

September 17, 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
Central Bucks East High School
2804 Holicong Road
Doylestown, PA 18902**

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. Four water samples (A110CRF2, A113AR2, D225R2, D221R2) were collected from the school. The re-sampling activities were conducted on September 3, 2021 after the drinking water fixtures were replaced. The collected samples were sent to a Pennsylvania certified environmental laboratory, PACE Analytical, and analyzed for total lead by USEPA Method 200.8, to meet Pennsylvania's action level requirements.

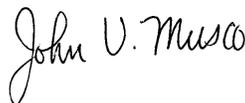
The re-sampling results did not detect any exceedances at this school of the Pennsylvania Action Level of 15 micrograms per liter (ug/L) with the exception of the following locations:

<u>Location</u>	<u>Sample ID</u>	<u>Result</u>
Java sink (coffee) Room 221	A113AR2_090321 D221R2_090321	23.0 ug/L 15.9 ug/L

A figure of the re-sampling locations and copy of the laboratory report is 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 - September 2021\CB East\East_Lead_Re-Sampling_Report_09-2021.docx

September 10, 2021

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

RE: Project: CENTRAL BUCKS SCHOOL (CB EAST)
Pace Project No.: 70186442

Dear Bill Lambing:

Enclosed are the analytical results for sample(s) received by the laboratory on September 04, 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 - Minneapolis

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,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: CENTRAL BUCKS SCHOOL (CB EAST)
Pace Project No.: 70186442

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01*

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009*

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014*

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605*

Georgia Certification #: 959

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064*

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240*

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081*

New Jersey Certification #: MN002

New York Certification #: 11647*

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Ohio VAP Certification (1800) #: CL110*

Oklahoma Certification #: 9507*

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001*

Pennsylvania Certification #: 68-00563*

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192*

Utah Certification #: MN00064*

Vermont Certification #: VT-027053137

Virginia Certification #: 460163*

Washington Certification #: C486*

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

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SAMPLE ANALYTE COUNT

Project: CENTRAL BUCKS SCHOOL (CB EAST)

Pace Project No.: 70186442

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70186442001	A110CRF2_090321	EPA 200.8	PW1	1	PASI-M
70186442002	A113AR2_090321	EPA 200.8	WBS	1	PASI-M
70186442003	D225R2_090321	EPA 200.8	PW1	1	PASI-M
70186442004	D221R2_090321	EPA 200.8	PW1	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: CENTRAL BUCKS SCHOOL (CB EAST)

Pace Project No.: 70186442

Sample: A110CRF2_090321	Lab ID: 70186442001	Collected: 09/03/21 06:19	Received: 09/04/21 09:10	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS, DW

Analytical Method: EPA 200.8
Pace Analytical Services - Minneapolis

Lead	13.5	ug/L	0.10	1		09/09/21 18:03	7439-92-1	
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Sample: A113AR2_090321	Lab ID: 70186442002	Collected: 09/03/21 06:21	Received: 09/04/21 09:10	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS

Analytical Method: EPA 200.8 Preparation Method: EPA 200.8
Pace Analytical Services - Minneapolis

Lead	23.0	ug/L	0.10	1	09/10/21 06:28	09/10/21 13:18	7439-92-1	
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Sample: D225R2_090321	Lab ID: 70186442003	Collected: 09/03/21 06:25	Received: 09/04/21 09:10	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS, DW

Analytical Method: EPA 200.8
Pace Analytical Services - Minneapolis

Lead	9.5	ug/L	0.10	1		09/09/21 18:10	7439-92-1	
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Sample: D221R2_090321	Lab ID: 70186442004	Collected: 09/03/21 06:26	Received: 09/04/21 09:10	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

200.8 MET ICPMS, DW

Analytical Method: EPA 200.8
Pace Analytical Services - Minneapolis

Lead	15.9	ug/L	0.10	1		09/09/21 18:12	7439-92-1	
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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CENTRAL BUCKS SCHOOL (CB EAST)

Pace Project No.: 70186442

QC Batch:	769219	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	ICPMS Metals, Drinking Water
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 70186442001, 70186442003, 70186442004

METHOD BLANK: 4098714 Matrix: Water

Associated Lab Samples: 70186442001, 70186442003, 70186442004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<0.10	0.10	09/09/21 17:47	

LABORATORY CONTROL SAMPLE: 4098750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	100	106	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4098752 4098753

Parameter	Units	70186444001		4098753		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Lead	ug/L	1.0	100	100	116	112	115	111	70-130	3

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 (CB EAST)

Pace Project No.: 70186442

QC Batch: 769261	Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8	Analysis Description: 200.8 MET
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 70186442002

METHOD BLANK: 4098940 Matrix: Water

Associated Lab Samples: 70186442002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<0.10	0.10	09/10/21 13:16	

LABORATORY CONTROL SAMPLE: 4098941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	100	110	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4098942 4098943

Parameter	Units	70186442002		4098943		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Lead	ug/L	23.0	100	100	127	126	104	103	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 (CB EAST)

Pace Project No.: 70186442

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CENTRAL BUCKS SCHOOL (CB EAST)

Pace Project No.: 70186442

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70186442001	A110CRF2_090321	EPA 200.8	769219		
70186442003	D225R2_090321	EPA 200.8	769219		
70186442004	D221R2_090321	EPA 200.8	769219		
70186442002	A113AR2_090321	EPA 200.8	769261	EPA 200.8	769427

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt (SCUR) - MN

Document No.:
ENV-FRM-MIN4-0150 Rev.02

Document Revised: 14Apr2021
 Page 1 of 1
 Pace Analytical Services -
 Minneapolis

Sample Condition Upon Receipt

Client Name: Langan Engineering

Project #:

WO#: 70186442
PM: STS Due Date: 09/21/21
CLIENT: LAN-PA

Courier: Fed Ex UPS USPS Client
 Pace Speedee Commercial
 Tracking Number: 7747 1740 4528 See Exceptions
 ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A
 Packing Material: Bubble Wrap Bubble Bags None Other: Paper Temp Blank? Yes No
 Thermometer: T1(0461) T2(1336) T3(0459) OS418-LS Type of Ice: Wet Blue None Dry Melted
 T4(0254) T5(0489) 160285052

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A
 Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: _____ °C Average Corrected Temp (no temp blank) See Exceptions ENV-FRM-MIN4-0142
 Correction Factor: true Cooler Temp Corrected w/temp blank: _____ °C only: 2.2 °C 1 Container

USDA Regulated Soil: (N/A, water sample/Other: _____) Date/Initials of Person Examining Contents: STS 9/4/21
 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 maps)? Yes No Did samples originate from a foreign source (Internationally, including Hawaii and Puerto Rico)? Yes No
 If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. <u>3-day</u>
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sample # <u>001-004</u>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate <u>1/1</u>
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No pH Paper Lot# <u>221919</u> See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased):
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____

Project Manager Review: _____ Date: _____
 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).