eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Stephanie R Grillo
Groundwater & Environmental Services Inc
440 Creamery Way
Suite 500
Exton, Pennsylvania 19341-2577

Generated 10/3/2023 7:48:40 AM

JOB DESCRIPTION

SPLP - Washington Crossing

JOB NUMBER

410-144915-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

Authorization

Generated
10/3/2023 7:48:40 AM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· 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 is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

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

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

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, except as otherwise agreed. 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. Except as otherwise agreed, 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.

Table of Contents

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

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
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Case Narrative

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Job ID: 410-144915-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-144915-1

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Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/29/2023 1:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C

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

Detection Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted] **Lab Sample ID: 410-144915-1**

No Detections.

Client Sample ID: [redacted] **Lab Sample ID: 410-144915-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted]
Lab Sample ID: 410-144915-1
Date Collected: 09/28/23 11:45
Matrix: Drinking Water
Date Received: 09/29/23 13:15

Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.50	0.10	ug/L			10/02/23 18:46	1
Benzene	ND		0.50	0.10	ug/L			10/02/23 18:46	1
Ethylbenzene	ND		0.50	0.10	ug/L			10/02/23 18:46	1
Toluene	ND		0.50	0.10	ug/L			10/02/23 18:46	1
Methyl tertiary butyl ether	ND		0.50	0.10	ug/L			10/02/23 18:46	1
Naphthalene	ND		0.50	0.20	ug/L			10/02/23 18:46	1
1,2,4-Trimethylbenzene	ND		0.50	0.10	ug/L			10/02/23 18:46	1
1,3,5-Trimethylbenzene	ND		0.50	0.10	ug/L			10/02/23 18:46	1
Isopropylbenzene	ND		0.50	0.10	ug/L			10/02/23 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichlorobenzene-d4 (Surr)	*111*		*80 - 120*		*10/02/23 18:46*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*10/02/23 18:46*	*1*

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted]
Lab Sample ID: 410-144915-2
Date Collected: 09/28/23 12:20
Matrix: Drinking Water
Date Received: 09/29/23 13:15

Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.50	0.10	ug/L			10/02/23 19:10	1
Benzene	ND		0.50	0.10	ug/L			10/02/23 19:10	1
Ethylbenzene	ND		0.50	0.10	ug/L			10/02/23 19:10	1
Toluene	ND		0.50	0.10	ug/L			10/02/23 19:10	1
Methyl tertiary butyl ether	ND		0.50	0.10	ug/L			10/02/23 19:10	1
Naphthalene	ND		0.50	0.20	ug/L			10/02/23 19:10	1
1,2,4-Trimethylbenzene	ND		0.50	0.10	ug/L			10/02/23 19:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.10	ug/L			10/02/23 19:10	1
Isopropylbenzene	ND		0.50	0.10	ug/L			10/02/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichlorobenzene-d4 (Surr)	*110*		*80 - 120*		*10/02/23 19:10*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*10/02/23 19:10*	*1*

Surrogate Summary

Client: Groundwater & Environmental Services Inc
Project/Site: SPLP - Washington Crossing

Job ID: 410-144915-1

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		DCZ	BFB										
Lab Sample ID	Client Sample ID	(80-120)	(80-120)										
410-144915-1	[redacted]	111	104										
410-144915-2	[redacted]	110	103										
LCS 410-426175/4	Lab Control Sample	114	110										
MB 410-426175/6	Method Blank	109	104										

Surrogate Legend

DCZ = 1,2-Dichlorobenzene-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-426175/6
Matrix: Drinking Water
Analysis Batch: 426175

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.50	0.10	ug/L			10/02/23 14:07	1
Benzene	ND		0.50	0.10	ug/L			10/02/23 14:07	1
Ethylbenzene	ND		0.50	0.10	ug/L			10/02/23 14:07	1
Toluene	ND		0.50	0.10	ug/L			10/02/23 14:07	1
Methyl tertiary butyl ether	ND		0.50	0.10	ug/L			10/02/23 14:07	1
Naphthalene	ND		0.50	0.20	ug/L			10/02/23 14:07	1
1,2,4-Trimethylbenzene	ND		0.50	0.10	ug/L			10/02/23 14:07	1
1,3,5-Trimethylbenzene	ND		0.50	0.10	ug/L			10/02/23 14:07	1
Isopropylbenzene	ND		0.50	0.10	ug/L			10/02/23 14:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichlorobenzene-d4 (Surr)	*109*		*80 - 120*		*10/02/23 14:07*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*10/02/23 14:07*	*1*

Lab Sample ID: LCS 410-426175/4
Matrix: Drinking Water
Analysis Batch: 426175

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			15.0	14.9		ug/L		99	70 - 130		
Benzene			5.00	5.01		ug/L		100	70 - 130		
Ethylbenzene			5.00	4.98		ug/L		100	70 - 130		
Toluene			5.00	4.88		ug/L		98	70 - 130		
Methyl tertiary butyl ether			5.00	5.11		ug/L		102	70 - 130		
Naphthalene			5.00	4.65		ug/L		93	70 - 130		
1,2,4-Trimethylbenzene			5.00	4.91		ug/L		98	70 - 130		
1,3,5-Trimethylbenzene			5.00	5.03		ug/L		101	70 - 130		
Isopropylbenzene			5.00	5.07		ug/L		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichlorobenzene-d4 (Surr)	*114*		*80 - 120*
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*

QC Association Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

GC/MS VOA

Analysis Batch: 426175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-144915-1	[redacted]	Total/NA	Drinking Water	524.2	
410-144915-2	[redacted]	Total/NA	Drinking Water	524.2	
MB 410-426175/6	Method Blank	Total/NA	Drinking Water	524.2	
LCS 410-426175/4	Lab Control Sample	Total/NA	Drinking Water	524.2	

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted]
Lab Sample ID: 410-144915-1
Date Collected: 09/28/23 11:45
Matrix: Drinking Water
Date Received: 09/29/23 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	426175	UJML	ELLE	10/02/23 18:46

Client Sample ID: [redacted]
Lab Sample ID: 410-144915-2
Date Collected: 09/28/23 12:20
Matrix: Drinking Water
Date Received: 09/29/23 13:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	426175	UJML	ELLE	10/02/23 19:10

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-24

Method Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144915-1
Project/Site: SPLP - Washington Crossing

Method	Method Description	Protocol	Laboratory
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	ELLE

Protocol References:

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Groundwater & Environmental Services Inc
Project/Site: SPLP - Washington Crossing

Job ID: 410-144915-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-144915-1	[redacted]	Drinking Water	09/28/23 11:45	09/29/23 13:15
410-144915-2	[redacted]	Drinking Water	09/28/23 12:20	09/29/23 13:15

410-144915 Chain of Custody

Chain of Custody Record

Sunoco DUNS #:	N/A - Sun Pipeline
Region:	
State or Lead Regulatory Agency:	PADEP - Southeast Region
Requested Due Date (mm/dd/yy):	10/2/2023
COC Tracking Number:	

On-site Time:	Temp 0.0
Off-site Time:	Temp 0.0
Sky Conditions:	
Meteorological Events:	
Wind Speed: 0.0	Direction:

Lab Name:	Lancaster Laboratories	Facility Address:	Walker Road	Consultant/Contractor:	GES, Inc.
Address:	2425 New Holland Pike	Facility City, State:	Washington Crossing PA	Address:	440 Creamery Way, Suite 500
	Lancaster, PA 17605	Site Lat/Long:	0.0 0.0		Exton, PA 19341
Lab PM:	Amek Carter	Sunoco PM Contact:	Brad Fish	Consultant/Contractor Project No.:	0235496-06-206
Tele/Fax:	(717) 656-2308 x 1501/(717) 656-6766	Address:	100 Green Street	Consultant/Contractor PM:	Stephanie Grillo
E-mail EDD To:	No EQEDD needed		Marcus Hook, PA	Tele/Fax:	(610) 458-1077x3064 / (610) 458-2300
E-mail Report To	sgrillo@gesonline.com, midatlantic@gesonline.com	Tele/Fax:	610-212-6972	Invoice to:	ges-invoices@gesonline.com

Report Type & QC Level:

Item No.	Sample Description	Time	Date	Matrix: Soil	Matrix: Drinking Water	Laboratory No.	No. of Containers	Preservative: HCL	Requested Analysis: EPA Method 8260B (PAUGL) - BTEX, MTBE, Cumene, Naphthalene, 1,3,4-TMB, 1,3,5-TMB	Requested Analysis: EPA Method 524.2 (PAUGL) - BTEX, MTBE, Cumene, Naphthalene, 1,2,4-TMB, 1,3,5-TMB	Sample Point Lat/Long and Comments
1	121 Glenwood Drive	1145	9/28/23	X			3	X		X	
2	[redacted]	1220	9/28/23	X			3	X		X	
3											
4											
5											
6											
7											
8											
9											
10											
11											

Sampler's Name:	Jennifer Madden	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	GES, Inc.	GES	9/28/23	1445	GES - Fridge	9/28/23	1445
Shipment Date:		Fridge	9/29/23	0831	Cooler	9/29/23	0831
Shipment Method:	Laboratory Courier	Cooler	9/29/23	1315	ELLE	9/29/23	1315
Shipment Tracking No:		ELLE			BUST		

Special Instructions: 2 day Rush TAT - approved by Amek Carter

Custody Seals In Place Yes (No) Temp Blank (Yes) No Cooler Temperature on Receipt ___ OF(C) Trip Blank Yes (No)

R: 0.8
C: 0.8

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 410-144915-1

Login Number: 144915

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Roth, Stephanie

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
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 containers received and the COC.	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.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Stephanie R Grillo
Groundwater & Environmental Services Inc
440 Creamery Way
Suite 500
Exton, Pennsylvania 19341-2577

Generated 9/29/2023 12:08:27 PM

JOB DESCRIPTION

SPLP - Washington Crossing

JOB NUMBER

410-144485-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

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Generated
9/29/2023 12:08:27 PM

Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

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Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

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EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job ID: 410-144485-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-144485-1

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Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

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Receipt
The sample was received on 9/27/2023 2:20 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

Receipt Exceptions
A trip blank was not submitted for analysis with this sample shipment; and was not listed on the Chain of Custody (COC).

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

Detection Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted]
Lab Sample ID: 410-144485-1

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted]
Lab Sample ID: 410-144485-1
Date Collected: 09/26/23 11:25
Matrix: Drinking Water
Date Received: 09/27/23 14:20

Method: EPA-DW 524.2 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.50	0.10	ug/L			09/28/23 20:34	1
Benzene	ND		0.50	0.10	ug/L			09/28/23 20:34	1
Ethylbenzene	ND		0.50	0.10	ug/L			09/28/23 20:34	1
Toluene	ND		0.50	0.10	ug/L			09/28/23 20:34	1
Methyl tertiary butyl ether	ND		0.50	0.10	ug/L			09/28/23 20:34	1
Naphthalene	ND		0.50	0.20	ug/L			09/28/23 20:34	1
1,2,4-Trimethylbenzene	ND		0.50	0.10	ug/L			09/28/23 20:34	1
1,3,5-Trimethylbenzene	ND		0.50	0.10	ug/L			09/28/23 20:34	1
Isopropylbenzene	ND		0.50	0.10	ug/L			09/28/23 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichlorobenzene-d4 (Surr)	*106*		*80 - 120*		*09/28/23 20:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*09/28/23 20:34*	*1*

Surrogate Summary

Client: Groundwater & Environmental Services Inc
Project/Site: SPLP - Washington Crossing

Job ID: 410-144485-1

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		DCZ	BFB										
Lab Sample ID	Client Sample ID	(80-120)	(80-120)										
410-144485-1	[redacted]	106	101										
LCS 410-425017/4	Lab Control Sample	111	107										
MB 410-425017/6	Method Blank	106	99										

Surrogate Legend

DCZ = 1,2-Dichlorobenzene-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Method: 524.2 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-425017/6
Matrix: Drinking Water
Analysis Batch: 425017

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.50	0.10	ug/L			09/28/23 16:41	1
Benzene	ND		0.50	0.10	ug/L			09/28/23 16:41	1
Ethylbenzene	ND		0.50	0.10	ug/L			09/28/23 16:41	1
Toluene	ND		0.50	0.10	ug/L			09/28/23 16:41	1
Methyl tertiary butyl ether	ND		0.50	0.10	ug/L			09/28/23 16:41	1
Naphthalene	ND		0.50	0.20	ug/L			09/28/23 16:41	1
1,2,4-Trimethylbenzene	ND		0.50	0.10	ug/L			09/28/23 16:41	1
1,3,5-Trimethylbenzene	ND		0.50	0.10	ug/L			09/28/23 16:41	1
Isopropylbenzene	ND		0.50	0.10	ug/L			09/28/23 16:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichlorobenzene-d4 (Surr)	*106*		*80 - 120*		*09/28/23 16:41*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*09/28/23 16:41*	*1*

Lab Sample ID: LCS 410-425017/4
Matrix: Drinking Water
Analysis Batch: 425017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			15.0	14.7		ug/L		98	70 - 130		
Benzene			5.00	5.08		ug/L		102	70 - 130		
Ethylbenzene			5.00	4.81		ug/L		96	70 - 130		
Toluene			5.00	4.84		ug/L		97	70 - 130		
Methyl tertiary butyl ether			5.00	5.00		ug/L		100	70 - 130		
Naphthalene			5.00	4.45		ug/L		89	70 - 130		
1,2,4-Trimethylbenzene			5.00	4.95		ug/L		99	70 - 130		
1,3,5-Trimethylbenzene			5.00	4.89		ug/L		98	70 - 130		
Isopropylbenzene			5.00	4.96		ug/L		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichlorobenzene-d4 (Surr)	*111*		*80 - 120*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*

QC Association Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

GC/MS VOA

Analysis Batch: 425017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-144485-1	[redacted]	Total/NA	Drinking Water	524.2	
MB 410-425017/6	Method Blank	Total/NA	Drinking Water	524.2	
LCS 410-425017/4	Lab Control Sample	Total/NA	Drinking Water	524.2	

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

Client Sample ID: [redacted]
Lab Sample ID: 410-144485-1
Date Collected: 09/26/23 11:25
Matrix: Drinking Water
Date Received: 09/27/23 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	425017	UJML	ELLE	09/28/23 20:34

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-24

Method Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

Method	Method Description	Protocol	Laboratory
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	ELLE

Protocol References:

EPA-DW = "Methods For The Determination Of Organic Compounds In Drinking Water", EPA/600/4-88/039, December 1988 And Its Supplements.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Groundwater & Environmental Services Inc
Job ID: 410-144485-1
Project/Site: SPLP - Washington Crossing

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-144485-1	[redacted]	Drinking Water	09/26/23 11:25	09/27/23 14:20

410-144485 Chain of Custody

Chain of Custody Record

Sunoco DUNS #: N/A - Sun Pipeline
Region:
State or Lead Regulatory Agency: PADEP - Southeast Region
Requested Due Date (mm/dd/yy): 9/29/2023
COC Tracking Number:

Lab Name:	Lancaster Laboratories	Facility Address:	Walker Road
Address:	2425 New Holland Pike	Facility City, State:	Washington Crossing PA
	Lancaster, PA 17605	Site Lat/Long:	0.0 0.0
Lab PM:	Amek Carter	Sunoco PM Contact:	Brad Fish
Tele/Fax:	(717) 656-2308 x 1501/(717) 656-6766	Address:	100 Green Street
E-mail EDD To:	No EQEDD needed		Marcus Hook, PA
E-mail Report To	sgrillo@gesonline.com, midatlantic@gesonline.com	Tele/Fax:	610-212-6972
Report Type & QC Level:			

Item No.	Sample Description	Time	Date	Matrix: Soil	Matrix: Drinking Water	Laboratory No.	No. of Containers	Preservative: HCL	Preservative	Preservative	Preservative	Preservative	Preservative	EPA Method 8260B (PAUGL) - BTEX, MTBE, Cumene, Naphthalene, 1,2,4-TMB, 1,3,5-TMB	EPA Method 524.2 (PAUGL) - BTEX, MTBE, Cumene, Naphthalene, 1,2,4-TMB, 1,3,5-TMB
1	[redacted]	1825	9/26/23		X		3	X							X
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															

		Relinquished By / Affiliation	Date	Time
Sampler's Name:	Jennifer Madden			
Sampler's Company:	GES, Inc.		9/26/23	1400
Shipment Date:			9/27/23	0825
Shipment Method:	Laboratory Courier		9/27/23	143
Shipment Tracking No:				
Special Instructions:	2 day Rush TAT - approved by Amek Carter			

Custody Seals In Place Yes (No) Temp Blank Yes (No) Cooler Temperature on Receipt OF (C)

R: 1.4
C: 1.4

SR

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 410-144485-1

Login Number: 144485

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Roth, Stephanie

Question	Answer	Comment
The cooler's custody seal is 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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
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 containers received and the COC.	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.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	True	

ANALYTICAL REPORT

October 04, 2023

GES, Inc - Sunoco

Sample Delivery Group:	L1659450
Samples Received:	09/26/2023
Project Number:	0235496-06-873-XX
Description:	Washington Crossing
Site:	[redacted]
Report To:	Stephanie Grillo
	440 Creamery Way, Suite 500
	Exton, PA 19341

Entire Report Reviewed By:

Chad A Upchurch
Project Manager

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

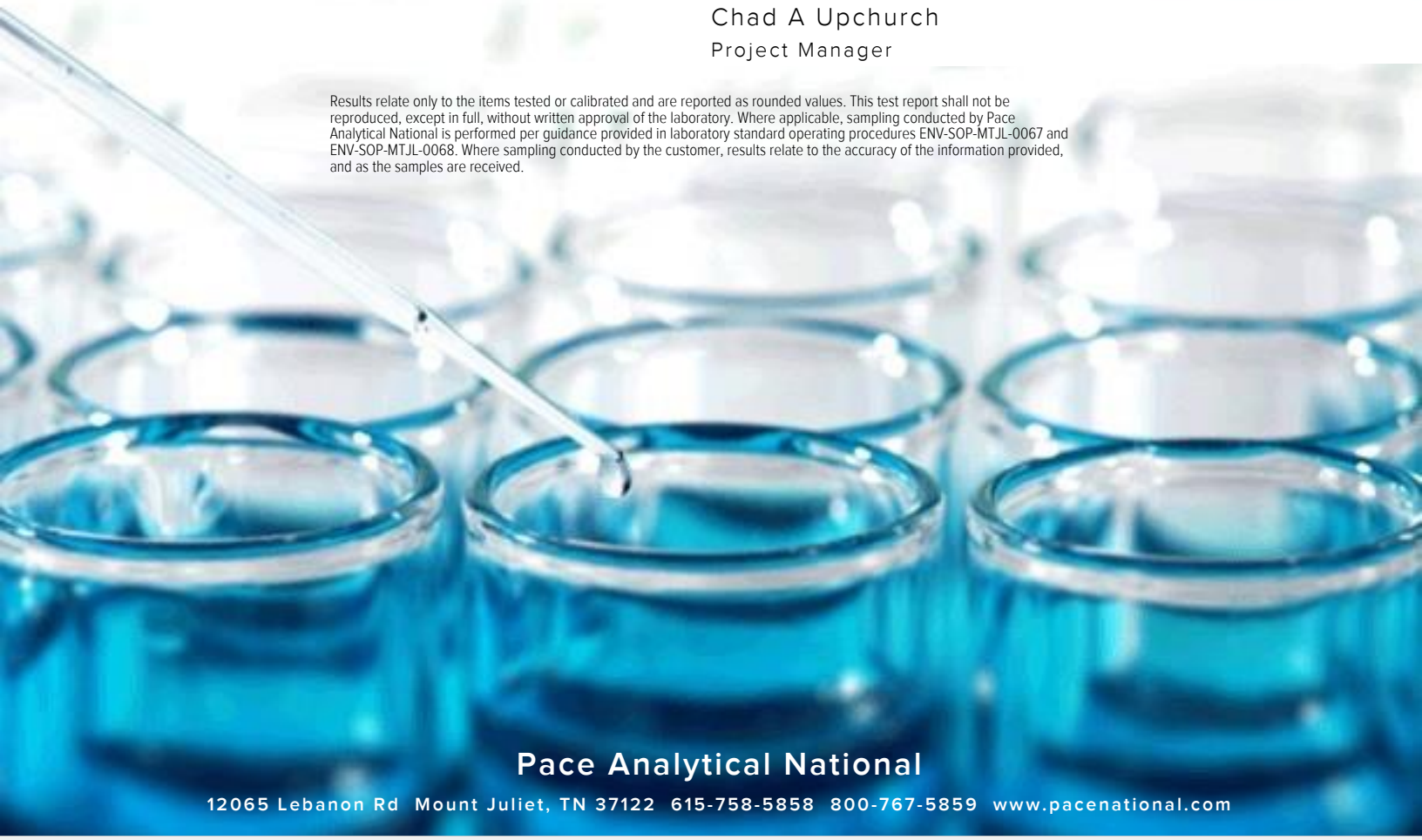

TABLE OF CONTENTS

[redacted] L1659450-01 GW

Collected by	Collected date/time	Received date/time
Jennifer Madden	09/25/23 12:43	09/26/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2139843	1	09/26/23 18:21	09/27/23 00:24	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2139841	1	09/26/23 18:18	09/27/23 10:00	JAC	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2143123	2	10/02/23 10:05	10/03/23 11:14	BMD	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2139731	1	09/26/23 16:30	09/26/23 16:30	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2141315	1	10/02/23 12:36	10/02/23 12:36	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2141748	1	09/29/23 11:50	09/29/23 11:50	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2140520	1	09/28/23 10:31	09/28/23 10:31	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2142052	1	09/30/23 15:58	09/30/23 15:58	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2142753	1	10/03/23 06:26	10/03/23 06:26	GEB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2140509	1	09/28/23 00:50	09/28/23 08:33	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG2142504	1	10/02/23 10:52	10/02/23 10:52	CCM	Mt. Juliet, TN

[redacted] L1659450-02 DW

Collected by	Collected date/time	Received date/time
Jennifer Madden	09/25/23 12:43	09/26/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 524.2	WG2138761	1	09/27/23 14:57	09/27/23 14:57	DWR	Mt. Juliet, TN

CASE NARRATIVE

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

Chad A Upchurch
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	378		10.0	1	09/27/2023 00:24	WG2139843

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		2.50	1	09/27/2023 10:00	WG2139841

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Hardness (colorimetric) as CaCO3	268		60.0	2	10/03/2023 11:14	WG2143123

Wet Chemistry by Method 2130 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	NTU		NTU		date / time	
Turbidity	1.19		0.400	1	09/26/2023 16:30	WG2139731

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	122		20.0	1	10/02/2023 12:36	WG2141315

Sample Narrative:

L1659450-01 WG2141315: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.77	T8	1	09/29/2023 11:50	WG2141748

Sample Narrative:

L1659450-01 WG2141748: 7.77 at 22C

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	655		10.0	1	09/28/2023 10:31	WG2140520

Sample Narrative:

L1659450-01 WG2140520: at 25C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Bromide	ND		1.00	1	09/30/2023 15:58	WG2142052
Chloride	80.5		1.00	1	09/30/2023 15:58	WG2142052
Sulfate	28.1		5.00	1	10/03/2023 06:26	WG2142753

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic	ND		0.0100	1	09/28/2023 08:33	WG2140509
Barium	0.126		0.00500	1	09/28/2023 08:33	WG2140509
Calcium	59.9		1.00	1	09/28/2023 08:33	WG2140509
Iron	ND		0.100	1	09/28/2023 08:33	WG2140509
Magnesium	23.3		1.00	1	09/28/2023 08:33	WG2140509
Manganese	0.0192		0.0100	1	09/28/2023 08:33	WG2140509
Potassium	ND		2.00	1	09/28/2023 08:33	WG2140509
Sodium	19.9		3.00	1	09/28/2023 08:33	WG2140509

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Methane	ND		0.0100	1	10/02/2023 10:52	WG2142504
Ethane	ND		0.0130	1	10/02/2023 10:52	WG2142504
Ethene	ND		0.0130	1	10/02/2023 10:52	WG2142504
Propane	ND		0.0190	1	10/02/2023 10:52	WG2142504

Volatile Organic Compounds (GC/MS) by Method 524.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	09/27/2023 14:57	WG2138761
Xylenes, Total	ND		0.000500	1	09/27/2023 14:57	WG2138761
Toluene	ND		0.000500	1	09/27/2023 14:57	WG2138761
Ethylbenzene	ND		0.000500	1	09/27/2023 14:57	WG2138761
Isopropylbenzene	ND		0.000500	1	09/27/2023 14:57	WG2138761
Methyl tert-butyl ether	ND		0.000500	1	09/27/2023 14:57	WG2138761
Naphthalene	ND		0.000500	1	09/27/2023 14:57	WG2138761
1,2,4-Trimethylbenzene	ND		0.000500	1	09/27/2023 14:57	WG2138761
1,3,5-Trimethylbenzene	ND		0.000500	1	09/27/2023 14:57	WG2138761

Method Blank (MB)

(MB) R3979543-1 09/27/23 00:24

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

L1659303-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1659303-04 09/27/23 00:24 • (DUP) R3979543-3 09/27/23 00:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	672	691	1	2.74		5

L1659386-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659386-01 09/27/23 00:24 • (DUP) R3979543-4 09/27/23 00:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	723	736	1	1.83		5

Laboratory Control Sample (LCS)

(LCS) R3979543-2 09/27/23 00:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8530	96.9	77.3-123	

Method Blank (MB)

(MB) R3978904-1 09/27/23 10:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		2.50	2.50

L1659480-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659480-01 09/27/23 10:00 • (DUP) R3978904-3 09/27/23 10:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	193	195	1	0.860		5

L1659549-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659549-01 09/27/23 10:00 • (DUP) R3978904-4 09/27/23 10:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	83.0	85.5	1	2.97		5

Laboratory Control Sample (LCS)

(LCS) R3978904-2 09/27/23 10:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	812	105	85.7-114	

Method Blank (MB)

(MB) R3981001-1 10/03/23 11:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hardness (colorimetric) as CaCO3	U		15.0	30.0

L1659450-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659450-01 10/03/23 11:14 • (DUP) R3981001-3 10/03/23 11:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	268	270	2	0.743		20

Laboratory Control Sample (LCS)

(LCS) R3981001-2 10/03/23 11:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hardness (colorimetric) as CaCO3	100	108	108	85.0-115	

L1660669-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1660669-01 10/03/23 11:16 • (MS) R3981001-4 10/03/23 11:17 • (MSD) R3981001-5 10/03/23 11:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hardness (colorimetric) as CaCO3	100	388	458	460	70.0	72.0	2	80.0-120	E J6	E J6	0.436	20

Sample Narrative:

MS: Matrix spike failure due to matrix interference.

MSD: Matrix spike failure due to matrix interference.

Method Blank (MB)

(MB) R3977999-1 09/26/23 16:30

Analyte	MB Result NTU	MB Qualifier	MB MDL NTU	MB RDL NTU
Turbidity	U		0.200	0.400

L1659435-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1659435-02 09/26/23 16:30 • (DUP) R3977999-3 09/26/23 16:30

Analyte	Original Result NTU	DUP Result NTU	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Turbidity	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3977999-2 09/26/23 16:30

Analyte	Spike Amount NTU	LCS Result NTU	LCS Rec. %	Rec. Limits %	LCS Qualifier
Turbidity	40.0	41.6	104	90.0-110	

Method Blank (MB)

(MB) R3980577-2 10/02/23 11:26

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

Sample Narrative:

BLANK: Endpoint pH 4.5

L1659397-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659397-01 10/02/23 11:42 • (DUP) R3980577-3 10/02/23 11:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	445	447	1	0.499		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1659700-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659700-01 10/02/23 13:27 • (DUP) R3980577-4 10/02/23 13:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	63.5	62.9	1	0.903		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3980577-1 10/02/23 11:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	98.3	98.3	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

L1660416-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1660416-01 09/29/23 11:50 • (DUP) R3979541-3 09/29/23 11:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.84	6.83	1	0.146		1

Sample Narrative:

OS: 6.84 at 21.4C

DUP: 6.83 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R3979541-1 09/29/23 11:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 21C

Method Blank (MB)

(MB) R3978812-1 09/28/23 10:31

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

Sample Narrative:
BLANK: at 25C

L1659341-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1659341-02 09/28/23 10:31 • (DUP) R3978812-3 09/28/23 10:31

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	226	224	1	0.887		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1659700-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659700-01 09/28/23 10:31 • (DUP) R3978812-4 09/28/23 10:31

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	326	327	1	0.306		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3978812-2 09/28/23 10:31

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	732	682	93.2	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3980466-1 09/30/23 09:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.353	1.00
Chloride	U		0.379	1.00

L1659116-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1659116-01 09/30/23 12:30 • (DUP) R3980466-3 09/30/23 12:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.701		15
Chloride	1.98	1.95	1	1.56		15

L1659581-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1659581-03 09/30/23 18:46 • (DUP) R3980466-6 09/30/23 18:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.000		15
Chloride	22.8	22.8	1	0.0883		15

Laboratory Control Sample (LCS)

(LCS) R3980466-2 09/30/23 09:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	40.1	100	80.0-120	
Chloride	40.0	39.9	99.8	80.0-120	

L1659116-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1659116-01 09/30/23 12:30 • (MS) R3980466-4 09/30/23 12:57 • (MSD) R3980466-5 09/30/23 13:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	40.0	ND	37.4	37.2	91.9	91.3	1	80.0-120			0.695	15
Chloride	40.0	1.98	39.3	39.2	93.3	93.2	1	80.0-120			0.105	15

L1659581-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1659581-03 09/30/23 18:46 • (MS) R3980466-7 09/30/23 19:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	ND	24.3	60.8	1	80.0-120	J6
Chloride	40.0	22.8	56.4	84.0	1	80.0-120	

QUALITY CONTROL SUMMARY

L1659450-01

Method Blank (MB)

(MB) R3981591-1 10/03/23 05:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	U		0.594	5.00

L1660584-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1660584-02 10/03/23 06:52 • (DUP) R3981591-3 10/03/23 07:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	0.000		15

L1660683-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1660683-01 10/03/23 09:18 • (DUP) R3981591-5 10/03/23 09:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	54.4	54.5	1	0.234		15

Laboratory Control Sample (LCS)

(LCS) R3981591-2 10/03/23 05:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	39.7	99.3	80.0-120	

L1660584-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1660584-02 10/03/23 06:52 • (MS) R3981591-4 10/03/23 07:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	ND	39.3	98.3	1	80.0-120	

L1660683-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1660683-01 10/03/23 09:18 • (MS) R3981591-6 10/03/23 09:45 • (MSD) R3981591-7 10/03/23 09:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	54.4	84.9	84.9	76.1	76.3	1	80.0-120	J6	J6	0.0856	15

Method Blank (MB)

(MB) R3978998-1 09/28/23 08:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.00440	0.0100
Barium	U		0.000736	0.00500
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Sodium	U		0.504	3.00

Laboratory Control Sample (LCS)

(LCS) R3978998-2 09/28/23 08:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	1.00	0.992	99.2	80.0-120	
Barium	1.00	1.03	103	80.0-120	
Calcium	10.0	9.98	99.8	80.0-120	
Iron	10.0	9.88	98.8	80.0-120	
Magnesium	10.0	10.1	101	80.0-120	
Manganese	1.00	0.970	97.0	80.0-120	
Potassium	10.0	9.85	98.5	80.0-120	
Sodium	10.0	10.5	105	80.0-120	

L1659450-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1659450-01 09/28/23 08:33 • (MS) R3978998-4 09/28/23 08:39 • (MSD) R3978998-5 09/28/23 08:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	ND	1.01	0.994	101	99.4	1	75.0-125			1.77	20
Barium	1.00	0.126	1.13	1.12	101	99.5	1	75.0-125			1.08	20
Calcium	10.0	59.9	69.7	68.8	98.1	88.4	1	75.0-125			1.39	20
Iron	10.0	ND	9.90	9.59	98.8	95.7	1	75.0-125			3.20	20
Magnesium	10.0	23.3	32.9	32.2	95.8	89.5	1	75.0-125			1.92	20
Manganese	1.00	0.0192	0.973	0.952	95.4	93.3	1	75.0-125			2.20	20
Potassium	10.0	ND	11.3	11.2	94.6	93.3	1	75.0-125			1.13	20
Sodium	10.0	19.9	30.5	30.3	106	104	1	75.0-125			0.526	20

Method Blank (MB)

(MB) R3980567-2 10/02/23 10:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Ethene	U		0.00426	0.0130
Propane	U		0.00548	0.0190

L1657583-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1657583-04 10/02/23 10:48 • (DUP) R3980567-3 10/02/23 12:52

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

L1660867-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1660867-05 10/02/23 13:30 • (DUP) R3980567-4 10/02/23 14:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	1.28	1.29	1	0.778		20
Ethane	ND	ND	1	5.45		20
Ethene	ND	ND	1	0.000		20
Propane	0.0495	0.0496	1	0.202		20

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

(LCS) R3980567-1 10/02/23 10:39 • (LCSD) R3980567-5 10/02/23 14:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methane	0.0678	0.0672	0.0752	99.1	111	85.0-115			11.2	20
Ethane	0.129	0.117	0.116	90.7	89.9	85.0-115			0.858	20
Ethene	0.127	0.117	0.115	92.1	90.6	85.0-115			1.72	20
Propane	0.186	0.172	0.170	92.5	91.4	85.0-115			1.17	20

Method Blank (MB)

(MB) R3978924-2 09/27/23 13:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000490	0.000500
Xylenes, Total	U		0.000340	0.000500
Toluene	U		0.000412	0.000500
Ethylbenzene	U		0.0000440	0.000500
Isopropylbenzene	U		0.0000410	0.000500
Methyl tert-butyl ether	U		0.0000530	0.000500
Naphthalene	U		0.000110	0.000500
1,2,4-Trimethylbenzene	U		0.0000430	0.000500
1,3,5-Trimethylbenzene	U		0.0000430	0.000500

Laboratory Control Sample (LCS)

(LCS) R3978924-1 09/27/23 12:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00506	101	70.0-130	
Xylenes, Total	0.0150	0.0154	103	70.0-130	
Toluene	0.00500	0.00504	101	70.0-130	
Ethylbenzene	0.00500	0.00499	99.8	70.0-130	
Isopropylbenzene	0.00500	0.00522	104	70.0-130	
Methyl tert-butyl ether	0.00500	0.00513	103	70.0-130	
Naphthalene	0.00500	0.00472	94.4	70.0-130	
1,2,4-Trimethylbenzene	0.00500	0.00524	105	70.0-130	
1,3,5-Trimethylbenzene	0.00500	0.00518	104	70.0-130	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

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

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

Company Name/Address:
GES, Inc - Sunoco
440 Creamery Way, Suite 500
Exton, PA 19341

Billing Information:
Accounts Payable
440 Creamery Way, Suite 500
Exton, PA 19341

Pres Chk

Report to: **Stephanie Grillo**

Email To: **sgrillo@gesonline.com**

Project Description: Washington Crossing

City/State Collected: **PA**

Please Circle: PT MT CT (ET)

Phone: **610-458-1077**

Client Project # **0235496-06-873-xx**

Lab Project # **SUNGES-JACOBSCREEK**

Collected by (print): **Jennifer Madden**

Site/Facility ID # [redacted]

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
X Two Day ___ 10 Day (Rad Only)
___ Three Day Two day for VOC only

Quote #

Date Results Needed: **5 day TAT**

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	**pH, SPCON, TURB* 250mlHDPE-NoPres	ALK, Br, Cl, SO4 250mlHDPE-NoPres	V8260BTEX, MTBE, Cumene, Naphthalen	RSK175 + Propane 40mlAmb HCl	Total Mtls, Hardness 250mlHDPE-HNO3	TDS, TSS 1L-HDPE NoPres	****DW COLILERT*** Microbiological	**** DW Fecal*** Microbiological	Remarks	Sample # (lab only)
[redacted]	Grab	DW	—	9/25/23	1243	9	X	X	X	X	X	X				-01/02

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

12065 Lebanon Rd Mount Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1659450

E164

Acctnum: **SUNGES**
Template: **T211996**
Prelogin: **P935132**
PM: **Chad Upchurch**
PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
Metals = As,Ba,Ca,Fe,K,Mg,Mn,Na

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__UPS __FedEx __Courier __ _____

Tracking # 6295 1190 7856

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	9/25/23	1715	Fedex 9/25/23 1715
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			TANG MING CHINA

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 5.1 °C Bottles Received: 9

Date: 9.26 Time: 0900

PH-10BDH4321 TRC-2352362
CR6-20221V
PH-10BDH4321 TRC-2352362
CR6-20221V

If preservation required by Login: Date/Time

Condition: NCF / OK

Sample Receipt Checklist

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