10:33	06/18/19 10:55				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide Chloride Sulfate	0.23J 221 41.2	mg/L mg/L mg/L	0.50 20.0 5.0	1 10 1		06/27/19 00:29 06/27/19 19:54 06/27/19 00:29	16887-00-6			
351.2 Total Kjeldahl Nitrogen	Analytical Meth	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	0.46	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:02	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2							
Nitrate as N Nitrate-Nitrite (as N)	0.10 0.10	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:46 06/11/19 22:46				
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:51	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	0.072J	mg/L	0.10	1		06/25/19 14:27	7664-41-7	В		
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	5.9	mg/L	1.0	1		06/18/19 17:21	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-6D Lab ID: 7093107004 Collected: 06/11/19 12:00 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 105J ug/L 200 1 06/14/19 09:04 06/24/19 18:52 7429-90-5 06/14/19 09:04 06/24/19 18:52 7440-36-0 <60.0 60.0 Antimony ug/L 1 Arsenic 32.8 ug/L 10.0 06/14/19 09:04 06/24/19 18:52 7440-38-2 1 200 Barium 196J 06/14/19 09:04 06/24/19 18:52 7440-39-3 ug/L 1 <5.0 Beryllium ug/L 5.0 1 06/14/19 09:04 06/24/19 18:52 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 18:52 7440-43-9 Calcium 92100 ug/L 200 1 06/14/19 09:04 06/24/19 18:52 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:52 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:52 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 18:52 7440-50-8 Iron 17300 ug/L 20.0 06/14/19 09:04 06/24/19 18:52 7439-89-6 1 Lead 4.5J 5.0 06/14/19 09:04 06/24/19 18:52 7439-92-1 ug/L 1 10400 200 06/14/19 09:04 06/24/19 18:52 7439-95-4 Magnesium ug/L 1 Manganese 279 10.0 06/14/19 09:04 06/24/19 18:52 7439-96-5 ug/L 1 Nickel <40.0 40.0 06/14/19 09:04 06/24/19 18:52 7440-02-0 ug/L 1 16700 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 18:52 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:52 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:52 7440-22-4 Sodium 44100 5000 06/14/19 09:04 06/24/19 18:52 7440-23-5 ug/L 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:52 7440-28-0 Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 18:52 7440-62-2 Zinc <20.0 ug/L 20.0 06/14/19 09:04 06/24/19 18:52 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:36 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 5.0 0.25 06/18/19 11:20 06/21/19 20:00 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 46 %. 30-125 1 06/18/19 11:20 06/21/19 20:00 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 17.1 NTU 2.0 2 06/12/19 15:10 Analytical Method: SM22 2320B 2320B Alkalinity 06/22/19 03:12 Alkalinity, Total as CaCO3 262 1.0 1 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 260 mg/L 5.0 1 06/26/19 12:09 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 456 20.0 06/17/19 10:35 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 47.7 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-6D	Lab ID: 7093	3107004	Collected: 06/11/1	9 12:00	Received: 06	/11/19 15:56 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	od: SM22 5210B Preparation Method: SM2		SM22 5210B			
BOD, 5 day	22.2	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:57		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide Chloride Sulfate	1.5 106 16.0	mg/L mg/L mg/L	0.50 20.0 5.0	1 10 1		06/27/19 00:46 06/27/19 20:11 06/27/19 00:46	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 38	51.2 Preparation Met	hod: EF	PA 351.2			
Nitrogen, Kjeldahl, Total	9.6	mg/L	0.50	5	06/25/19 13:02	06/26/19 08:38	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 38	53.2					
Nitrate as N Nitrate-Nitrite (as N)	0.054 0.054	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:49 06/11/19 22:49		
353.2 Nitrogen, NO2	Analytical Meth	iod: EPA 38	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:53	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	8.1	mg/L	0.50	5		06/25/19 16:19	7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	15.1	mg/L	1.0	1		06/18/19 17:37	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-7D Lab ID: 7093107005 Collected: 06/11/19 12:35 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 892 ug/L 200 1 06/14/19 09:04 06/24/19 18:58 7429-90-5 06/14/19 09:04 06/24/19 18:58 7440-36-0 <60.0 60.0 Antimony ug/L 1 ug/L Arsenic 6.9J 10.0 06/14/19 09:04 06/24/19 18:58 7440-38-2 1 200 Barium 136J 06/14/19 09:04 06/24/19 18:58 7440-39-3 ug/L 1 <5.0 Beryllium ug/L 5.0 1 06/14/19 09:04 06/24/19 18:58 7440-41-7 Cadmium <2.5 ug/L 2.5 06/14/19 09:04 06/24/19 18:58 7440-43-9 1 Calcium 171000 ug/L 200 1 06/14/19 09:04 06/24/19 18:58 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 18:58 7440-47-3 1 Cobalt 3.8J ug/L 50.0 1 06/14/19 09:04 06/24/19 18:58 7440-48-4 25.0 Copper 36.2 ug/L 1 06/14/19 09:04 06/24/19 18:58 7440-50-8 Iron 5230 ug/L 20.0 06/14/19 09:04 06/24/19 18:58 7439-89-6 1 Lead 13.0 5.0 06/14/19 09:04 06/24/19 18:58 7439-92-1 ug/L 1 06/14/19 09:04 06/24/19 18:58 7439-95-4 26600 200 Magnesium ug/L 1 2220 Manganese 10.0 ug/L 06/14/19 09:04 06/24/19 18:58 7439-96-5 1 5.6J Nickel 40.0 06/14/19 09:04 06/24/19 18:58 7440-02-0 ug/L 1 9720 Potassium ug/L 5000 1 06/14/19 09:04 06/24/19 18:58 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:58 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 18:58 7440-22-4 Sodium 10100 5000 06/14/19 09:04 06/24/19 18:58 7440-23-5 ug/L 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 18:58 7440-28-0 Vanadium 10.9J ug/L 50.0 1 06/14/19 09:04 06/24/19 18:58 7440-62-2 Zinc 27.4 ug/L 20.0 06/14/19 09:04 06/24/19 18:58 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:38 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM <0.25 0.25 06/18/19 11:20 06/21/19 20:19 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 44 %. 30-125 1 06/18/19 11:20 06/21/19 20:19 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 9.4 NTU 2.0 2 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 470 1.0 1 06/22/19 03:46 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 450 mg/L 5.0 1 06/24/19 17:15 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 570 20.0 06/17/19 10:36 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 72.0 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-7D	Lab ID: 7093	3107005	Collected: 06/11/1	9 12:35	Received: 06	/11/19 15:56 M	latrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B						
BOD, 5 day	1.2J	mg/L	2.0	1	06/13/19 10:33	06/18/19 10:59					
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0								
Bromide	0.075J	mg/L	0.50	1		06/27/19 20:28	24959-67-9				
Chloride	5.8	mg/L	2.0	1		06/27/19 20:28	16887-00-6				
Sulfate	49.9	mg/L	5.0	1		06/27/19 20:28	14808-79-8				
351.2 Total Kjeldahl Nitrogen	Analytical Meth	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2									
Nitrogen, Kjeldahl, Total	1.9	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:06	7727-37-9				
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2								
Nitrate as N	0.13	mg/L	0.050	1		06/11/19 22:51	14797-55-8				
Nitrate-Nitrite (as N)	0.13	mg/L	0.050	1		06/11/19 22:51	7727-37-9				
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2								
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:54	14797-65-0				
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H								
Nitrogen, Ammonia	0.12	mg/L	0.10	1		06/25/19 14:29	7664-41-7	В			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B								
Total Organic Carbon	15.9	mg/L	1.0	1		06/18/19 18:05	7440-44-0				



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-15D Lab ID: 7093107006 Collected: 06/11/19 15:10 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 429 ug/L 200 1 06/14/19 09:04 06/24/19 19:03 7429-90-5 06/14/19 09:04 06/24/19 19:03 7440-36-0 <60.0 60.0 Antimony ug/L 1 ug/L Arsenic 10.0 06/14/19 09:04 06/24/19 19:03 7440-38-2 11.5 1 200 Barium 230 06/14/19 09:04 06/24/19 19:03 7440-39-3 ug/L 1 Beryllium <5.0 ug/L 5.0 1 06/14/19 09:04 06/24/19 19:03 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:03 7440-43-9 57000 Calcium ug/L 200 1 06/14/19 09:04 06/24/19 19:03 7440-70-2 Chromium 5.3J ug/L 10.0 06/14/19 09:04 06/24/19 19:03 7440-47-3 1 Cobalt 7.5J ug/L 50.0 1 06/14/19 09:04 06/24/19 19:03 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 19:03 7440-50-8 Iron 21200 ug/L 20.0 06/14/19 09:04 06/24/19 19:03 7439-89-6 1 Lead <5.0 5.0 06/14/19 09:04 06/24/19 19:03 7439-92-1 ug/L 1 9180 200 06/14/19 09:04 06/24/19 19:03 7439-95-4 Magnesium ug/L 1 578 Manganese 10.0 06/14/19 09:04 06/24/19 19:03 7439-96-5 ug/L 1 Nickel 3.3J 40.0 06/14/19 09:04 06/24/19 19:03 7440-02-0 ug/L 1 22900 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:03 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:03 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:03 7440-22-4 Sodium 141000 5000 06/14/19 09:04 06/24/19 19:03 7440-23-5 ug/L 1 Thallium <10.0 10.0 ug/L 1 06/14/19 09:04 06/24/19 19:03 7440-28-0 Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:03 7440-62-2 Zinc 15.5J ug/L 20.0 06/14/19 09:04 06/24/19 19:03 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:40 7439-97-6 Mercury Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 16.2 0.25 06/18/19 11:20 06/21/19 22:17 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 46 %. 30-125 1 06/18/19 11:20 06/21/19 22:17 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 144 NTU 10.0 10 06/12/19 15:12 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 372 1.0 1 06/22/19 04:03 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 100 mg/L 5.0 1 06/24/19 17:50 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 6.0J 10.0 06/17/19 10:36 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 123 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-15D	Lab ID: 7093	3107006	Collected: 06/11/1	9 15:10	Received: 06	6/11/19 15:56 N	latrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	/lethod:	SM22 5210B					
BOD, 5 day	19.9	mg/L	4.0	2	06/13/19 10:33	06/18/19 11:01				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide Chloride Sulfate	3.0 177 <5.0	mg/L mg/L mg/L	0.50 10.0 5.0	1 5 1		06/27/19 20:45 06/27/19 21:01 06/27/19 20:45	16887-00-6			
351.2 Total Kjeldahl Nitrogen	Analytical Meth	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	25.8	mg/L	1.0	10	06/25/19 13:02	06/26/19 08:39	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 38	53.2							
Nitrate as N Nitrate-Nitrite (as N)	0.044J 0.044J	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:52 06/11/19 22:52				
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 38	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:57	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	22.0	mg/L	1.0	10		06/25/19 16:21	7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	33.6	mg/L	1.0	1		06/18/19 18:22	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-16D Lab ID: 7093107007 Collected: 06/11/19 14:50 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 338 ug/L 200 1 06/14/19 09:04 06/24/19 19:08 7429-90-5 06/14/19 09:04 06/24/19 19:08 7440-36-0 <60.0 60.0 Antimony ug/L 1 <10.0 Arsenic ug/L 10.0 06/14/19 09:04 06/24/19 19:08 7440-38-2 1 200 Barium 79.9J 06/14/19 09:04 06/24/19 19:08 7440-39-3 ug/L 1 Beryllium <5.0 ug/L 5.0 1 06/14/19 09:04 06/24/19 19:08 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:08 7440-43-9 Calcium 18000 ug/L 200 1 06/14/19 09:04 06/24/19 19:08 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:08 7440-47-3 1 Cobalt 26.8J ug/L 50.0 1 06/14/19 09:04 06/24/19 19:08 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 19:08 7440-50-8 Iron 24100 ug/L 20.0 06/14/19 09:04 06/24/19 19:08 7439-89-6 1 Lead 4.1J 5.0 06/14/19 09:04 06/24/19 19:08 7439-92-1 ug/L 1 3070 200 06/14/19 09:04 06/24/19 19:08 7439-95-4 Magnesium ug/L 1 Manganese 4690 10.0 ug/L 06/14/19 09:04 06/24/19 19:08 7439-96-5 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 19:08 7440-02-0 ug/L 1 4490J 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:08 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:08 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:08 7440-22-4 Sodium 15900 5000 06/14/19 09:04 06/24/19 19:08 7440-23-5 ug/L 1 Thallium 10.0 6.4J ug/L 1 06/14/19 09:04 06/24/19 19:08 7440-28-0 В Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:08 7440-62-2 Zinc 126 ug/L 20.0 06/14/19 09:04 06/24/19 19:08 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:41 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.087J 0.25 06/18/19 11:20 06/21/19 21:57 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 48 %. 30-125 1 06/18/19 11:20 06/21/19 21:57 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 18.4 NTU 2.0 2 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 44.6 1.0 1 06/24/19 12:18 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 60.0 mg/L 5.0 1 06/26/19 12:10 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 259 10.0 06/17/19 10:50 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 52.1 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:40 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-16D	Lab ID: 7093	107007	Collected: 06/11/1	9 14:50	Received: 06	6/11/19 15:56 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B			
BOD, 5 day	5.6	mg/L	2.0	1	06/13/19 10:33	06/18/19 11:04		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide Chloride Sulfate	0.83 35.4 22.6	mg/L mg/L mg/L	0.50 2.0 5.0	1 1 1		06/27/19 21:18 06/27/19 21:18 06/27/19 21:18	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 3	51.2 Preparation Met	hod: EP	A 351.2			
Nitrogen, Kjeldahl, Total	2.1	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:07	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2					
Nitrate as N Nitrate-Nitrite (as N)	0.046J 0.046J	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:53 06/11/19 22:53		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 20:59	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	0.37	mg/L	0.10	1		06/25/19 14:34	7664-41-7	
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	12.5	mg/L	1.0	1		06/18/19 19:05	7440-44-0	



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-17D Lab ID: 7093107008 Collected: 06/11/19 14:35 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum <200 ug/L 200 1 06/14/19 09:04 06/24/19 19:14 7429-90-5 06/14/19 09:04 06/24/19 19:14 7440-36-0 <60.0 60.0 Antimony ug/L 1 <10.0 Arsenic ug/L 10.0 06/14/19 09:04 06/24/19 19:14 7440-38-2 1 200 Barium 25.6J 06/14/19 09:04 06/24/19 19:14 7440-39-3 ug/L 1 Beryllium <5.0 ug/L 5.0 1 06/14/19 09:04 06/24/19 19:14 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:14 7440-43-9 Calcium 12100 ug/L 200 1 06/14/19 09:04 06/24/19 19:14 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:14 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:14 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 19:14 7440-50-8 Iron 249 ug/L 20.0 06/14/19 09:04 06/24/19 19:14 7439-89-6 1 Lead 3.1J 5.0 06/14/19 09:04 06/24/19 19:14 7439-92-1 ug/L 1 6440 200 06/14/19 09:04 06/24/19 19:14 7439-95-4 Magnesium ug/L 1 Manganese 26.5 10.0 06/14/19 09:04 06/24/19 19:14 7439-96-5 ug/L 1 Nickel <40.0 40.0 06/14/19 09:04 06/24/19 19:14 7440-02-0 ug/L 1 <5000 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:14 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:14 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:14 7440-22-4 Sodium 11500 5000 06/14/19 09:04 06/24/19 19:14 7440-23-5 ug/L 1 Thallium 10.0 4.1J ug/L 1 06/14/19 09:04 06/24/19 19:14 7440-28-0 В Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:14 7440-62-2 Zinc 18.9J ug/L 20.0 06/14/19 09:04 06/24/19 19:14 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:43 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.077J 0.25 06/18/19 11:20 06/21/19 21:38 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 49 %. 30-125 1 06/18/19 11:20 06/21/19 21:38 180.1 Turbidity Analytical Method: EPA 180.1 1.2 Turbidity NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 26.7 1 06/24/19 12:39 mg/L 1.0 Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 40.0 mg/L 5.0 1 06/24/19 17:22 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 118 10.0 06/17/19 10:50 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 30.0 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:41 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

	L . L ID 700	107000	0-11	0.4.4.05	Descional 00		A - (			
Sample: GM-17D	Lab ID: 7093	3107008	Collected: 06/11/1	9 14:35	5 Received: 06	o/11/19 15:56 ľ	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	/lethod:	SM22 5210B					
BOD, 5 day	1.0J	mg/L	2.0	1	06/13/19 10:33	06/18/19 11:06				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide	1.1	mg/L	0.50	1		06/27/19 21:35	24959-67-9			
Chloride	23.7	mg/L	2.0	1		06/27/19 21:35	16887-00-6			
Sulfate	36.2	mg/L	5.0	1		06/27/19 21:35	14808-79-8			
351.2 Total Kjeldahl Nitrogen	Analytical Meth	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	1.7	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:08	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2							
Nitrate as N	0.028J	mg/L	0.050	1		06/11/19 22:54	14797-55-8			
Nitrate-Nitrite (as N)	<0.050	mg/L	0.050	1		06/11/19 22:54	7727-37-9			
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 21:00	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	0.87	mg/L	0.10	1		06/25/19 14:35	7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	10	mg/L	1.0	1		06/18/19 19:21	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-18D Lab ID: 7093107009 Collected: 06/11/19 14:10 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 137J ug/L 200 1 06/14/19 09:04 06/24/19 19:30 7429-90-5 06/14/19 09:04 06/24/19 19:30 7440-36-0 <60.0 60.0 Antimony ug/L 1 Arsenic <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:30 7440-38-2 1 200 Barium 136J 06/14/19 09:04 06/24/19 19:30 7440-39-3 ug/L 1 Beryllium <5.0 ug/L 5.0 1 06/14/19 09:04 06/24/19 19:30 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:30 7440-43-9 Calcium 52400 ug/L 200 1 06/14/19 09:04 06/24/19 19:30 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:30 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:30 7440-48-4 25.0 Copper 12.7J ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-50-8 Iron 213 ug/L 20.0 06/14/19 09:04 06/24/19 19:30 7439-89-6 1 Lead <5.0 5.0 06/14/19 09:04 06/24/19 19:30 7439-92-1 ug/L 1 06/14/19 09:04 06/24/19 19:30 7439-95-4 4670 200 Magnesium ug/L 1 3350 06/14/19 09:04 06/24/19 19:30 7439-96-5 Manganese 10.0 ug/L 1 <40.0 Nickel 40.0 06/14/19 09:04 06/24/19 19:30 7440-02-0 ug/L 1 25400 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:30 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:30 7440-22-4 Sodium 67300 5000 06/14/19 09:04 06/24/19 19:30 7440-23-5 ug/L 1 Thallium 9.1J 10.0 ug/L 1 06/14/19 09:04 06/24/19 19:30 7440-28-0 В Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:30 7440-62-2 Zinc 37.9 ug/L 20.0 06/14/19 09:04 06/24/19 19:30 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 0.20 1 06/21/19 10:50 06/21/19 18:49 7439-97-6 Mercury ug/L Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.15J 0.25 06/18/19 11:20 06/21/19 21:18 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 46 %. 30-125 1 06/18/19 11:20 06/21/19 21:18 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 1.6 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 136 1.0 1 06/24/19 12:48 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 140 mg/L 5.0 1 06/24/19 17:51 Analytical Method: SM22 2540C 2540C Total Dissolved Solids **Total Dissolved Solids** 408 20.0 06/17/19 10:52 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 Chemical Oxygen Demand 16.8 10.0 06/19/19 09:15 06/19/19 11:42 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-18D	Lab ID: 7093	3107009	Collected: 06/11/1	9 14:10	Received: 06	6/11/19 15:56 N	Aatrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	/lethod:	SM22 5210B					
BOD, 5 day	5.8	mg/L	2.0	1	06/13/19 10:33	06/18/19 11:09				
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0							
Bromide Chloride Sulfate	1.1 172 10.3	mg/L mg/L mg/L	0.50 10.0 5.0	1 5 1		06/27/19 22:25 06/27/19 22:42 06/27/19 22:25	16887-00-6			
351.2 Total Kjeldahl Nitrogen	Analytical Meth	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	3.1	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:09	7727-37-9			
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2							
Nitrate as N Nitrate-Nitrite (as N)	0.032J <0.050	mg/L mg/L	0.050 0.050	1 1		06/11/19 22:55 06/11/19 22:55				
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2							
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 21:01	14797-65-0			
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H							
Nitrogen, Ammonia	2.5	mg/L	0.10	1		06/25/19 14:36	7664-41-7			
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B							
Total Organic Carbon	4.0	mg/L	1.0	1		06/18/19 19:37	7440-44-0			



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-19D Lab ID: 7093107010 Collected: 06/11/19 13:40 Received: 06/11/19 15:56 Matrix: Water Parameters Results Units Report Limit DF Prepared Analyzed CAS No. Qual **6010 MET ICP** Analytical Method: EPA 6010C Preparation Method: EPA 3005A Aluminum 220 ug/L 200 1 06/14/19 09:04 06/24/19 19:35 7429-90-5 06/14/19 09:04 06/24/19 19:35 7440-36-0 <60.0 60.0 Antimony ug/L 1 <10.0 Arsenic ug/L 10.0 06/14/19 09:04 06/24/19 19:35 7440-38-2 1 200 Barium 76.1J 06/14/19 09:04 06/24/19 19:35 7440-39-3 ug/L 1 <5.0 Beryllium ug/L 5.0 1 06/14/19 09:04 06/24/19 19:35 7440-41-7 Cadmium <2.5 ug/L 2.5 1 06/14/19 09:04 06/24/19 19:35 7440-43-9 30100 Calcium ug/L 200 1 06/14/19 09:04 06/24/19 19:35 7440-70-2 Chromium <10.0 ug/L 10.0 06/14/19 09:04 06/24/19 19:35 7440-47-3 1 Cobalt <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:35 7440-48-4 25.0 Copper <25.0 ug/L 1 06/14/19 09:04 06/24/19 19:35 7440-50-8 Iron 248 ug/L 20.0 06/14/19 09:04 06/24/19 19:35 7439-89-6 1 Lead <5.0 5.0 06/14/19 09:04 06/24/19 19:35 7439-92-1 ug/L 1 06/14/19 09:04 06/24/19 19:35 7439-95-4 4490 200 Magnesium ug/L 1 06/14/19 09:04 06/24/19 19:35 7439-96-5 Manganese 12.5 10.0 ug/L 1 Nickel <40.0 40.0 06/14/19 09:04 06/24/19 19:35 7440-02-0 ug/L 1 5370 5000 Potassium ug/L 1 06/14/19 09:04 06/24/19 19:35 7440-09-7 Selenium <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:35 7782-49-2 Silver <10.0 ug/L 10.0 1 06/14/19 09:04 06/24/19 19:35 7440-22-4 Sodium 32600 5000 06/14/19 09:04 06/24/19 19:35 7440-23-5 ug/L 1 Thallium 3.9J 10.0 ug/L 1 06/14/19 09:04 06/24/19 19:35 7440-28-0 В Vanadium <50.0 ug/L 50.0 1 06/14/19 09:04 06/24/19 19:35 7440-62-2 Zinc 13.0J ug/L 20.0 06/14/19 09:04 06/24/19 19:35 7440-66-6 1 7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A <0.20 ug/L 0.20 1 06/21/19 10:50 06/21/19 18:51 7439-97-6 Mercury Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510 8270D MSSV 14 Dioxane By SIM 0.16J 0.25 06/18/19 11:20 06/21/19 20:59 123-91-1 1,4-Dioxane (SIM) ug/L 1 Surrogates 1,4-Dioxane-d8 (S) 42 %. 30-125 1 06/18/19 11:20 06/21/19 20:59 180.1 Turbidity Analytical Method: EPA 180.1 Turbidity 2.0 NTU 1.0 1 06/12/19 15:11 Analytical Method: SM22 2320B 2320B Alkalinity Alkalinity, Total as CaCO3 6.2 1.0 1 06/24/19 12:52 mg/L Analytical Method: SM22 2340C 2340C Hardness, Total Tot Hardness asCaCO3 (SM 2340B 80.0 mg/L 5.0 1 06/24/19 17:51 2540C Total Dissolved Solids Analytical Method: SM22 2540C **Total Dissolved Solids** 324 10.0 06/17/19 11:03 mg/L 1 410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 12.4 Chemical Oxygen Demand 10.0 06/19/19 09:15 06/19/19 11:42 mg/L 1

## **REPORT OF LABORATORY ANALYSIS**



#### Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Sample: GM-19D	Lab ID: 7093	3107010	Collected: 06/11/1	9 13:40	0 Received: 06	6/11/19 15:56 M	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Meth	od: SM22	5210B Preparation N	lethod:	SM22 5210B			
BOD, 5 day	1.7J	mg/L	2.0	1	06/13/19 10:33	06/18/19 11:11		
300.0 IC Anions 28 Days	Analytical Meth	od: EPA 30	0.0					
Bromide Chloride Sulfate	1.3 107 26.9	mg/L mg/L mg/L	0.50 10.0 5.0	1 5 1		06/27/19 22:58 06/27/19 23:15 06/27/19 22:58	16887-00-6	
351.2 Total Kjeldahl Nitrogen	Analytical Meth	od: EPA 3	51.2 Preparation Met	hod: El	PA 351.2			
Nitrogen, Kjeldahl, Total	0.91	mg/L	0.10	1	06/25/19 13:02	06/26/19 08:10	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Meth	od: EPA 3	53.2					
Nitrate as N Nitrate-Nitrite (as N)	3.2 3.2	mg/L mg/L	0.50 0.50	10 10		06/11/19 22:56 06/11/19 22:56		
353.2 Nitrogen, NO2	Analytical Meth	od: EPA 3	53.2					
Nitrite as N	<0.050	mg/L	0.050	1		06/11/19 21:02	14797-65-0	
4500 Ammonia Water	Analytical Meth	od: SM22	4500 NH3 H					
Nitrogen, Ammonia	0.065J	mg/L	0.10	1		06/25/19 14:37	7664-41-7	В
5310B TOC as NPOC	Analytical Meth	od: SM22	5310B					
Total Organic Carbon	2.6	mg/L	1.0	1		06/18/19 19:52	7440-44-0	



Project: Pace Project No.:	GMP WELL ROU 7093107	TINE 360+TAL ME	TAL					
QC Batch:	118862		Analysis Meth	od: E	PA 7470A			
QC Batch Method:	EPA 7470A		Analysis Desc	Analysis Description: 7470 Mercury				
Associated Lab San		001, 7093107002, 7 009, 7093107010	7093107003, 70931	07004, 70931	07005, 709310	7006, 7093107	007, 7093107008,	
METHOD BLANK:	564845		Matrix:	Water				
Associated Lab San		001, 7093107002, 7 009, 7093107010	7093107003, 70931	07004, 70931	07005, 709310	7006, 7093107	007, 7093107008,	
			Blank	Reporting				
Paran	neter	Units	Result	Limit	Analyzed	Qualifie	ers	
Mercury		ug/L	<0.20	0.20	06/21/19 18:	28		
LABORATORY CON	ITROL SAMPLE:	564846						
Paran	neter	Units	•	.CS esult	LCS % Rec	% Rec Limits	Qualifiers	
Mercury		ug/L	1	1.0	101	80-120		
MATRIX SPIKE SAM	MPLE:	564847						
Paran	neter	Units	7093441002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury		ug/L	<0.20	- <u> </u>	0.81	78	75-125	
SAMPLE DUPLICA	ГЕ: 564848							
Paran	neter	Units	7093441002 Result	Dup Result	RPD	Qualifiers		
Mercury		ug/L		<0.20				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	GMP V	WELL ROUTINE 360+TAL ME	TAL				
Pace Project No.:	709310	07					
QC Batch:	11782	23	Analysis Meth	nod: EF	PA 6010C		
QC Batch Method:	EPA :	3005A	Analysis Desc	cription: 60	10 MET Water		
Associated Lab San	nples:	7093107001, 7093107002, 7 7093107009, 7093107010	7093107003, 70931	107004, 709310	7005, 7093107006	i, 7093107007, 7093	107008,
METHOD BLANK:	558052	2	Matrix:	Water			
Associated Lab San	nples:	7093107001, 7093107002, 7 7093107009, 7093107010	7093107003, 70931	107004, 709310	7005, 7093107006	s, 7093107007, 7093	107008,
			Blank	Reporting			
Paran	neter	Units	Result	Limit	Analyzed	Qualifiers	
Aluminum		ug/L	<200	200	06/24/19 18:25		
Antimony		ug/L	<60.0	60.0	06/24/19 18:25		
Arsenic		ug/L	<10.0	10.0	06/24/19 18:25		
Barium		ug/L	<200	200	06/24/19 18:25		
Beryllium		ug/L	<5.0	5.0	06/24/19 18:25		
Cadmium		ug/L	<2.5	2.5	06/24/19 18:25		
Calcium		ug/L	<200	200	06/24/19 18:25		
Chromium		ug/L	<10.0	10.0	06/24/19 18:25		
Cobalt		ug/L	<50.0	50.0	06/24/19 18:25		
Copper		ug/L	<25.0	25.0	06/24/19 18:25		
Iron		ug/L	<20.0	20.0	06/24/19 18:25		
Lead		ug/L	<5.0	5.0	06/24/19 18:25		
Magnesium		ug/L	<200	200	06/24/19 18:25		
Manganese		ug/L	<10.0	10.0	06/24/19 18:25		
Nickel		ug/L	<40.0	40.0	06/24/19 18:25		
Potassium		ug/L	<5000	5000	06/24/19 18:25		
Selenium		ug/L	<10.0	10.0	06/24/19 18:25		
Silver		ug/L	<10.0	10.0	06/24/19 18:25		
Sodium		ug/L	<5000	5000	06/24/19 18:25		
Thallium		ug/L	5.3J	10.0	06/24/19 18:25		
Vanadium		ug/L	<50.0	50.0	06/24/19 18:25		
Zinc		ug/L	<20.0	20.0	06/24/19 18:25		

#### LABORATORY CONTROL SAMPLE: 558053

<b>-</b> .		Spike	LCS	LCS	% Rec	o ""
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Aluminum	ug/L	5000	5030	101	80-120	
Antimony	ug/L	750	780	104	80-120	
Arsenic	ug/L	500	508	102	80-120	
Barium	ug/L	500	519	104	80-120	
Beryllium	ug/L	50	53.0	106	80-120	
Cadmium	ug/L	50	52.2	104	80-120	
Calcium	ug/L	25000	26400	106	80-120	
Chromium	ug/L	250	261	105	80-120	
Cobalt	ug/L	500	526	105	80-120	
Copper	ug/L	250	264	106	80-120	
Iron	ug/L	2000	2090	104	80-120	
Lead	ug/L	500	523	105	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### LABORATORY CONTROL SAMPLE: 558053

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Magnesium	ug/L	25000	26100	104	80-120	
Manganese	ug/L	250	260	104	80-120	
lickel	ug/L	250	264	106	80-120	
otassium	ug/L	50000	50700	101	80-120	
Selenium	ug/L	750	765	102	80-120	
ilver	ug/L	250	252	101	80-120	
odium	ug/L	50000	51500	103	80-120	
nallium	ug/L	750	776	103	80-120	
anadium	ug/L	500	516	103	80-120	
inc	ug/L	1000	1040	104	80-120	

MATRIX SPIKE SAMPLE:

558055

MATRIX OF IRE SAME EE.	330033	7093379002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Aluminum	ug/L	<200	5000	4910	98	75-125	
Antimony	ug/L	<60.0	750	760	101	75-125	
Arsenic	ug/L	<10.0	500	499	100	75-125	
Barium	ug/L	<200	500	526	100	75-125	
Beryllium	ug/L	<5.0	50	51.8	104	75-125	
Cadmium	ug/L	<2.5	50	50.6	101	75-125	
Calcium	ug/L	77200	25000	102000	99	75-125	
Chromium	ug/L	16.1	250	265	99	75-125	
Cobalt	ug/L	<50.0	500	497	99	75-125	
Copper	ug/L	<25.0	250	252	99	75-125	
Iron	ug/L	299	2000	2320	101	75-125	
Lead	ug/L	<5.0	500	515	102	75-125	
Magnesium	ug/L	17100	25000	42400	101	75-125	
Vanganese	ug/L	28.5	250	261	93	75-125	
Nickel	ug/L	46.9	250	294	99	75-125	
Potassium	ug/L	<5000	50000	51600	94	75-125	
Selenium	ug/L	<10.0	750	760	101	75-125	
Silver	ug/L	<10.0	250	242	97	75-125	
Sodium	ug/L	6640	50000	55400	98	75-125	
Thallium	ug/L	<10.0	750	762	102	75-125	
Vanadium	ug/L	<50.0	500	496	99	75-125	
Zinc	ug/L	<20.0	1000	1010	100	75-125	

#### SAMPLE DUPLICATE: 558054

		7093379002	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Aluminum	ug/L	<200	<200		
Antimony	ug/L	<60.0	<60.0		
Arsenic	ug/L	<10.0	<10.0		
Barium	ug/L	<200	25.3J		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

SAMPLE	DUPLICATE:	558054
SAIVIFLE	DUFLICATE.	556054

		7093379002	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Beryllium	ug/L		<5.0		
Cadmium	ug/L	<2.5	<2.5		
Calcium	ug/L	77200	81700	6	
Chromium	ug/L	16.1	17.7	9	
Cobalt	ug/L	<50.0	<50.0		
Copper	ug/L	<25.0	<25.0		
Iron	ug/L	299	351	16	
Lead	ug/L	<5.0	2.7J		
Magnesium	ug/L	17100	18200	6	
Manganese	ug/L	28.5	8.0J		
Nickel	ug/L	46.9	49.4	5	
Potassium	ug/L	<5000	4840J		
Selenium	ug/L	<10.0	<10.0		
Silver	ug/L	<10.0	<10.0		
Sodium	ug/L	6640	6860	3	
Thallium	ug/L	<10.0	<10.0		
Vanadium	ug/L	<50.0	<50.0		
Zinc	ug/L	<20.0	<20.0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



-,	MP WELL ROU <sup>-</sup> 93107	TINE 360+TAL MET	AL								
QC Batch: 6	613702		Analys	is Method:	EF	PA 8270[	D by SIM				
QC Batch Method:	EPA 3510		Analys	is Descripti	on: 82	70D Wa	ter 14 Die	oxane by S	IM		
Associated Lab Sample		01, 7093107002, 70 09, 7093107010	093107003	70931070	04, 709310	7005, 7	0931070	06, 709310	7007, 7093	107008,	
METHOD BLANK: 33	315787		Ν	latrix: Wate	er						
Associated Lab Sample		01, 7093107002, 70 09, 7093107010	093107003	, 70931070	04, 709310	7005, 7	0931070	06, 709310	7007, 7093	107008,	
			Blank	Re	porting						
Paramete	er	Units	Result	t	Limit	Ana	lyzed	Qualif	iers		
1,4-Dioxane (SIM)		ug/L	<	:0.25	0.25	06/21/	19 12:29				
1,4-Dioxane-d8 (S)		%.		42	30-125	06/21/	19 12:29				
LABORATORY CONTR	ROL SAMPLE &	LCSD: 3315788		3;	315789						
			Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Paramete	ər	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,4-Dioxane (SIM)		ug/L	10	4.6	9.0	46	90	40-125	65	20	R1
1,4-Dioxane-d8 (S)		%.				44	46	30-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:			IE 360+TAL ME	TAL				
Pace Project No.:	709310	)7						
QC Batch:	1174	21		Analysis N	lethod:	EPA 180.1		
QC Batch Method:	EPA	180.1		Analysis D	escription:	180.1 Turbidity		
Associated Lab Sa	mples:		, 7093107002, 7 , 7093107010	7093107003, 70	93107004, 709	3107005, 70931	07006, 709310	7007, 7093107008,
METHOD BLANK:	556069	)		Matri	ix: Water			
Associated Lab Sa	mples:		, 7093107002, 7 , 7093107010	7093107003, 70	93107004, 709	93107005, 70931	07006, 709310	7007, 7093107008,
				Blank	Reporting	I		
Para	meter		Units	Result	Limit	Analyze	d Qualif	iers
Turbidity			NTU	<1.	0	1.0 06/12/19 1	5:09	
LABORATORY CO	NTROL	SAMPLE: 5	56070					
				Spike	LCS	LCS	% Rec	
Para	meter		Units	Conc.	Result	% Rec	Limits	Qualifiers
Turbidity			NTU	10	10.1	101	90-110	
SAMPLE DUPLICA	TE: 55	6071						
				7093035001	Dup			
Para	meter		Units	Result	Result	RPD	Qualifiers	3
Turbidity			NTU	<1.	0	1.0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	GMP WELL ROU	TINE 360+TAL ME	ETAL					
Pace Project No .:	7093107							
QC Batch:	118942		Analysis Me	ethod:	SM22 2320B			
QC Batch Method:	SM22 2320B		Analysis De	scription:	2320B Alkalinity			
Associated Lab Sar	nples: 7093107	001, 7093107002,	7093107003, 7093	3107004, 7093	107005, 709310	07006		
METHOD BLANK:	565421		Matrix	: Water				
Associated Lab Sar	nples: 7093107	001, 7093107002,	7093107003, 7093	3107004, 7093	107005, 709310	7006		
			Blank	Reporting				
Paran	neter	Units	Result	Limit	Analyzed	Qualifie	ers	
Alkalinity, Total as C	CaCO3	mg/L	<1.0	1.	0 06/21/19 23:	:40		
LABORATORY CO	NTROL SAMPLE:	565422						
			Spike	LCS	LCS	% Rec		
Paran	neter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Alkalinity, Total as C	CaCO3	mg/L	25	26.2	105	85-115		
MATRIX SPIKE SAI	MPLE:	565424	7000454047	0			04 D	
Paran	neter	Units	7092454017 Result	' Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as C		mg/L		6.5 25	44.9			Quanners
Aikainiity, Totai as C	accos	ing/∟		0.0 20	44.5	11-	- 15-125	
SAMPLE DUPLICA	TE: 565423							
			7092454017	Dup				
Parar	neter	Units	Result	Result	RPD	Qualifiers		
Alkalinity, Total as C	- 000	mg/L	16.5	16.	6	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP WEL	L ROUTINE 360+TAL ME	ETAL					
Pace Project No.: 7093107							
QC Batch: 119110		Analysis Met	hod: S	SM22 2320B			
QC Batch Method: SM22 232	20B	Analysis Des	scription: 2	320B Alkalinity			
Associated Lab Samples: 70	93107007, 7093107008,	7093107009, 7093	107010				
METHOD BLANK: 566023		Matrix:	Water				
Associated Lab Samples: 70	93107007, 7093107008,	7093107009, 7093	107010				
		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifi	ers	
Alkalinity, Total as CaCO3	mg/L	<1.0	1.0	0 06/24/19 11:	:56		
LABORATORY CONTROL SAM	IPLE: 566024						
Parameter	Units		LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Alkalinity, Total as CaCO3	mg/L	25	26.1	104	85-115		
MATRIX SPIKE SAMPLE:	566025						
		7093107007	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	44	.6 25	71.3	107	7 75-125	
SAMPLE DUPLICATE: 56602	6						
		7093107007	Dup				
Parameter	Units	Result	Result	RPD	Qualifiers		
Alkalinity, Total as CaCO3	mg/L	44.6	45.7	7	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	GMP WELL ROU	TINE 360+TAL ME	ETAL					
Pace Project No.:	7093107							
QC Batch:	119111		Analysis Met	thod:	SM22 2340C			
QC Batch Method:	SM22 2340C		Analysis Des	scription: 2	340C Hardness	s, Total		
Associated Lab Sar	nples: 70931070	001, 7093107002,	7093107005, 7093	3107006, 7093 <sup>.</sup>	107008, 709310	7009, 7093107	010	
METHOD BLANK:	566027		Matrix:	Water				
Associated Lab Sar	mples: 70931070	001, 7093107002,	7093107005, 7093	3107006, 7093 <sup>-</sup>	107008, 709310	7009, 7093107	010	
			Blank	Reporting				
Parar	neter	Units	Result	Limit	Analyzed	Qualifie	ers	
Tot Hardness asCa	CO3 (SM 2340B	mg/L	<5.0	5.0	0 06/24/19 13:	46		
LABORATORY CO	NTROL SAMPLE:	566028						
_				LCS	LCS	% Rec	0	
Parar	neter	Units	Conc. F	Result	% Rec	Limits	Qualifiers	
Tot Hardness asCa	CO3 (SM 2340B	mg/L	100	99.0	99	90-110		
MATRIX SPIKE SA	MPLE:	566415						
			7093107008	Spike	MS	MS	% Rec	
Parar	neter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Tot Hardness asCa	CO3 (SM 2340B	mg/L	40	0.0 667	700	99	75-125	
SAMPLE DUPLICA	TE: 566416							
			7093107008	Dup				
Parar	neter	Units	Result	Result	RPD	Qualifiers		
Tot Hardness asCa	CO2 (CM 2240D	mg/L	40.0	33.3	3 1	8		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



- <b>)</b>	JTINE 360+TAL ME	TAL					
Pace Project No.: 7093107 QC Batch: 119500		Analysis Met	hod: S	SM22 2340C			
QC Batch Method: SM22 2340C		Analysis Des		2340C Hardness	Total		
		-		540C Harunes	s, Total		
Associated Lab Samples: 7093107	003, 7093107004, 7	/09310/00/					
METHOD BLANK: 567889		Matrix:	Water				
Associated Lab Samples: 7093107	003, 7093107004, 7	7093107007					
		Blank	Reporting				
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	<5.0	5.0	0 06/26/19 12:	.05		
LABORATORY CONTROL SAMPLE:	567890						
		Spike	LCS	LCS	% Rec		
Parameter	Units	Conc. F	Result	% Rec	Limits	Qualifiers	
Tot Hardness asCaCO3 (SM 2340B	mg/L	100	99.0	99	90-110		
MATRIX SPIKE SAMPLE:	567891						
		7093107003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Tot Hardness asCaCO3 (SM 2340B	mg/L	80	.0 2000	2060	99	75-125	
SAMPLE DUPLICATE: 567892							
		7093107003	Dup	555	0 11		
Parameter	Units	Result	Result	RPD	Qualifiers		
Tot Hardness asCaCO3 (SM 2340B	mg/L	80.0	80.0	)	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP WELL F Pace Project No.: 7093107	ROUTINE 360+TAL ME	IAL					
QC Batch: 118003		Analysis Metho	od: S	M22 2540C			
QC Batch Method: SM22 2540	С	Analysis Descr	ription: 2	540C Total Diss	olved Solids		
Associated Lab Samples: 7093	107001, 7093107002,	7093107003, 709310	07004, 70931	07005, 709310	7006, 7093107	007, 7093107008	
METHOD BLANK: 559701		Matrix: V	Vater				
Associated Lab Samples: 7093	107001, 7093107002, 7	7093107003, 709310 Blank	07004, 70931 Reporting	07005, 709310	7006, 7093107	007, 7093107008	
Parameter	Units	Result	Limit	Analyzed	Qualifie	ers	
Total Dissolved Solids	mg/L	<10.0	10.0	06/17/19 09:	42		
LABORATORY CONTROL SAMP	LE: 559702						
Devenuetor	Linita		CS	LCS	% Rec	Qualifiana	
Parameter	Units		esult	% Rec	Limits	Qualifiers	
Total Dissolved Solids	mg/L	500	568	114	85-115		
MATRIX SPIKE SAMPLE:	559704						
		7092927006	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	596	600	1130	89	75-125	
MATRIX SPIKE SAMPLE:	559706						
		7092454017	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	211	300	490	93	3 75-125	
SAMPLE DUPLICATE: 559703							
Parameter	Units	7092927006 Result	Dup Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	596	602		1		
SAMPLE DUPLICATE: 559705							
_		7092454017	Dup	_	_		
Parameter	Units	Result	Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	211	223	3	6		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Project: GMP WELL RO Pace Project No.: 7093107	UTINE 360+TAL MET	TAL					
QC Batch: 118004		Analysis Method:		M22 2540C			
QC Batch Method: SM22 2540C		Analysis Desci	ription: 2	540C Total Diss	solved Solids		
Associated Lab Samples: 7093107009, 7093107010							
METHOD BLANK: 559707		Matrix: V	Vater				
Associated Lab Samples: 709310	7009, 7093107010						
Devenuerten	L la ita	Blank	Reporting	A reach un e d	Qualifia		
Parameter	Units	Result	Limit	Analyzed	Qualifier		
Total Dissolved Solids	mg/L	<10.0	10.0	) 06/17/19 10:	51		
LABORATORY CONTROL SAMPLE:	559708						
Doromotor	Units		CS	LCS % Rec	% Rec Limits	Qualifiers	
Parameter		·	esult			Quaimers	
Total Dissolved Solids	mg/L	500	540	108	85-115		
MATRIX SPIKE SAMPLE:	559710						
		7093107009	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	408	600	980	95	75-125	
MATRIX SPIKE SAMPLE:	559712						
		7093263004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Total Dissolved Solids	mg/L	162	300	454	97	75-125	
SAMPLE DUPLICATE: 559709							
Demoster	11-20-	7093107009	Dup	000			
Parameter	Units	Result	Result	RPD	Qualifiers	_	
Total Dissolved Solids	mg/L	408	480	) 10	6 D6		
SAMPLE DUPLICATE: 559711							
<b>D</b>		7093263004	Dup		o		
Parameter	Units	Result	Result	RPD	Qualifiers		
Total Dissolved Solids	mg/L	162	175	5	8 D6		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



,	MP WELL ROU 093107	TINE 360+TAL ME	TAL					
			Analysis Metho Analysis Descr 7093107003, 709310	iption: 4	EPA 410.4 110.4 COD 107005, 709310	7006, 70931070	007, 7093107008,	
		009, 7093107010						
METHOD BLANK: 56 Associated Lab Sampl		001. 7093107002. 7	Matrix: V 7093107003, 709310		107005, 709310	7006, 70931070	07.7093107008.	
		009, 7093107010					,	
Paramet	er	Units	Blank Result	Reporting Limit	Analyzed	Qualifie	rs	
Chemical Oxygen Den	nand	mg/L	<10.0	10.0		37		
LABORATORY CONT	ROL SAMPLE:	562202						
Paramet	er	Units		CS sult	LCS % Rec	% Rec Limits	Qualifiers	
Chemical Oxygen Den	nand	mg/L	500	531	106	90-110		
MATRIX SPIKE SAMP	LE:	562203						
Paramet	er	Units	7093107001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Den	nand	mg/L	<10.0	1000	1010	100	90-110	
MATRIX SPIKE SAMP	LE:	562205						
Paramet	er	Units	7093260004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Den	nand	mg/L	<10.0		1050	105	90-110	
SAMPLE DUPLICATE	562204							
Paramet	er	Units	7093107001 Result	Dup Result	RPD	Qualifiers		
Chemical Oxygen Den	nand	mg/L	<10.0	<10.0	)		_	
SAMPLE DUPLICATE	: 562206							
Paramet	er	Units	7093260004 Result	Dup Result	RPD	Qualifiers		
i ulullot								

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	GMP WELL F	ROUTINE 360+TAL ME	TAL				
Pace Project No.:	7093107						
QC Batch:	117575		Analysis M	ethod:	SM22 5210B		
QC Batch Method:	SM22 5210	В	Analysis De	escription:	5210B BOD, 5	day	
Associated Lab San		107001, 7093107002, 7 107009, 7093107010	7093107003, 709	93107004, 7093	3107005, 70931	07006, 7093107	7007, 7093107008,
METHOD BLANK:	556869		Matrix	x: Water			
Associated Lab San		107001, 7093107002, 7 107009, 7093107010	093107003, 709	93107004, 7093	3107005, 70931	07006, 7093107	7007, 7093107008,
			Blank	Reporting			
Paran	neter	Units	Result	Limit	Analyze	d Qualifi	ers
BOD, 5 day		mg/L	<2.0	) 2	2.0 06/18/19 1	0:34	
LABORATORY CO	NTROL SAMP	LE: 556870					
			Spike	LCS	LCS	% Rec	
Paran	neter	Units	Conc.	Result	% Rec	Limits	Qualifiers
BOD, 5 day		mg/L	198	176	89	84.5-115.4	
SAMPLE DUPLICA	TE: 556871						
			7093221001	Dup			
Paran	neter	Units	Result	Result	RPD	Qualifiers	
		mg/L	202			7	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QC Batch:	119378		Analysis N	lethod:	EPA 300.0		
QC Batch Method:	EPA 300.0		Analysis D	escription:	300.0 IC Anior	S	
Associated Lab Sam		7001, 7093107002, 7009, 7093107010	7093107003, 70	93107004, 709	93107005, 7093	107006, 709310	7007, 7093107008,
METHOD BLANK:	567505		Matr	ix: Water			
Associated Lab Sam		7001, 7093107002, 7009, 7093107010	7093107003, 70	93107004, 709	3107005, 7093	107006, 709310	7007, 7093107008,
			Blank	Reporting	I		
Param	eter	Units	Result	Limit	Analyze	d Qualif	fiers
Bromide		mg/L	<0.5	0 0	.50 06/26/19 2	3:22	
Chloride		mg/L	<2.	.0	2.0 06/26/19 2	3:22	
Sulfate		mg/L	<5.	.0	5.0 06/26/19 2	3:22	
LABORATORY CON	TROL SAMPLE:	567506					
			Spike	LCS	LCS	% Rec	
Param	eter	Units	Conc.	Result	% Rec	Limits	Qualifiers
		mg/L	1	1.1	108	90-110	
Bromide							
Bromide Chloride		mg/L	10	10.2	102	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP Pace Project No.: 70931	WELL ROUTINE 07	360+TAL ME	TAL					
QC Batch: 1192	-		Analysis Met Analysis Des		EPA 351.2 351.2 TKN			
Associated Lab Samples:	7093107001, 7 7093107009, 7		7093107003, 7093	107004, 7093	107005, 709310	7006, 709310700	)7, 7093107008,	
METHOD BLANK: 56677	5		Matrix:	Water				
Associated Lab Samples:	7093107001, 7 7093107009, 7		7093107003, 7093		107005, 709310	7006, 709310700	07, 7093107008,	
Parameter		Units	Blank Result	Reporting Limit	Analyzed	Qualifiers	3	
Nitrogen, Kjeldahl, Total		mg/L	<0.10	0.1	0 06/26/19 07:	51		
LABORATORY CONTROL	SAMPLE: 566	776						
Parameter		Units	•	LCS Result	LCS % Rec	% Rec Limits	Qualifiers	
Nitrogen, Kjeldahl, Total		mg/L	4	4.0	99	90-110		
MATRIX SPIKE SAMPLE:	566	777						
Parameter		Units	7092926001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total		mg/L	97	.9 20	94.6	-16	90-110 I	M6
MATRIX SPIKE SAMPLE:	566	779						
Parameter		Units	7093723002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total		mg/L	4	.7 4	9.1	110	90-110	
SAMPLE DUPLICATE: 5	66778							
Parameter		Units	7092926001 Result	Dup Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total		mg/L	97.9	91.	2	7	-	
SAMPLE DUPLICATE: 5	66780							
Parameter		Units	7093723002 Result	Dup Result	RPD	Qualifiers		
Nitrogen, Kjeldahl, Total		mg/L	4.7	3.		2 D6	-	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Project: GMP W Pace Project No.: 709310	/ELL ROUTINE 360+TAL M 7	IETAL					
QC Batch: 11732 QC Batch Method: EPA 3	53.2	Analysis Metho Analysis Descr	iption: 3	PA 353.2 53.2 Nitrite, Unj			
Associated Lab Samples:	7093107001, 7093107002 7093107009, 7093107010		07004, 70931	07005, 709310	7006, 70931070	07, 7093107008,	
METHOD BLANK: 555560	I	Matrix: W	/ater				
Associated Lab Samples:	7093107001, 7093107002 7093107009, 7093107010		07004, 70931 Reporting	07005, 709310	7006, 70931070	07, 7093107008,	
Parameter	Units	Result	Limit	Analyzed	Qualifier	s	
Nitrite as N	mg/L	<0.050	0.050	06/11/19 20:	34		
LABORATORY CONTROL S	SAMPLE: 555561						
Parameter	Units		CS sult	LCS % Rec	% Rec Limits	Qualifiers	
Nitrite as N	mg/L	1	1.0	104	90-110		
MATRIX SPIKE SAMPLE:	555562						
Parameter	Units	7093101001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrite as N	mg/L	<0.050	0.5	0.55	110	90-110	
MATRIX SPIKE SAMPLE:	555564						
Parameter	Units	7093107001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrite as N	mg/L	<0.050	0.5	0.56	112	90-110	
SAMPLE DUPLICATE: 55	5563						
Parameter	Units	7093101001 Result	Dup Result	RPD	Qualifiers		
Nitrite as N	mg/L	<0.050	<0.050		_	-	
SAMPLE DUPLICATE: 55	5565						
Parameter	Units	7093107001 Result	Dup Result	RPD	Qualifiers		
Nitrite as N	mg/L	<0.050	<0.050			_	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: GMP W Pace Project No.: 709310	ELL ROUTINE 360+TAL ME	ETAL					
QC Batch: 11732 QC Batch Method: EPA 3 Associated Lab Samples:	8 53.2 7093107001, 7093107002,	Analysis Metho Analysis Descr 7093107003, 709310	iption: 3	EPA 353.2 353.2 Nitrate, Un 107005, 709310	•	07, 7093107008	,
	7093107009, 7093107010						
METHOD BLANK: 555671 Associated Lab Samples:	7093107001, 7093107002,	Matrix: V		07005 700240	7006 70021070	7002107009	
	7093107009, 7093107002, 7093107010	7093107003, 709310	07004, 7093	107005, 709310	7000, 709310700	, 1093107000	
Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers		
Nitrate-Nitrite (as N)	Onits mg/L		0.050	·			
vittate-initite (as iv)	nig/E	<0.030	0.050	00/11/19 22.2	-0		
LABORATORY CONTROL S	AMPLE: 555672						
			CS	LCS	% Rec		
Parameter	Units		sult	% Rec		Qualifiers	
Nitrate-Nitrite (as N)	mg/L	1	1.0	102	90-110		
MATRIX SPIKE SAMPLE:	555673						
		7093035001	Spike	MS	MS	% Rec	0 11
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	4.0	5	8.5	91	90-110	
MATRIX SPIKE SAMPLE:	555675						
		7093139001	Spike	MS	MS	% Rec	o ""
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Nitrate-Nitrite (as N)	mg/L	0.69	0.5	1.1	86	90-110	M1
SAMPLE DUPLICATE: 555	5674						
Parameter	Units	7093035001 Result	Dup Result	RPD	Qualifiers		
Nitrate-Nitrite (as N)	mg/L	4.0	4.(		 I	-	
SAMPLE DUPLICATE: 555	5676						
Deveryote	11-3-	7093139001	Dup	000	Quelling		
Parameter	Units		Result	RPD	Qualifiers	-	
Nitrate-Nitrite (as N)	mg/L	0.69	0.69		1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



## **QUALITY CONTROL DATA**

Project: Pace Project No.:	GMP W		E 360+TAL ME	TAL						
QC Batch:	11928			Analysis Me	ethod:	SI	M22 4500 NH3	Н		
QC Batch Method:		4500 NH3 H		Analysis De		-	500 Ammonia			
Associated Lab San	nples:	7093107001,	7093107002, 3 7093107010	7093107003, 709	•	-		7006, 709310	7007, 709310	7008,
METHOD BLANK:	566889			Matrix	: Water					
Associated Lab San			7093107002, 1 7093107010	7093107003, 709	3107004, 70	9310	07005, 709310	7006, 709310	7007, 709310	7008,
				Blank	Reportir	g				
Paran	neter		Units	Result	Limit		Analyzed	Qualif	iers	
Nitrogen, Ammonia			mg/L	0.036J		0.10	06/25/19 14:	09		
LABORATORY CON	NTROL S	AMPLE: 56	6890							
Paran	neter		Units	Spike Conc.	LCS Result	c	LCS % Rec	% Rec Limits	Qualifiers	
Nitrogen, Ammonia			mg/L	1	1.0		101	90-110		-
MATRIX SPIKE SAI	MPLE:	56	6891							
				7093468002	I Spike		MS	MS	% Rec	
Paran	neter		Units	Result	Conc.		Result	% Rec	Limits	Qualifiers
Nitrogen, Ammonia			mg/L	2	2.4	10	29.0	6	7 75-	125 M6
SAMPLE DUPLICA	TE: 566	892								
-				7093468001	Dup			<b>0</b> 117		
Paran	neter		Units	Result	Result		RPD	Qualifiers	S	
Nitrogen, Ammonia			mg/L	22.4		17.7	2	3 D6		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



## **QUALITY CONTROL DATA**

Project: Pace Project No.:	GMP W 709310		INE 360+TAL ME	TAL						
QC Batch:	11815	54		Analysis M	ethod:	S	M22 5310B			
QC Batch Method:	SM22	5310B		Analysis D	escription:	53	310B TOC			
Associated Lab San	nples:		01, 7093107002, 09, 7093107010	7093107003, 709	93107004,	70931	07005, 709310	7006, 7093107	7007, 7093107008,	
METHOD BLANK:	560764	Ļ		Matri	x: Water					
Associated Lab San	nples:		01, 7093107002, 09, 7093107010	7093107003, 709	93107004,	70931	07005, 709310	7006, 7093107	7007, 7093107008,	
				Blank	Repo	-				
Paran	neter		Units	Result	Lin	it	Analyzed	Qualifi	ers	
Total Organic Carbo	'n		mg/L	<1.0	)	1.0	06/18/19 15:	35		
LABORATORY CON		SAMPLE:	560765							
Paran	neter		Units	Spike Conc.	LCS Result		LCS % Rec	% Rec Limits	Qualifiers	
Total Organic Carbo	'n		mg/L	10	9	2	92	85-115		
MATRIX SPIKE SAM	MPLE:		560767							
				709310700	1 Sp	ke	MS	MS	% Rec	
Paran	neter		Units	Result	Co	nc.	Result	% Rec	Limits	Qualifiers
Total Organic Carbo	'n		mg/L	0.	98J	10	11.1	10 <sup>,</sup>	1 75-125	
SAMPLE DUPLICA	TE: 56	0766								
				7093107001	Du	р				
Paran	neter		Units	Result	Res	ult	RPD	Qualifiers		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### QUALIFIERS

Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

#### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

#### LABORATORIES

PACE-MV Pace Analytical Services - Melville

PASI-M Pace Analytical Services - Minneapolis

#### ANALYTE QUALIFIERS

- B Analyte was detected in the associated method blank.
- D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- R1 RPD value was outside control limits.



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch		
7093107001	GM-2D	EPA 3005A	117823	EPA 6010C	117836		
7093107002	GM-4D	EPA 3005A	117823	EPA 6010C	117836		
093107003	GM-5D	EPA 3005A	117823	EPA 6010C	117836		
093107004	GM-6D	EPA 3005A	117823	EPA 6010C	117836		
093107005	GM-7D	EPA 3005A	117823	EPA 6010C	117836		
093107006	GM-15D	EPA 3005A	117823	EPA 6010C	117836		
093107007	GM-16D	EPA 3005A	117823	EPA 6010C	117836		
093107008	GM-17D	EPA 3005A	117823	EPA 6010C	117836		
093107009	GM-18D	EPA 3005A	117823	EPA 6010C	117836		
093107010	GM-19D	EPA 3005A	117823	EPA 6010C	117836		
093107001	GM-2D	EPA 7470A	118862	EPA 7470A	118885		
093107002	GM-4D	EPA 7470A	118862	EPA 7470A	118885		
093107003	GM-5D	EPA 7470A	118862	EPA 7470A	118885		
093107004	GM-6D	EPA 7470A	118862	EPA 7470A	118885		
093107005	GM-7D	EPA 7470A	118862	EPA 7470A	118885		
093107006	GM-15D	EPA 7470A	118862	EPA 7470A	118885		
093107007	GM-16D	EPA 7470A	118862	EPA 7470A	118885		
093107008	GM-17D	EPA 7470A	118862	EPA 7470A	118885		
093107009	GM-18D	EPA 7470A	118862	EPA 7470A	118885		
093107010	GM-19D	EPA 7470A	118862	EPA 7470A	118885		
093107001	GM-2D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107002	GM-4D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107003	GM-5D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107004	GM-6D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107005	GM-7D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107006	GM-15D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107007	GM-16D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107008	GM-17D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107009	GM-18D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107010	GM-19D	EPA 3510	613702	EPA 8270D by SIM	614675		
093107001	GM-2D	EPA 180.1	117421				
093107002	GM-4D	EPA 180.1	117421				
093107003	GM-5D	EPA 180.1	117421				
093107004	GM-6D	EPA 180.1	117421				
093107005	GM-7D	EPA 180.1	117421				
093107006	GM-15D	EPA 180.1	117421				
093107007	GM-16D	EPA 180.1	117421				
093107008	GM-17D	EPA 180.1	117421				
093107009	GM-18D	EPA 180.1	117421				
093107010	GM-19D	EPA 180.1	117421				
093107001	GM-2D	SM22 2320B	118942				
093107002	GM-4D	SM22 2320B	118942				
093107003	GM-5D	SM22 2320B	118942				
093107004	GM-6D	SM22 2320B	118942				
093107005	GM-7D	SM22 2320B	118942				
093107006	GM-15D	SM22 2320B	118942				



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
7093107007	 GM-16D	SM22 2320B	119110		
7093107008	GM-17D	SM22 2320B	119110		
093107009	GM-18D	SM22 2320B	119110		
7093107010	GM-19D	SM22 2320B	119110		
093107001	GM-2D	SM22 2340C	119111		
093107002	GM-4D	SM22 2340C	119111		
093107003	GM-5D	SM22 2340C	119500		
093107004	GM-6D	SM22 23400	119500		
	GM-7D				
7093107005 7093107006	GM-15D	SM22 2340C SM22 2340C	119111 119111		
7093107007	GM-16D	SM22 2340C	119500		
093107008	GM-17D	SM22 2340C	119111		
093107009	GM-18D	SM22 2340C	119111		
093107010	GM-19D	SM22 2340C	119111		
093107001	GM-2D	SM22 2540C	118003		
093107002	GM-4D	SM22 2540C	118003		
093107003	GM-5D	SM22 2540C	118003		
093107004	GM-6D	SM22 2540C	118003		
093107005	GM-7D	SM22 2540C	118003		
093107006	GM-15D	SM22 2540C	118003		
093107007	GM-16D	SM22 2540C	118003		
093107008	GM-17D	SM22 2540C	118003		
093107009	GM-18D	SM22 2540C	118004		
093107010	GM-19D	SM22 2540C	118004		
093107001	GM-2D	EPA 410.4	118376	EPA 410.4	118422
093107002	GM-4D	EPA 410.4	118376	EPA 410.4	118422
093107003	GM-5D	EPA 410.4	118376	EPA 410.4	118422
093107004	GM-6D	EPA 410.4	118376	EPA 410.4	118422
093107005	GM-7D	EPA 410.4	118376	EPA 410.4	118422
093107006	GM-15D	EPA 410.4	118376	EPA 410.4	118422
093107007	GM-16D	EPA 410.4	118376	EPA 410.4	118422
093107008	GM-17D	EPA 410.4	118376	EPA 410.4	118422
093107009	GM-18D	EPA 410.4	118376	EPA 410.4	118422
093107010	GM-19D	EPA 410.4	118376	EPA 410.4	118422
093107001	GM-2D	SM22 5210B	117575	SM22 5210B	118399
093107002	GM-4D	SM22 5210B	117575	SM22 5210B	118399
093107003	GM-5D	SM22 5210B	117575	SM22 5210B	118399
093107004	GM-6D	SM22 5210B	117575	SM22 5210B	118399
093107005	GM-7D	SM22 5210B	117575	SM22 5210B	118399
093107006	GM-15D	SM22 5210B	117575	SM22 5210B	118399
093107007	GM-16D	SM22 5210B	117575	SM22 5210B	118399
093107008	GM-17D	SM22 5210B	117575	SM22 5210B	118399
093107009	GM-18D	SM22 5210B	117575	SM22 5210B	118399
093107010	GM-19D	SM22 5210B	117575	SM22 5210B	118399



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch		
7093107001	GM-2D	EPA 300.0	119378				
7093107002	GM-4D	EPA 300.0	119378				
093107003	GM-5D	EPA 300.0	119378				
093107004	GM-6D	EPA 300.0	119378				
093107005	GM-7D	EPA 300.0	119378				
093107006	GM-15D	EPA 300.0	119378				
093107007	GM-16D	EPA 300.0	119378				
093107008	GM-17D	EPA 300.0	119378				
093107009	GM-18D	EPA 300.0	119378				
093107010	GM-19D	EPA 300.0	119378				
093107001	GM-2D	EPA 351.2	119268	EPA 351.2	119309		
093107002	GM-4D	EPA 351.2	119268	EPA 351.2	119309		
093107003	GM-5D	EPA 351.2	119268	EPA 351.2	119309		
093107004	GM-6D	EPA 351.2	119268	EPA 351.2	119309		
093107005	GM-7D	EPA 351.2	119268	EPA 351.2	119309		
093107006	GM-15D	EPA 351.2	119268	EPA 351.2	119309		
093107007	GM-16D	EPA 351.2	119268	EPA 351.2	119309		
093107008	GM-17D	EPA 351.2	119268	EPA 351.2	119309		
093107009	GM-18D	EPA 351.2	119268	EPA 351.2	119309		
093107010	GM-19D	EPA 351.2	119268	EPA 351.2	119309		
093107001	GM-2D	EPA 353.2	117328				
093107002	GM-4D	EPA 353.2	117328				
093107003	GM-5D	EPA 353.2	117328				
093107004	GM-6D	EPA 353.2	117328				
093107005	GM-7D	EPA 353.2	117328				
093107006	GM-15D	EPA 353.2	117328				
093107007	GM-16D	EPA 353.2	117328				
093107008	GM-17D	EPA 353.2	117328				
093107009	GM-18D	EPA 353.2	117328				
093107010	GM-19D	EPA 353.2	117328				
093107001	GM-2D	EPA 353.2	117323				
093107002	GM-4D	EPA 353.2	117323				
093107003	GM-5D	EPA 353.2	117323				
093107004	GM-6D	EPA 353.2	117323				
093107005	GM-7D	EPA 353.2	117323				
093107006	GM-15D	EPA 353.2	117323				
093107007	GM-16D	EPA 353.2	117323				
093107008	GM-17D	EPA 353.2	117323				
093107009	GM-18D	EPA 353.2	117323				
093107010	GM-19D	EPA 353.2	117323				
093107001	GM-2D	SM22 4500 NH3 H	119281				
093107002	GM-4D	SM22 4500 NH3 H	119281				
093107003	GM-5D	SM22 4500 NH3 H	119281				
093107004	GM-6D	SM22 4500 NH3 H	119281				
093107005	GM-7D	SM22 4500 NH3 H	119281				
093107006	GM-15D	SM22 4500 NH3 H	119281				
093107007	GM-16D	SM22 4500 NH3 H	119281				



Project: GMP WELL ROUTINE 360+TAL METAL

Pace Project No.: 7093107

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
7093107008	GM-17D	SM22 4500 NH3 H	119281		
7093107009	GM-18D	SM22 4500 NH3 H	119281		
7093107010	GM-19D	SM22 4500 NH3 H	119281		
7093107001	GM-2D	SM22 5310B	118154		
7093107002	GM-4D	SM22 5310B	118154		
7093107003	GM-5D	SM22 5310B	118154		
7093107004	GM-6D	SM22 5310B	118154		
7093107005	GM-7D	SM22 5310B	118154		
7093107006	GM-15D	SM22 5310B	118154		
7093107007	GM-16D	SM22 5310B	118154		
7093107008	GM-17D	SM22 5310B	118154		
7093107009	GM-18D	SM22 5310B	118154		
7093107010	GM-19D	SM22 5310B	118154		

WO#:7093107				7002407	Regulatory Agency		State / Location	٨٨	Requested Analysis Filtered (Y/N)			PFOA/PFAS PFOA/PFAS Proof Chlorin Residual Chlorin						×××							DATE TIME SAMPLE CONDITIONS	6/1/1 5:30 2.6 7 N J		(A/N) 28ubles 28ubles (A/N) Coolet (A/N) Keceived c ICe (A/N) Eceived c
cal Request Doc All relevant fields must b							jennifer aracri@pacelabs.com,		Kequested An	N/Å	ardness Turbidity	Other Analyses BOD,Br,Cl,SO4 No2,ALK,TD5 COD,NH3,NO3, COD,NH3,NO3, TOC	× × ×	× × ×	× × × ×	× × × ×	X X X X X	X X X X X	× × × × × × ×	× × × ×	× × × ×	× × × × ×			ACCEPTED BY I AFFILIATION	mi - Hiel		DATE Signed:
CHAIN-OF-CUSTODY / Analytical Request Doc The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must b	Section C	Invoice Information:	Attention:	Company Name	Address.	Pace Guote:	anager.	Pace Frofile #: 5271 LINES 5 & 6		Preservatives		Methanol Nascsoo3 HCI HNO3 HSO4 CIndreserved														"600 percenter		Brian Nichols
CHAIN-OF-CU	Sec	Inv	Atte	Cor	Add			Pac				DAT TIME A MPLE TEMP A semple TEMP A semple TEMP A	4/19 1210 10	1 1005 10	01 02(1	1200 10	1235 10	15/0 10	1450 10	1435 10	d 1410 10	e/11/19/340 10			DATE	on 6/1/19 4	I I SAMPLER NAME AND SIGNATURE	PRINT Name of SAMPLER: SIGNATURE of SAMPLER:
0 F		Required Project Information:	Joe Guarino			# 10	e: GMP Wells Routine 360 +TAL Metals				(G=GRAB C= STAR	SAMPLE TYPE DAT Tim			WT	WT	WT	WT	WT	WT	WT	MT V			RELINQUISHED BY I AFFILIATION	Brien Nichels \ Zão	SAMPLER	SIGNA
	Section B	Required Pr	Report To:	Copy To:		Purchase Order #	Project Name	Project #			Drinking Water DW Water WT Waste Water W Product P Soli/Solid SL Oil OL															B	_	
Pace Analytical	Section A	Required Client Information:		Address: 281 Phelps Lane	m	jguarino@townofbabylon.cor	Prione: 631-422-7640 Fax				SAMPLE ID	A# Cheracter per box. (A-Z, 0-9 /, -) Sample Ids must be unique	1 GM-2D	2 GM-4D	3 GM-5D	<b>4</b> GM-6D	5 GM-7D	6 GM-15D	7 GM-16D	8 GM-17D	9 GM-18D	10 GM-19D	11	12	ADDITIONAL COMMENTS	Part 360 Routine GMP Wells	Pag	e 68 of 89

	Sam	ple Co	onditio	on Upon	Receipt
Pace Analytical*					WO#:7093107
	Client Nar		1	Pr	
	Ba	ab/l	ow		PM: JSA Due Date: 06/25/19
Courier: Fed Ex UPS USPS	t Commerci	al Pac	e Dthe	er	CLIENT: BAB-ECO
Tracking #:		<u> </u>	t. []	Vac This	Temperature Plank Present:
Custody Seal on Cooler/Box Present: Yes				Yes /No	Temperature Blank Present: Yes No
Packing Material: Bubble Wrap Bubble B	ags Ziploc	LWone	Dther	$\cap$	Type of Ice: (Wet) Blue None
Thermometer Used: (H091	Correction			d_	Samples on ice, cooling process has begun
Cooler Temperature (°C): 2.6	Cooler Temp	perature	Correcte	d (°C): 7	2 Date/Time 5035A kits placed in freezer
Temp should be above freezing to 6.0°C					0/11/1070
USDA Regulated Soil ( 🖾 N/A, water sample)					itials of person examining contents: $(p/11/19 + 1^{-1})$
Did samples originate in a quarantine zone within the L NM, NY, OK, OR, SC, TN, TX, or VA (check map)?	YESI	NO			Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes A. No
If Yes to either question, fil	l out a Regula	ated Soil	Checklis	t (F-LI-C-010)	and include with SCUR/COC paperwork.
	-			1.	COMMENTO.
Chain of Custody Present:	Yes			2.	
Chain of Custody Filled Out:	DYes .			3.	
Chain of Custody Relinquished:	ØYes da		□n/A	4.	•
Sampler Name & Signature on COC:	DYes .			5.	
Samples Arrived within Hold Time:	DYes			6.	
Short Hold Time Analysis (<72hr):	Yes	□No		7.	
Rush Turn Around Time Requested:	□Yes	<b>No</b>		8.	
Sufficient Volume: (Triple volume provided for MS/MSD	- /			9.	
Correct Containers Used:	PYes	No		9.	
-Pace Containers Used:	ØYes		•	10.	
Containers Intact:	PYes	□No	CI/UA		e if sediment is visible in the dissolved container.
Filtered volume received for Dissolved tests	□Yes	□No	G/N/A	12.	
Sample Labels match COC:	PYes	□No		12.	
-Includes date/time/ID/Analysis Matrix SL				12 □ 1	HNO3 IH2SO4 INAOH IHCI
	PYes	□No	□N/A	13. □ ł	
pH paper Lot # HCG63463			•	Sample #	
All containers needing preservation are found to be in compliance with EPA recommendation?				Campion	
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCI, NaOH>9 Sulfide,	Yes	□No	□N/A		
NAOH>12 Cyanide) Exceptions: VOA, Coliform, TCCDOC, Oil and Grease,					
DRO/8015 (water). Per Method, VOA pH is checked after analysis				Initial when co	mpleted: Lot # of added preservative: Date/Time preservative added
Samples checked for dechlorination:	□Yes	□No	DN/A	14.	
KI starch test strips Lot #			/		
Residual chlorine strips Lot #				Posi	tive for Res. Chlorine? Y N
Headspace in VOA Vials ( >6mm):	□Yes	ONo	ZN/A	15.	
Trip Blank Present:	□Yes	□No	ØN/A	16.	
Trip Blank Custody Seals Present	□Yes	□No	ØN/A		
Pace Trip Blank Lot # (if applicable):					
Client Notification/ Resolution:	5 Arrest (1997)			Field Data Re	
Person Contacted:				Dat	e/Time:
Comments/ Resolution:					

\* PM (Project Manager) review is documented electronically in LIMS.

F-LI-C-002-rev.02

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## **ANALYTICAL REPORT**

Job Number: 420-155308-1 SDG Number: 7093107 Job Description: Pace Analytical Sevices, Inc.-Mellville

> For: Pace Analytical Mellville 575 Broadhollow Road Melville, NY 11747

Attention: James Murphy

Gaura marciano

Laura L Marciano Customer Service Manager Imarciano@envirotestlaboratories.com 06/25/2019

cc: Ms. Jen Aracri Betty Harrison Accounts Payable Sophia Sparkes

NYSDOH ELAP does not certify for all parameters. EnviroTest Laboratories does hold certification for all analytes where certification is offered by ELAP unless otherwise specified in the Certification Information section of this report Pursuant to NELAP, this report may not be reproduced, except in full, without written approval of the laboratory. EnviroTest Laboratories Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our laboratory. All questions regarding this report should be directed to the EnviroTest Customer Service Representative.

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554



## **EXECUTIVE SUMMARY - Detections**

Client: Pace Analytical Mellville

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method	
<b>420-155308-5</b> Phenolics, Total Rec	GM-7D	0.016	0.010	mg/L	420.4 Rev. 1.0	
420-155308-7	GM-16D	0.010	0.010	mg/∟	420.4 Nev. 1.0	
Phenolics, Total Rec		0.012	0.010	mg/L	420.4 Rev. 1.0	
420-155308-9	GM-18D					
Phenolics, Total Rec	coverable	0.013	0.010	mg/L	420.4 Rev. 1.0	

## **METHOD SUMMARY**

#### Job Number: 420-155308-1 Client: Pace Analytical Mellville SDG Number: 7093107 Description Lab Location Method Preparation Method Matrix: Water Phenols Semi-Automated EnvTest EPA 420.4 Rev. 1.0 Distillation/Phenolics EnvTest Distill/Phenol Lab References: EnvTest = EnviroTest Method References:

EPA = US Environmental Protection Agency

## METHOD / ANALYST SUMMARY

Client: Pace Analytical Mellville

Job Number: 420-155308-1 SDG Number: 7093107

Method

EPA 420.4 Rev. 1.0

Analyst

Mastrobuono, Danielle

Analyst ID

## SAMPLE SUMMARY

## Client: Pace Analytical Mellville

Job Number: 420-155308-1 SDG Number: 7093107

			Date/Time	Date/Time
ab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
120-155308-1	GM-2D	Water	06/11/2019 1310	06/14/2019 1015
120-155308-2	GM-4D	Water	06/11/2019 1045	06/14/2019 1015
120-155308-3	GM-5D	Water	06/11/2019 1120	06/14/2019 1015
20-155308-4	GM-6D	Water	06/11/2019 1200	06/14/2019 1015
20-155308-5	GM-7D	Water	06/11/2019 1235	06/14/2019 1015
20-155308-6	GM-15D	Water	06/11/2019 1510	06/14/2019 1015
20-155308-7	GM-16D	Water	06/11/2019 1450	06/14/2019 1015
20-155308-8	GM-17D	Water	06/11/2019 1435	06/14/2019 1015
20-155308-9	GM-18D	Water	06/11/2019 1410	06/14/2019 1015
20-155308-10	GM-19D	Water	06/11/2019 1340	06/14/2019 1015

## SAMPLE RESULTS

**Analytical Data** 

Client: Pace Analytical Mellville

Job Number: 420-155308-1 Sdg Number: 7093107

			General Chemis	try			
Client Sample ID:	GM-2D						
Lab Sample ID: Client Matrix:	420-155308-1 Water				Date Sampled: Date Received:		1/2019 1310 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1602 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-4D						
Lab Sample ID: Client Matrix:	420-155308-2 Water				Date Sampled: Date Received:		1/2019 1045 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1603 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-5D						
Lab Sample ID: Client Matrix:	420-155308-3 Water				Date Sampled: Date Received:		1/2019 1120 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1603 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-6D						
Lab Sample ID: Client Matrix:	420-155308-4 Water				Date Sampled: Date Received:		1/2019 1200 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 0/2019 1604 0/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-7D						
Lab Sample ID: Client Matrix:	420-155308-5 Water				Date Sampled: Date Received:		1/2019 1235 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	0.016		0.010 9/2019 1615 9/2019 0946	0.010	1.0	420.4 Rev. 1.0

## **Analytical Data**

Client: Pace Analytical Mellville

Job Number: 420-155308-1 Sdg Number: 7093107

			General Chemis	try			
Client Sample ID:	GM-15D						
Lab Sample ID: Client Matrix:	420-155308-6 Water				Date Sampled: Date Received:		1/2019 1510 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1605 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-16D						
Lab Sample ID: Client Matrix:	420-155308-7 Water				Date Sampled: Date Received:		1/2019 1450 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	0.012	•	0.010 9/2019 1616 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-17D						
Lab Sample ID: Client Matrix:	420-155308-8 Water				Date Sampled: Date Received:		1/2019 1435 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 0/2019 1611 0/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-18D						
Lab Sample ID: Client Matrix:	420-155308-9 Water				Date Sampled: Date Received:		1/2019 1410 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	0.013	,	0.010 9/2019 1612 9/2019 0946	0.010	1.0	420.4 Rev. 1.0
Client Sample ID:	GM-19D						
Lab Sample ID: Client Matrix:	420-155308-10 Water				Date Sampled: Date Received:		1/2019 1340 4/2019 1015
Analyte		Result	Qual Units	RL	RL	Dil	Method
Phenolics, Total Red	coverable Anly Batch: Prep Batch:	<0.010	,	0.010 9/2019 1612 9/2019 0946	0.010	1.0	420.4 Rev. 1.0

## DATA REPORTING QUALIFIERS

Lab Section

Qualifier

Description

## The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide, Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Solids (Fixed), Solids (Percent), Solids (Percent Moisture), Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, 1,2,4,5-Tetramethylbenzene, 4-Ethyl toluene, p-Diethylbenzene, Iron Bacteria, Salmonella, Sulfur Reducing Bacteria, & UOD (Ultimate Oxygen Demand).

## The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), o-Xylene (502.2, 524), Sulfide (SM4500SD), Acenaphthene (525.2), Acenaphthylene (525.2), Fluoranthene (525.2), Fluorene (525.2), Phenanthrene (525.2), Anthracene (525.2), Pyrene (525.2), Benzo[a]anthracene (525.2), Benzo[b]fluoranthene (525.2), Benzo[g,h,i]perylene (525.2), Benzo[k]fluoranthene (525.2), Indeno[1,2,3-cd]pyrene (525.2), & Dibenz(a,h)anthracene (525.2).

## The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

## The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), MCPA (8151A), Propylene Glycol (8015D).

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

# **QUALITY CONTROL RESULTS**

## Client: Pace Analytical Mellville

Job Number: 420-155308-1 Sdg Number: 7093107

## **QC Association Summary**

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 420-132681					
LCS 420-132681/28-A	Lab Control Spike	Т	Water	Distill/Phenol	
MB 420-132681/27-A	Method Blank	Т	Water	Distill/Phenol	
420-155302-A-2-B DU	Duplicate	Т	Water	Distill/Phenol	
420-155302-A-2-C MS	Matrix Spike	Т	Water	Distill/Phenol	
420-155308-1	GM-2D	Т	Water	Distill/Phenol	
420-155308-2	GM-4D	Т	Water	Distill/Phenol	
420-155308-3	GM-5D	Т	Water	Distill/Phenol	
420-155308-4	GM-6D	Т	Water	Distill/Phenol	
420-155308-5	GM-7D	Т	Water	Distill/Phenol	
420-155308-6	GM-15D	Т	Water	Distill/Phenol	
420-155308-7	GM-16D	Т	Water	Distill/Phenol	
420-155308-7DU	Duplicate	Т	Water	Distill/Phenol	
420-155308-7MS	Matrix Spike	Т	Water	Distill/Phenol	
420-155308-8	GM-17D	Т	Water	Distill/Phenol	
420-155308-9	GM-18D	т	Water	Distill/Phenol	
420-155308-10	GM-19D	т	Water	Distill/Phenol	
Analysis Batch:420-1327	07				
LCS 420-132681/28-A	Lab Control Spike	Т	Water	420.4 Rev. 1.0	420-132681
MB 420-132681/27-A	Method Blank	Т	Water	420.4 Rev. 1.0	420-132681
420-155302-A-2-B DU	Duplicate	Т	Water	420.4 Rev. 1.0	420-132681
420-155302-A-2-C MS	Matrix Spike	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-1	GM-2D	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-2	GM-4D	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-3	GM-5D	Т	Water	420.4 Rev. 1.0	420-132681
420-155308-4	GM-6D	Т	Water	420.4 Rev. 1.0	420-132681
120-155308-5	GM-7D	Т	Water	420.4 Rev. 1.0	420-132681
120-155308-6	GM-15D	Т	Water	420.4 Rev. 1.0	420-132681
120-155308-7	GM-16D	Т	Water	420.4 Rev. 1.0	420-132681
120-155308-7DU	Duplicate	T	Water	420.4 Rev. 1.0	420-132681
420-155308-7MS	Matrix Spike	T	Water	420.4 Rev. 1.0	420-132681
120-155308-8	GM-17D	T	Water	420.4 Rev. 1.0	420-132681
20-155308-9	GM-18D	T	Water	420.4 Rev. 1.0	420-132681
120-155308-10	GM-19D	T	Water	420.4 Rev. 1.0	420-132681

## Report Basis

T = Total

**Surrogate Recovery Report** 

Lab Sample ID Client Sample ID

Surrogate

Acceptance Limits

Calculations are performed before rounding to avoid round-off errors in calculated results.

## **Quality Control Results**

Job Number: 420-155308-1 Sdg Number: 7093107

### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	MB 420-132681/27-A Water 1.0 06/19/2019 1601 06/19/2019 0946	Analysis Batch: Prep Batch: 420 Units: mg/L			Instrument ID: Lab File ID: Initial Weight/Vo Final Weight/Vo	olume: mL	nem 8500 FIA 9_03-35-07PM.(
Analyte		Resul	t	Qual	RL	RI	-
Phenolics, Total	Recoverable	<0.01	0		0.010	0.0	010
Lab Control S	oike - Batch: 420-132681				Method: 420.4 Preparation: [		
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	LCS 420-132681/28-A Water 1.0 06/19/2019 1601 06/19/2019 0946	Analysis Batch: Prep Batch: 420 Units: mg/L			Instrument ID: Lab File ID: Initial Weight/Vo Final Weight/Vo	olume: mL	nem 8500 FIA 9_03-35-07PM.(
Analyte		Spike Amount	Result	% Rec	. Lir	nit	Qual
Phenolics, Total	Recoverable	0.0500	0.056	112	57	- 123	

Client: Pace Analytical Mellville

Method Blank - Batch: 420-132681

Calculations are performed before rounding to avoid round-off errors in calculated results.

## **Quality Control Results**

Job Number: 420-155308-1 Sdg Number: 7093107

### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155302-A-2-C MS Water 1.0 06/19/2019 1540 06/19/2019 0946	Analysis Batch: 420-1 Prep Batch: 420-1326 Units: mg/L		Lab Fi Initial		at Quikchem 8 6-19-2019_03- mL mL	
Analyte		Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Phenolics, Total	Recoverable	0.011	0.0300	0.039	94	55 - 136	
Matrix Spike -	Batch: 420-132681				od: 420.4 Rev. aration: Distill/		
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155308-7 Water 1.0 06/19/2019 1607 06/19/2019 0946	Analysis Batch: 420-1 Prep Batch: 420-1326 Units: mg/L		Lab Fi Initial		at Quikchem 8 5-19-2019_03- mL mL	
Analyte		Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Phenolics, Total	Recoverable	0.012	0.0300	0.038	87	55 - 136	

Client: Pace Analytical Mellville

Matrix Spike - Batch: 420-132681

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Calculations are performed before rounding to avoid round-off errors in calculated results.

## **Quality Control Results**

Job Number: 420-155308-1 Sdg Number: 7093107

### Method: 420.4 Rev. 1.0 Preparation: Distill/Phenol

Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155302-A-2-B DU Water 1.0 06/19/2019 1539 06/19/2019 0946	Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L		Instrument ID: Lab File ID: Initial Weight/Vo Final Weight/Vo	lume: mL	nem 8500 FIA 9_03-35-07PM.(
Analyte		Sample Result/Qual	Result	RPD	Limit	Qual
Phenolics, Total	Recoverable	0.011	0.011	0	15	
Duplicate - Ba	tch: 420-132681			Method: 420.4 Preparation: D		
Lab Sample ID: Client Matrix: Dilution: Date Analyzed: Date Prepared:	420-155308-7 Water 1.0 06/19/2019 1606 06/19/2019 0946	Analysis Batch: 420-132707 Prep Batch: 420-132681 Units: mg/L		Instrument ID: Lab File ID: Initial Weight/Vo Final Weight/Vo	lume: mL	nem 8500 FIA 9_03-35-07PM.(
Analyte		Sample Result/Qual	Result	RPD	Limit	Qual
Phenolics, Total	Recoverable	0.012	0.012	1	15	

Client: Pace Analytical Mellville

# Duplicate - Batch: 420-132681

## Chain of Custody

155308

Pace Analytical www.pacelabs.com 20112

Work	order: 7093107	Workorder Name:	GMP WELL	ROUTINE	360	+TA	LME	TAL		Res	ults	Red	ļues	ted B	<b>y:</b> 6	6/25/	2019	9		1.200
Repor	/Invoice To	Subcon	tract To										Re	quest	d An	alysis	3	7		
Jennifer Aracri Pace Analytical Melville 575 Broad Hollow Road Melville, NY 11747 Phone (631)694-3040 Email: jennifer.aracri@pacelabs.com								s, Total Recoverable												
	Sample (D	Collect Date/Time	Lab ID	Matrix	H2SO4	Unpreserved				20.1 Phenolics										LAB USE ONLY
1	GM-2D	6/11/2019 13:10	7093107001	Water	Π					X										
2	GM-4D	6/11/2019 10:45	7093107002	Water						X										
3	GM-5D	6/11/2019 11:20	7093107003	Water	Π					X	Ī									
4	GM-6D	6/11/2019 12:00	7093107004	Water	1					Х										
5	GM-7D	6/11/2019 12:35	7093107005	Water	1					X										
6	GM-15D	6/11/2019 15:10	7093107006	Water						Х										
7	GM-16D	6/11/2019 14:50	7093107007	Water	Ĺ					Х			-							
8	GM-17D	6/11/2019 14:35	7093107008	Water	li					Х										
9	GM-18D	6/11/2019 14:10	7093107009	Water	1					Х										
10	GM-19D	6/11/2019 13:40	7093107010	Water						Х										
11											·									
12										Ī										
13																				
14																				



GM-2D

Date Sampled. 6/11/2019 420-1350311

FEDER P.O 1068 0079 3227

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											l	55	30	f 1920	10
13					1				I					P3 20	12
14															
Transfers	Released By	Date/Time	Received By/		Date	/Time				 Commer	nts				
1	Amontal	6/13/19/800	Ana	· · · · · · · · · · · · · · · · · · ·	06/	14/196	<u> </u>								
2	<u> </u>					115									
3 Cooler Te	mperature on Receipt <u>2, 4</u> °C	Custod	l y Seal Y or N	R	eceived	l on Ice		or N		Sample	es Inta	c	)or M	J	

## LOGIN SAMPLE RECEIPT CHECK LIST

## Client: Pace Analytical Mellville

Job Number: 420-155308-1 SDG Number: 7093107

## Login Number: 155308

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	2.4 C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C $$	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	NA	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

		B	ABYL	ON LANI	DFILL - FI	ELD DATA	- JUNE - 20	19						
			Wells	GM-26 to	GM-28 / Gr	oundwater Sa	mpling Data							
WELL#	Well Survey	Well	Metal	TPVC (in ft)	TOC (in ft)	BOC (in ft)	One Well	Three Well	Groundwater					
	Elevation	Size	or PVC	(Top of PVC)	(Top of Casing)	(Bottom of Casing)	Volumes	Contour						
							(Gallons)	(Gallons)	Levels					
GM-26		4''	*PVC	16.68		32.50	10.28	30.85						
GM-26I		4''	*PVC	16.30		42.50	17.03	51.09						
GM-27		4"	PVC	22.70		36.70	9.10	27.30						
GM-271		4''	PVC	23.02		47.50	15.91	47.74						
GM-28		4"	PVC	22.40		37.50	9.82	29.45						
GM-28I		4''	PVC	22.68	46.91 15.75 47.25									
WELL#	WELL #     Start Purge     Stop Purge     Well Notes For Sampling													
GM-26	855			915	Cloudy to turbid, r	no odors								
GM-261	850			920	Cloudy, no odors									
GM-27	956			1035	Slightly cloudy, no	odors								
GM-27I	948			1025	Clear, no odors									
GM-28	1115			1138	Clear, no odors									
GM-28I	1110			1140	,	t in color, no odors, sr	nall black particles							
					Water Quality	Parameters								
WELL#	Sampli	ng	Sample	pH	ORP	Conductivity	Temp.	Turbidity	Dis. Oxygen					
THE BERN	Date	-	Time	(SU)	(mv)	(umhos/cm2)	(0C)	(NTU)	(DO) mg/L					
GM-26	6/10/20		932	7.44	-76.5	1002	14.9	230.0	5.49					
GM-261	6/10/20	19	925	6.78	-45.6	1072	15.5	68.0	3.45					
GM-27	6/10/20	19	1040	8.83	-149.0	1030	14.2	54.8	1.13					
GM-27I	6/10/20		1044	9.26	-171.1	1040 13.9		13.0	0.00					
GM-28	6/10/20	19	1203	7.89	-100.0	982	982 16.2		0.00					
GM-28I	6/10/20		1145	9.25	-171.9	959	16.7	26.4 28.5	0.96					

Field Notes: Duplicate performed on GM-27I @ 1044

Equipment Blank @ 1040 on 6-11-2019 w/new bailer

MS/MSD performed on GM-28 @ NA

GM-28I did not have a cover to the flush mount well

Notes: N/F : Not found due to high grass or deep snow.

**N/S** : No sample due to dry well or frozen well from extreme cold temps. \*PVC ABOVE TOC

	BAB	YLON LA	ANDFILL - FIEI		- JUNE - 2019										
			Leachate Samp	ling Data											
WELL #															
NNU-PLCRS	6/10/2019	1309	1310	$\sim 40$	Clear, grey tint, odors										
NNU-SLCRS	6/10/2019	1321	1323	$\sim 40$	Clear, grey tint, odors										
ONU-SLCRS	6/10/2019	1343	1345	~ 60	Clear, no odors										
SA-SLCRS	6/11/2019	Direct Sample	Direct Sample	0	Turbid, black particles, black in color										
CELL - 7	CELL - 7 6/11/2019 Direct Sample		Direct Sample	0	Clear, no odors										

	Leachate Parameters													
WELL #	Sampling	pН	ORP	Conductivity	Temp.	Turbidity	Dissolved Oxygen							
	Time	(SU)	(mv)	(umhos/cm2)	(0C)	(NTU)	(DO) mg/L							
NNU-PLCRS	1310	7.77	-96.0	698	31.3	8.25	0.00							
NNU-SLCRS	1323	6.94	-47.3	236	38.7	6.03	0.00							
ONU-SLCRS	1345	7.22	-65.2	778	25.6	7.25	3.00							
SA-SLCRS	1015	8.00	-106.4	298	16.8	224.00	0.42							
CELL - 7	915	7.81	-96.3	876	21.1	6.49	0.00							

NNU-PLCRS: New Northern U Primary \* One Tap Location for Primary/Secondary (Top Road)

NNU-SLCRS: New Northern U Secondary \* One Tap Location for Primary/Secondary (Top Road)

ONU-SLCRS: Old Northern U Secondary \*One Tap Location for Primary/Secondary (Lower Road)

SA-SLCRS: Southern Ash <u>Secondary</u> \*Use Bailer / Square Metal Door

CELL 7: Primary System \* Use Bailer / First Round Black Cover (Left Cover)

		B	ABYL	ON LANI	DFILL - FI	ELD DATA	- JUNE - 20	19	
			Tr	aditional V	Vells - Grou	ndwater Sam	pling Data		
WELL#	Well Survey	Well	Metal	TPVC (in ft)	TOC (in ft)	BOC (in ft)	One Well	Three Well	Groundwater
	Elevation	Size	or PVC	(Top of PVC)	(Top of Casing)	(Bottom of Casing)	Volume	Volumes	Contour
							(Gallons)	(Gallons)	Levels
GM-2D	69.25	4''	PVC	24.02	24.68	86.00	39.86	119.57	44.57
GM-4D	62.43	4"	PVC	15.85	16.46	91.40	48.71	146.13	45.97
GM-5D	62.35	4"	PVC	16.32	16.75	91.80	48.78	146.35	45.60
GM-6D	63.84	4"	<b>PVC</b>	17.93	18.11	92.80	48.55	145.65	45.73
GM-7D	63.23	4"	PVC	17.05	17.74	91.10	47.68	143.05	45.49
GM-15D	50.74	4"	PVC	9.78	10.22	84.50	48.28	144.85	40.52
GM-16D	?	4"	PVC	6.42	6.83	87.00	52.11	156.33	?
GM-17D	52.09	4''	PVC	11.83	12.27	87.70	49.03	147.09	39.82
GM-18D	?	4''	PVC	11.98	12.43	78.00	42.62	127.86	?
GM-19D	53.34	4''	PVC	11.56	12.00	87.40	49.01	147.03	41.34
WELL #	Start Pu	rge	Sto	op Purge		W	ell Notes For Samplin	ıg	
GM-2D	1240			1309	Clear, no odors				
GM-4D	1018			1043	Clear, no odors				
GM-5D	1035			1118	Slightly cloudy, or	ange tint, orange part	icles, no odors		
GM-6D	1105			1157	Slightly cloudy, or	ange tint, orange part	icles, no odors		
GM-7D	1140			1231	Slightly cloudy, or	ange tint, no odors			
GM-15D	1445			1508	Cloudy, orange tin	t, orange particles, no	odors		
GM-15D GM-16D	1420			1448		t, orange particles, no			
GM-10D GM-17D	1348			1434	Clear, no odors				
GM-17D GM-18D	1340			1406	Clear, no odors				
GM-19D	1315			1335	Clear, no odors, sn	nall particles			
					Water Quality	Parameters			
WELL #	Sampli	ng	Sample	pH	ORP	Conductivity	Temp.	Turbidity	Dis. Oxygen
	Date		Time	(SU)	(mv)	(umhos/cm2)	(0C)	(NTU)	(DO) mg/L
GM-2D	6/11/20		1310	7.45	-32.5	3290	14.0	7.67	2.55
GM-4D	6/11/20	19	1045	8.00	-103.0	3120	16.7	4.61	0.96
GM-5D	6/11/20	19	1120	7.30	-68.6	982	15.5	61.30	2.76
GM-6D	6/11/20	)19	1200	7.79	-95.9	884	18.0	94.30	3.36
GM-7D	6/11/20	)19	1235	8.42	-127.9	896	15.5	33.10	5.77
GM-15D	6/11/20	)19	1510	7.62	-86.4	1123	13.9	45.20	3.29
GM-16D	6/11/20		1450	7.30	-66.2	2950	13.0	121.00	4.39
GM-17D	6/11/20		1435	7.23	-64.2	2340	13.6	3.20	2.05
GM-18D	6/11/20	)19	1410	7.47	-78.9	1130	13.9	5.18	2.91
GM-19D	6/11/20		1340	6.13	-10.4	1420	14.5	7.09	4.57

		Client Sample ID:	DUP	GM-26
			7092927007	7092927001
			Water	Water
			06/10/19	06/10/19
			6/10/2019 10:44:00 AM	6/10/2019 9:32:00 AM
Analyte	CAS	Units		
Turbidity		NTU	12.6 D	19.0 D
Bromide	24959-67-9	mg/L	2.0	0.58
Chloride	16887-00-6	mg/L	455 D	79.8 D
Sulfate	14808-79-8	mg/L	<5.0	80.8 D
Nitrogen, Kjeldahl, Total	7727-37-9	mg/L	19.1 D	<0.50
Nitrate as N	14797-55-8	mg/L	0.037J	6.0 D
Nitrate-Nitrite (as N)	7727-37-9	mg/L	<0.050	6.0 D
Nitrite as N	14797-65-0	mg/L	<0.050	<0.050
Chemical Oxygen Demand		mg/L	91.8	10.2
Cadmium	7440-43-9	ug/L	<2.5	<2.5
Calcium	7440-70-2	ug/L	74000	64600
Iron	7439-89-6	ug/L	1980	21300
Lead	7439-92-1	ug/L	<5.0	189
Magnesium	7439-95-4	ug/L	4760	6410
Manganese	7439-96-5	ug/L	87.2	400
Potassium	7440-09-7	ug/L	39800	17500
Sodium	7440-23-5	ug/L	176000	45200
1,4-Dioxane (SIM)	123-91-1	ug/L	0.26	<0.25
Alkalinity, Total as CaCO3		mg/L	206	112
Tot Hardness asCaCO3		mg/L	200	175
Total Dissolved Solids		mg/L	826	426
Nitrogen, Ammonia	7664-41-7	mg/L	17.4 D	0.084J
BOD, 5 day		mg/L	22.1 D	1.0J
Total Organic Carbon	7440-44-0	mg/L	25.8	3.9J
1				

GM-26I	GM-27	GM-27I	GM-28	GM-28I
7092927002	7092927003	7092927004	7092927005	7092927006
Water	Water	Water	Water	Water
06/10/19	06/10/19	06/10/19	06/10/19	06/10/19
6/10/2019 9:25:00 AM	6/10/2019 10:40:00 AM	6/10/2019 10:44:00 AM	6/10/2019 12:03:00 PM	6/10/2019 11:45:00 AM
10.2 D	6.5 D	23.0 D	65.0 D	20.0 D
0.53	2.4	2.0	1.3	1.7
72.5 D	442 D	424 D	256 D	251 D
59.3 D	<5.0	<5.0	216 D	31.5
<0.50	33.7 D	19.3 D	20.9 D	12.2 D
4.1 D	0.030J	0.044J	0.042J	0.029J
4.1 D	<0.050	0.044J	0.042J	<0.050
<0.050	<0.050	<0.050	<0.050	<0.050
<10.0	154	83.0	109	45.5
<2.5	<2.5	<2.5	<2.5	<2.5
40800	55500	72800	248000	39600
7280	3660	1920	8540	4070
28.7	13.8	<5.0	10.9	14.6
3440	9180	4680	54400	4310
75.9	153	85.9	1670	292
12600	43400	38700	51200	62600
33000	200000	175000	186000	114000
<0.25	0.32	0.26	0.38	0.25J
52.5	284	200	984	149
100	180	190	880	100
340	874	900	1530	596
0.066J	32.0 D	17.5 D	18.2 D	11.4 D
1.0J	32.5 D	21.7 D	11.9 D	13.3 D
1.8	43.1	25.5	35.9	12.7