



December 06, 2016

Service Request No:R1611666

Mr. Fran Connor
Test Assured Network
204 Talmadge Hill West
Waverly, NY 14892

Laboratory Results for: Pine Valley Schools

Dear Mr.Connor,

Enclosed are the results of the sample(s) submitted to our laboratory November 03, 2016
For your reference, these analyses have been assigned our service request number **R1611666**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Lisa.Reyes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Lisa Reyes
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com



Client: Test Assured Network
Project: Pine Valley Schools
Sample Matrix: Drinking Water

Service Request:R1611666
Date Received:11/3/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier I data deliverables. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Two DW samples were received for analysis at ALS Environmental on 11/03/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Metals Analyses:

No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by *J. Hayes* Date 12/6/2016



SAMPLE DETECTION SUMMARY

CLIENT ID: Entry Point **Lab ID: R1611666-001**

Analyte	Results	Flag	MDL	PQL	Units	Method
Bromodichloromethane	1.1		0.20	0.50	ug/L	524.2
Bromoform	4.9		0.30	0.50	ug/L	524.2
Dibromochloromethane	3.3		0.20	0.50	ug/L	524.2

CLIENT ID: Elem. Utility Sink #20 **Lab ID: R1611666-002**

Analyte	Results	Flag	MDL	PQL	Units	Method
Lead, Total	3.7		0.10	1.0	ug/L	200.8



Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Test Assured Network
Project: Pine Valley Schools

Service Request:R1611666

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1611666-001	Entry Point	11/2/2016	1125
R1611666-002	Elem. Utility Sink #20	11/2/2016	0900

CHAIN OF CUSTODY
REPORT TO:

Pine Valley Schools
tbrunswick@pval.org
slaglee@co.chautauqua.ny.us

CONTACT

PH#

FAX#

BILL TO: TAN

PO#

PROJECT DESCRIPTION

SAMPLER SIGNATURE / AFFILIATION

Container Sample Point No./Type

1	Entry Point
2	
3	
4	
5	
6	
7	Elem. Uti. Sink #20
8	
9	
10	
11	

Test Assured

NET WORK
YOUR ENVIRONMENTAL LABORATORY & FIELD SERVICE PARTNER
204 Talmadge Hill West • Waverly, NY
(607) 760-9779

REFRIGERATE SAMPLES
AFTER COLLECTION

TRANSPORT
TO
LABORATORY
IN COOLER
WITH ICE

RESULTS ARE BEING USED FOR:

NYDOH NYDEC PADEP
LANDFILL
PERSONAL OTHER

ARE SPECIAL DETECTION LIMITS
NEEDED: YES / NO

IF YES, PLEASE ATTACH
IS A QC PACKAGE NEEDED?
YES NO

IF YES, PLEASE ATTACH REQUIREMENTS

PWS ID# _____
Location _____
Sample Point _____

An incomplete chain of custody may delay the processing of your sample(s).

ANALYSIS TO BE PERFORMED (PER CONTAINER)

Chlorine Residual Free Total

PRESERVATIVE

SAMPLER INITIALS

SAMPLE TYPE - GRAB / COMPOSITE

SAMPLE MATRIX

TIME OF SAMPLING

DATE SAMPLED

H HYDROCHLORIC ACID OH SODIUM HYDROXIDE
S SULFURIC ACID AS ASCORBIC ACID
N NITRIC ACID AC ACETIC ACID
SO, SODIUM SULFITE NH, AMMONIUM CHLORIDE
This SODIUM THIOSULFATE ZN ZINC ACETATE
- NONE Hg MERCURIC CHLORIDE

524 POC's
Uranium
Gross Alpha/Beta
Radium 226
Radium 228
Lead .15

COMPOSITE NO RECEIPT

PRESERVATIVE ADDED ON RECEIPT

LAB USE ONLY

Please fill out all applicable areas completely.

DELIVERED BY _____ °C ARRIVAL ON ICE Y / N

RECEIVED BY: *[Signature]* DATE: 11/2/16 TIME: 1510

RECEIVED BY: _____ DATE: / / TIME: / /

RECEIVED BY: _____ DATE: / / TIME: / /

R1611666
Test Assured Network
Pine Valley Schools

7042



Cooler Receipt and Preservation Check Form

R1611666

Test Assured Network
Pine Valley Schools

5



Project/Client Test Assured Folder Number _____

Cooler received on 11/2/16 by: Sh COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y <input checked="" type="checkbox"/>
2	Custody papers properly completed (ink, signed)?	<input checked="" type="checkbox"/> N
3	Did all bottles arrive in good condition (unbroken)?	<input checked="" type="checkbox"/> N
4	Circle: Wet Ice Dry Ice Gel packs present?	<input checked="" type="checkbox"/> N

5a	Perchlorate samples have required headspace?	Y N <input checked="" type="checkbox"/> NA
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y <input checked="" type="checkbox"/> NA
6	Where did the bottles originate?	ALS/ROC <u>CLIENT</u>
7	Soil VOA received as:	Bulk Encore 5035set <input checked="" type="checkbox"/> NA

8. Temperature Readings Date: 11/2/16 Time: 1822 ID: IR#7 R#8 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>2.8</u>	<u>3.8</u>	<u>2.8</u>	<u>2.6</u>			
Correction Factor (°C)	<u>10.0</u>	<u>10.0</u>	<u>10.0</u>	<u>10.0</u>			
Corrected Temp (°C)	<u>2.8</u>	<u>3.8</u>	<u>2.8</u>	<u>2.6</u>			
Within 0-6°C?	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted _____ Poorly Packed _____ Same Day Rule _____

& Client Approval to Run Samples: _____ Standing Approval _____ Client aware at drop-off _____ Client notified by: _____

All samples held in storage location: R-002 by Sh on 11/2/16 at 1822
 5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 11-3-16 Time: 1154 by: f.s

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
- Air Samples: Cassettes / Tubes Intact _____ Canisters Pressurized _____ Tedlar® Bags Inflated NA

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
<2	HNO ₃		<input checked="" type="checkbox"/>	<u>1014</u>		<u>1012</u>	<u>1ml</u>	<u>B0326156H1</u>	<u><2</u>
<2	H ₂ SO ₄								
<4	NaHSO ₄								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add Na ₂ S ₂ O ₃ (CN), ascorbic (phenol).					
	Na ₂ S ₂ O ₃	-	-						
	Zn Acetate	-	-						
	HCl	**	**						

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

**Not to be tested before analysis - pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 052316-2A70 + 060616-2A71
Other Comments: _____

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	<u>SUB</u>
SO3	MARRS
ALS	REV

PC Secondary Review: AP

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Miscellaneous Forms

ALS Environmental—Rochester Laboratory
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REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.</p> <p>J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.</p> <p>* Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|



Rochester Lab ID # for State Certifications¹

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Accredited	Nebraska Accredited	294100 A/B
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Test Assured Network
Project: Pine Valley Schools

Service Request: R1611666

Sample Name: Entry Point
Lab Code: R1611666-001
Sample Matrix: Drinking Water

Date Collected: 11/2/16
Date Received: 11/3/16

Analysis Method
524.2

Extracted/Digested By

Analyzed By
DLIPANI

Sample Name: Elem. Utility Sink #20
Lab Code: R1611666-002
Sample Matrix: Drinking Water

Date Collected: 11/2/16
Date Received: 11/3/16

Analysis Method
200.8

Extracted/Digested By

Analyzed By
CGILDAY



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.



Sample Results

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Test Assured Network
Project: Pine Valley Schools
Sample Matrix: Drinking Water
Sample Name: Entry Point
Lab Code: R1611666-001

Service Request: R1611666
Date Collected: 11/02/16 11:25
Date Received: 11/03/16 18:10

Units: ug/L
Basis: NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Bromodichloromethane	1.1	0.50	1	11/09/16 15:15	
Bromoform	4.9	0.50	1	11/09/16 15:15	
Chloroform	0.50 U	0.50	1	11/09/16 15:15	
Dibromochloromethane	3.3	0.50	1	11/09/16 15:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichlorobenzene-d4	88	70 - 130	11/09/16 15:15	
Bromofluorobenzene	84	70 - 130	11/09/16 15:15	



Metals

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Test Assured Network
Project: Pine Valley Schools
Sample Matrix: Drinking Water
Sample Name: Elem. Utility Sink #20
Lab Code: R1611666-002

Service Request: R1611666
Date Collected: 11/02/16 09:00
Date Received: 11/03/16 18:10
Basis: NA

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Lead, Total	200.8	3.7	ug/L	1.0	1	11/12/16 13:39	



QC Summary Forms

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Volatile Organic Compounds by GC/MS

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Test Assured Network
Project: Pine Valley Schools
Sample Matrix: Drinking Water

Service Request: R1611666

SURROGATE RECOVERY SUMMARY
Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2

Sample Name	Lab Code	1,2-Dichlorobenzene-d4	Bromofluorobenzene
		70 - 130	70 - 130
Entry Point	R1611666-001	88	84
Lab Control Sample	RQ1613752-03	98	97
Duplicate Lab Control Sample	RQ1613752-04	104	99
Method Blank	RQ1613752-05	109	88

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Test Assured Network
Project: Pine Valley Schools
Sample Matrix: Drinking Water
Sample Name: Method Blank
Lab Code: RQ1613752-05

Service Request: R1611666
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Bromodichloromethane	0.50 U	0.50	1	11/09/16 14:03	
Bromoform	0.50 U	0.50	1	11/09/16 14:03	
Chloroform	0.50 U	0.50	1	11/09/16 14:03	
Dibromochloromethane	0.50 U	0.50	1	11/09/16 14:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichlorobenzene-d4	109	70 - 130	11/09/16 14:03	
Bromofluorobenzene	88	70 - 130	11/09/16 14:03	



Metals

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Test Assured Network
Project: Pine Valley Schools
Sample Matrix: Drinking Water
Sample Name: Method Blank
Lab Code: R1611666-MB

Service Request: R1611666
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Lead, Total	200.8	1.0 U	ug/L	1.0	1	11/12/16 12:12	



Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory
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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

December 06, 2016

Ms. Lisa Reyes
ALS Environmental Columbia
1565 Jefferson Road
Building 300
Rochester, NY 14623

RE: Project: R1611666
Pace Project No.: 30201894

Dear Ms. Reyes:

Enclosed are the analytical results for sample(s) received by the laboratory on November 08, 2016. 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.

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

Sincerely,

Carin Ferris
carin.ferris@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: R1611666

Pace Project No.: 30201894

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: R1611666
Pace Project No.: 30201894

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30201894001	Entry Point	Drinking Water	11/02/16 11:25	11/08/16 09:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: R1611666
Pace Project No.: 30201894

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30201894001	Entry Point	EPA 900.0	NEG	2
		EPA 903.1	ACM	1
		EPA 904.0	JLW	1
		ASTM D5174-97	RMK	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: R1611666
Pace Project No.: 30201894

Method: EPA 900.0
Description: 900.0 Gross Alpha/Beta
Client: ALS Environmental Columbia
Date: December 06, 2016

General Information:

1 sample was analyzed for EPA 900.0. 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:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: R1611666
Pace Project No.: 30201894

Method: EPA 903.1
Description: 903.1 Radium 226
Client: ALS Environmental Columbia
Date: December 06, 2016

General Information:

1 sample was analyzed for EPA 903.1. 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.

Additional Comments:

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: R1611666
Pace Project No.: 30201894

Method: EPA 904.0
Description: 904.0 Radium 228
Client: ALS Environmental Columbia
Date: December 06, 2016

General Information:

1 sample was analyzed for EPA 904.0. 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:

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PROJECT NARRATIVE

Project: R1611666
Pace Project No.: 30201894

Method: ASTM D5174-97
Description: D517497 Total Uranium KPA
Client: ALS Environmental Columbia
Date: December 06, 2016

General Information:

1 sample was analyzed for ASTM D5174-97. 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:

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

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: R1611666
 Pace Project No.: 30201894

Sample: Entry Point **Lab ID: 30201894001** Collected: 11/02/16 11:25 Received: 11/08/16 09:50 Matrix: Drinking Water
 PWS: Site ID: Sample Type:

Comments:
 • Sample collection dates and times were not present on the sample containers.
 • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.
 • The sampler's name and signature were not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	0.599 ± 1.19 (2.53) C:NA T:NA	pCi/L	11/22/16 19:21	12587-46-1	
Gross Beta	EPA 900.0	1.71 ± 0.749 (1.35) C:NA T:NA	pCi/L	11/22/16 19:21	12587-47-2	
Radium-226	EPA 903.1	0.585 ± 0.429 (0.543) C:NA T:97%	pCi/L	12/05/16 10:41	13982-63-3	
Radium-228	EPA 904.0	0.703 ± 0.392 (0.748) C:68% T:82%	pCi/L	12/05/16 11:46	15262-20-1	
Total Uranium	ASTM D5174-97	0.025 ± 0.001 (0.193) C:NA T:NA	ug/L	12/05/16 17:22	7440-61-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: R1611666
 Pace Project No.: 30201894

QC Batch: 241309 Analysis Method: EPA 904.0
 QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
 Associated Lab Samples: 30201894001

METHOD BLANK: 1186280 Matrix: Water
 Associated Lab Samples: 30201894001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.346 ± 0.388 (0.811) C:73% T:76%	pCi/L	12/05/16 11:44	

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: R1611666
 Pace Project No.: 30201894

QC Batch: 241308 Analysis Method: EPA 903.1
 QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
 Associated Lab Samples: 30201894001

METHOD BLANK: 1186278 Matrix: Water
 Associated Lab Samples: 30201894001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.185 ± 0.282 (0.741) C:NA T:94%	pCi/L	12/05/16 10:23	

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: R1611666
 Pace Project No.: 30201894

QC Batch: 240317	Analysis Method: ASTM D5174-97
QC Batch Method: ASTM D5174-97	Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 30201894001	

METHOD BLANK: 1181133	Matrix: Water
Associated Lab Samples: 30201894001	

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.136 ± 0.006 (0.193) C:NA T:NA	ug/L	11/30/16 16:57	

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.

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QUALITY CONTROL - RADIOCHEMISTRY

Project: R1611666
 Pace Project No.: 30201894

QC Batch: 240697 Analysis Method: EPA 900.0
 QC Batch Method: EPA 900.0 Analysis Description: 900.0 Gross Alpha/Beta
 Associated Lab Samples: 30201894001

METHOD BLANK: 1182784 Matrix: Water
 Associated Lab Samples: 30201894001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.154 ± 0.662 (1.88) C:NA T:NA	pCi/L	11/25/16 08:46	
Gross Beta	0.243 ± 0.760 (1.80) C:NA T:NA	pCi/L	11/25/16 08:46	

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.

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QUALIFIERS

Project: R1611666
Pace Project No.: 30201894

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.
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.
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.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

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ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Lisa Reyes

Project Number: R1611666
 Project Manager: Lisa Reyes
 QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample			Lab ID
				Date	Time	Time	
R1611666-001	Entry Point	4	Drinking Water	11/2/16	1125	Pace PA	
							Radioact 900.0 X
							Radium 226 903.0 X
							Radium 228 904.0 X
							ASTM D5174 U X

001 ✓

WO#: 30201894



30201894

Special Instructions/Comments	Turnaround Requirements RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 <input checked="" type="checkbox"/> STANDARD Requested FAX Date: _____ Requested Report Date: 11/14/16	Report Requirements <input checked="" type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data PQL/MDL/LJ <u> N </u> EDD <u> N </u>	Invoice Information PO# 58R1611666 Bill to _____

Requisitioned By: *John Mihal* 11/7/16/1448

Received By: *Kristen Hill* 11-8-14 0950 Airbill Number.

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Lisa Reyes

Project Number: R1611666
Project Manager: Lisa Reyes
QAP: LAB QAP

R1611666

✓ **Ship To: Pace PA**
Pace Analytical Services
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601

PC AR Date 11/3/16
SMO _____ Date _____

Instructions:
Ice _____
Dry Ice _____
No Ice _____
Bill to Client Account _____

Shipping:
Overnight _____
2nd Day _____
Ground _____

Comments:

ALS Group USA, Corp.
www.alsglobal.com
An ALS Limited Company

Sample Condition Upon Receipt Pittsburgh



Client Name: ALS

Project # 30201894

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 682680171602

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used N/A Type of Ice: Wet Blue (None)

Cooler Temperature Observed Temp N/A °C Correction Factor: N/A °C Final Temp: N/A °C
Temp should be above freezing to 6°C

Date and Initials of person examining contents: KH 11-8-14

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: <u>W+</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. <u>No time or date on samples</u>
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used: -Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10.
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Filtered volume received for Dissolved tests All containers needing preservation have been checked.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. <u>Added 3.0 mL HNO3 to bottles</u>
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>KH</u> Date/time of preservation: <u>11-8-14 1555</u> Lot # of added preservative: <u>DL16-1122</u>
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>KH</u> Date: <u>11-8-14</u>

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.