

September 7, 2021

Thomas M. Hanna, P.E., LEED AP
Capital Projects Manager
Central Bucks School District
320 West Swamp Road
Doylestown, PA 18901

**Re: Lead in Drinking Water Re-Sample Collection and Reporting
Kutz Elementary School
1950 Turk Road
Doylestown, PA 18901**

Dear Mr. Hanna:

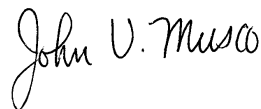
This document has been prepared by Langan to provide the results of the drinking water re-sampling activities at the above referenced school. The results of the initial drinking water sampling activities documented that total lead was present in nine samples collected from drinking water fixtures (Sample Locations Nurses Office, B1, B2, B3, B4, D2, D3, D4, C1) at levels above the 15 micrograms per liter (ug/L) regulatory level. The re-sampling was conducted on August 12 & 17, 2021 after the fixtures were flushed. The collected samples were sent to the Pennsylvania certified environmental laboratory, PACE Analytical, and analyzed for total lead by USEPA Method 200.8, to meet Pennsylvania's action level requirements.

The re-sampling results did not detect any exceedances of the Pennsylvania Action Level of 15 ug/L with the exception of the following locations:

<u>Location</u>	<u>Sample ID</u>	<u>Result</u>
B3	KB3R_081221	490 ug/L
C1	KC1R_081221	33.3 ug/L

A figure of the re-sampling locations and copy of the laboratory reports are attached.

Sincerely,
Langan Engineering & Environmental Services, Inc.



John V. Musco
Associate

Enclosure
cc: B. Lambing - Langan

NJ Certificate of Authorization No. 24GA27996400

\\langan.com\data\DYL\data4\200130403\Project Data\Record Data\Reports\Resampling August 2021\Resampling Report\Kutz\Kutz_Lead_Re-Sampling_Report_2021.docx

August 19, 2021

Bill Lambing
Langan Engineering
2700 Kelly Road
Suite 200
Warrington, PA 18976

RE: Project: CENTRAL BUCKS SCHOOL (KUTZ)
Pace Project No.: 70184249

Dear Bill Lambing:

Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

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

Sincerely,



Sophia Sparkes
sophia.sparkes@pacelabs.com
(631)694-3040
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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

Project: CENTRAL BUCKS SCHOOL (KUTZ)

Pace Project No.: 70184249

Pace Analytical Services Long Island

575 Broad Hollow Rd, Melville, NY 11747

Connecticut Certification #: PH-0435

Delaware Certification # NY 10478

Maryland Certification #: 208

Massachusetts Certification #: M-NY026

New Hampshire Certification #: 2987

New Jersey Certification #: NY158

New York Certification #: 10478 Primary Accrediting Body

Pennsylvania Certification #: 68-00350

Rhode Island Certification #: LAO00340

Virginia Certification # 460302

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CENTRAL BUCKS SCHOOL (KUTZ)

Pace Project No.: 70184249

Sample: KNOR_081221	Lab ID: 70184249001	Collected: 08/12/21 07:19	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	14.0	ug/L	1.0	1		08/17/21 17:02	7439-92-1	

Sample: KB1R_081221	Lab ID: 70184249002	Collected: 08/12/21 07:21	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	13.3	ug/L	1.0	1		08/17/21 17:03	7439-92-1	

Sample: KB3R_081221	Lab ID: 70184249004	Collected: 08/12/21 07:22	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	490	ug/L	1.0	1		08/17/21 17:05	7439-92-1	

Sample: KB4R_081221	Lab ID: 70184249005	Collected: 08/12/21 07:26	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	14.1	ug/L	1.0	1		08/17/21 17:10	7439-92-1	

Sample: KD2R_081221	Lab ID: 70184249006	Collected: 08/12/21 07:27	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	5.0	ug/L	1.0	1		08/17/21 17:11	7439-92-1	

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ANALYTICAL RESULTS

Project: CENTRAL BUCKS SCHOOL (KUTZ)

Pace Project No.: 70184249

Sample: KD3R_081221	Lab ID: 70184249007	Collected: 08/12/21 07:28	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	11.4	ug/L	1.0	1		08/17/21 17:12	7439-92-1	

Sample: KD4R_081221	Lab ID: 70184249008	Collected: 08/12/21 07:29	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	5.8	ug/L	1.0	1		08/17/21 17:13	7439-92-1	

Sample: KC1R_081221	Lab ID: 70184249009	Collected: 08/12/21 07:32	Received: 08/14/21 10:40	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Melville							
Lead	33.3	ug/L	1.0	1		08/17/21 17:14	7439-92-1	

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QUALITY CONTROL DATA

Project: CENTRAL BUCKS SCHOOL (KUTZ)

Pace Project No.: 70184249

QC Batch: 222171

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET No Prep Drinking Water

Laboratory: Pace Analytical Services - Melville

Associated Lab Samples: 70184249001, 70184249002

METHOD BLANK: 1120306

Matrix: Water

Associated Lab Samples: 70184249001, 70184249002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<1.0	1.0	08/17/21 16:33	

LABORATORY CONTROL SAMPLE: 1120307

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	50	50.6	101	85-115	

MATRIX SPIKE SAMPLE: 1120310

Parameter	Units	70183854001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	7.2	50	71.5	129	70-130	

MATRIX SPIKE SAMPLE: 1120312

Parameter	Units	70184245003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	48.8	50	110	122	70-130	

SAMPLE DUPLICATE: 1120309

Parameter	Units	70183854001 Result	Dup Result	RPD	Qualifiers
Lead	ug/L	7.2	7.0	2	

SAMPLE DUPLICATE: 1120311

Parameter	Units	70184245003 Result	Dup Result	RPD	Qualifiers
Lead	ug/L	48.8	49.4	1	

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

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QUALITY CONTROL DATA

Project: CENTRAL BUCKS SCHOOL (KUTZ)
Pace Project No.: 70184249

QC Batch: 222172 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET No Prep Drinking Water
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70184249004, 70184249005, 70184249006, 70184249007, 70184249008, 70184249009

METHOD BLANK: 1120313 Matrix: Water
Associated Lab Samples: 70184249004, 70184249005, 70184249006, 70184249007, 70184249008, 70184249009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<1.0	1.0	08/17/21 17:04	

LABORATORY CONTROL SAMPLE: 1120314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	50	50.2	100	85-115	

MATRIX SPIKE SAMPLE: 1120316

Parameter	Units	70184249004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	490	50	528	77	70-130	

MATRIX SPIKE SAMPLE: 1120318

Parameter	Units	70184252002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	7.1	50	72.5	131	70-130	M1

SAMPLE DUPLICATE: 1120315

Parameter	Units	70184249004 Result	Dup Result	RPD	Qualifiers
Lead	ug/L	490	493	1	

SAMPLE DUPLICATE: 1120317

Parameter	Units	70184252002 Result	Dup Result	RPD	Qualifiers
Lead	ug/L	7.1	7.1	1	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CENTRAL BUCKS SCHOOL (KUTZ)

Pace Project No.: 70184249

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CENTRAL BUCKS SCHOOL (KUTZ)

Pace Project No.: 70184249

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70184249001	KNOR_081221	EPA 200.8	222171		
70184249002	KB1R_081221	EPA 200.8	222171		
70184249004	KB3R_081221	EPA 200.8	222172		
70184249005	KB4R_081221	EPA 200.8	222172		
70184249006	KD2R_081221	EPA 200.8	222172		
70184249007	KD3R_081221	EPA 200.8	222172		
70184249008	KD4R_081221	EPA 200.8	222172		
70184249009	KC1R_081221	EPA 200.8	222172		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed.

WO#: 70184249



70184249

Section A

Section B

Section C

Required Client Information:

Required Project Information:

Invoice Information:

Company: Langan Engineering	Report To: Bill Lambing	Attention: Bill Lambing
Address: 2700 Kelly Road, Suite 200	Copy To:	Company Name: Langan Engineering
Warrington, PA 18976	Purchase Order #: 200130403-400-001	Address: 2700 Kelly Road, Suite 200
Email: blaming@langan.com	Project Name: Central Bucks School District (Kutz)	Pace Quote: See Langan-Pace MSA
Phone: 215-491-6500 Fax: 2015-491-6501	Project #: 200130403	Pace Project Manager: sophia.sparkes@pacelabs.com,
Requested Due Date: 72 hour (3 day) Turn Around		Pace Profile #: 7983

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample ids must be unique	MATRIX	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test Y/N	200.7 Metals (PB)	Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)				Regulatory Agency	State / Location	
						START DATE	START TIME	END DATE	END TIME			Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				Other						
1	KNOR_081221	DW	G	8/12/2021	719	8/12/2021	719	1					X					X										
2	KB1R_081221	DW	G	8/12/2021	721	8/12/2021	721	1					X					X										
3	KB2R_081221	DW	G	8/12/2021	725	8/12/2021	725	1					X					X										
4	KB3R_081221	DW	G	8/12/2021	722	8/12/2021	722	1					X					X										
5	KB4R_081221	DW	G	8/12/2021	726	8/12/2021	726	1					X					X										
6	KD2R_081221	DW	G	8/12/2021	727	8/12/2021	727	1					X					X										
7	KD3R_081221	DW	G	8/12/2021	728	8/12/2021	728	1					X					X										
8	KD4R_081221	DW	G	8/12/2021	729	8/12/2021	729	1					X					X										
9	KC1R_081221	DW	G	8/12/2021	732	8/12/2021	732	1					X					X										
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS							
	<i>Bill Lambing</i>	8/12/2021	530	<i>Kim An</i>	8/19/21	10:40								

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Bill Lambing					
SIGNATURE of SAMPLER:	<i>Bill Lambing</i>	DATE Signed: 8/12/2021				



Sample Condition Upon Re

WO#: 70184249

Client Name:

Proj

PM: STS

Due Date: 08/19/21

CLIENT: LAN-PA

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: 5295 6265 5280

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Ziploc None Other

Thermometer Used: TH091

Correction Factor: +0.0

Cooler Temperature(°C): 21.0

Cooler Temperature Corrected(°C): 21.0

Temperature Blank Present: Yes No

Type of Ice: Wet Blue None

Samples on ice, cooling process has begun

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (N/A, water sample)

Date and Initials of person examining contents: KO 8/14/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? Yes No

Did samples originate from a foreign source including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		7.
Sufficient Volume: (Triple volume provided for	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		10.
Containers Intact:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		11.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		12.
-Includes date/time/ID, Matrix: SL WT OIL				
All containers needing preservation have been checked?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	13.
pH paper Lot # 11055968				
All containers needing preservation are found to be in compliance with method recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water).				
Per Method, VOA pH is checked after analysis				
Samples checked for dechlorination:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	14.
KI starch test strips Lot #				
Residual chlorine strips Lot #				Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sulfide?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	15.
Lead Acetate Strips Lot #				
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	16.
Trip Blank Present:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	17.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable):				

Field Data Required? Y / N

Client Notification/ Resolution:

Person Contacted:

Comments/ Resolution:

Date/Time:

September 01, 2021

Bill Lambing
Langan Engineering
2700 Kelly Road
Suite 200
Warrington, PA 18976

RE: Project: CENTRAL BUCKS SCHOOL DISTRICT
Pace Project No.: 70184412

Dear Bill Lambing:

Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Ormond Beach

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

Sincerely,



Sophia Sparkes
sophia.sparkes@pacelabs.com
(631)694-3040
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CENTRAL BUCKS SCHOOL DISTRICT

Pace Project No.: 70184412

Pace Analytical Services Ormond Beach

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maine Certification #: FL01264

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Ohio DEP 87780

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CENTRAL BUCKS SCHOOL DISTRICT

Pace Project No.: 70184412

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70184412001	KB2R_081721	EPA 200.8	LEC	1	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CENTRAL BUCKS SCHOOL DISTRICT

Pace Project No.: 70184412

Sample: KB2R_081721	Lab ID: 70184412001	Collected: 08/17/21 07:04	Received: 08/18/21 10:40	Matrix: Drinking Water					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Method: EPA 200.8 Pace Analytical Services - Ormond Beach								
Lead	0.0051	mg/L	0.0010	1		09/01/21 15:56	7439-92-1		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CENTRAL BUCKS SCHOOL DISTRICT

Pace Project No.: 70184412

QC Batch: 758673	Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8	Analysis Description: 200.8 MET No Prep Drinking Water
	Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 70184412001

METHOD BLANK: 4145755 Matrix: Water

Associated Lab Samples: 70184412001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/L	<0.0010	0.0010	09/01/21 15:57	

LABORATORY CONTROL SAMPLE: 4145756

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/L	0.05	0.049	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4145751 4145752

Parameter	Units	70184885001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Lead	mg/L	7.3 ug/L	0.05	0.05	0.084	0.088	154	161	70-130	4	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4145753 4145754

Parameter	Units	70184885013 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Lead	mg/L	3.1 ug/L	0.05	0.05	0.053	0.053	101	100	70-130	1	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CENTRAL BUCKS SCHOOL DISTRICT

Pace Project No.: 70184412

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CENTRAL BUCKS SCHOOL DISTRICT

Pace Project No.: 70184412

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70184412001	KB2R_081721	EPA 200.8	758673		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY /
The Chain-of-Custody is a LEGAL DOCUMENT

WO#: 70184412



Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: Langan Engineering	Address: 2700 Kelly Road, Suite 200 Warrington, PA 18976	Report To: Bill Lambing	Copy To:	Attention: Bill Lambing	Company Name: Langan Engineering
Email: blambing@langan.com	Phone: 215-491-6500	Purchase Order #: 200130403-400-001	Project Name: Central Bucks School District (Kutz)	Address: 2700 Kelly Road, Suite 200	Pace Quote: See Langan-Pace MSA
Fax: 2015-491-6501	Requested Due Date: 72 hour (3 day) Turn Around	Project #: 200130403		Pace Project Manager: sophia.sparkes@pacelabs.com,	Pace Profile #: 7983
					Regulatory Agency
					State / Location
					PA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analyses Test Y/N	200.7 Metals (PB)	Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)		
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other						
						DATE	TIME	DATE	TIME																
1	KB2R_081721			DW	G	8/17/2021	704	8/17/2021	704	1													X		
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<i>Bill Lambing</i>	8/17/2021	736	<i>Matthias Z...</i>	8/18/21	1040	24.1	N	N	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Bill Lambing				
SIGNATURE of SAMPLER: <i>Bill Lambing</i>	DATE Signed: 8/17/2021				



Sample Condition Upon Receipt

WO#: 70184412

Client Name: Logan Engineering

Project

PM: STS

Due Date: 09/01/21

CLIENT: LAN-PA

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: 745 3273 0248

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Ziploc None Other

Thermometer Used: TH091

Correction Factor: +0.0

Cooler Temperature(°C): 24.1

Cooler Temperature Corrected(°C): 24.1

Temperature Blank Present: Yes No

Type of Ice: Wet Blue None

Samples on ice, cooling process has begun

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (N/A, water sample)

Date and Initials of person examining contents: M-N 8/13/21

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC,

Did samples originate from a foreign source including Hawaii and Puerto Rico)? Yes No

NM, NY, OK, OR, SC, TN, TX, or VA (check map)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		7.
Sufficient Volume: (Triple volume provided for	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		10.
Containers Intact:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		11.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		12.
-Includes date/time/ID, Matrix: SL (W) OIL				
All containers needing preservation have been checked?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	13.
pH paper Lot #				
All containers needing preservation are found to be in compliance with method recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water).				
Per Method, VOA pH is checked after analysis				Initial when completed:
Samples checked for dechlorination:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Lot # of added preservative:
KI starch test strips Lot #				Date/Time preservative added:
Residual chlorine strips Lot #				14.
SM 4500 CN samples checked for sulfide?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Positive for Res. Chlorine? Y N
Lead Acetate Strips Lot #				15.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	16.
Trip Blank Present:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	17.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted:

Date/Time:

Comments/ Resolution: