



August 4, 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 Sample Collection and Reporting

Pine Run Elementary School

383 W Butler Avenue New Britain, PA 18901

Dear Mr. Hanna:

This document has been prepared by Langan to provide the results of the drinking water sampling activities at the above referenced school. Langan sampled the drinking water sources (e.g. bottle fillers, fountains, sink faucets, etc.) on June 30, 2021 as identified by the Central Bucks School District facility inventory. 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 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>
Nurses treatment	210T_063021	58.5 ug/L
Rm 508A LGI	508A_063021	15.4 ug/L
Rm 608A LGI	608A_063021	32.2 ug/L

A figure of the 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\Day 4\_6-30-2021\_Titus\_Tamanend\_Barclay\_Pine Run\_Unami\4th\_Pine Run\Pine Run\_Lead\_Sampling\_Report\_2021.docx





July 15, 2021

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

RE: Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

# Dear Bill Lambing:

Enclosed are the analytical results for sample(s) received by the laboratory on July 06, 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

Sophia Sparkes

Project Manager

Enclosures



(631)694-3040



# **CERTIFICATIONS**

Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

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



Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Pace Project No.: 70179825								
Sample: 101_063021	Lab ID: 7	0179825001	Collected: 06/30/2	21 09:20	Received:	07/06/21 19:20	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical M	ethod: EPA 20	00.8					
	Pace Analyt	ical Services -	Melville					
Lead	3.5	ug/L	1.0	1		07/15/21 13:1	0 7439-92-1	M1
Sample: 200A_063021	Lab ID: 7	0179825002	Collected: 06/30/2	21 09:21	Received:	07/06/21 19:20	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	ethod: EPA 20						
Lead	<1.0	ug/L	1.0	1		07/15/21 13:1	3 7439-92-1	
Sample: 200B_063021	Lab ID: 7	0179825003	Collected: 06/30/2	21 09:21	Received:	07/06/21 19:20	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	,	ethod: EPA 20 ical Services -						
Lead	<1.0	ug/L	1.0	1		07/15/21 13:1	4 7439-92-1	
Sample: 204_063021	Lab ID: 7	0179825004	Collected: 06/30/2	21 09:24	Received:	07/06/21 19:20	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	ethod: EPA 20						
Lead	5.4	ug/L	1.0	1		07/15/21 13:1	5 7439-92-1	
Sample: 207_063021	Lab ID: 7	0179825005	Collected: 06/30/2	21 09:24	Received:	07/06/21 19:20	Matrix: Drinkin	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	,	ethod: EPA 20						
Lead	8.0	ug/L	1.0	1		07/15/21 13:1	6 7439-92-1	



Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Pace Project No.: 70179825								
Sample: 210_063021	Lab ID:	70179825006	Collected: 06/30/2	21 09:27	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	Method: EPA 20						
Lead	7.	•	1.0	1		07/15/21 13:1	17 7439-92-1	
Sample: 210T_063021	Lab ID:	70179825007	Collected: 06/30/2	21 09:28	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	Method: EPA 20 ytical Services -						
Lead	58.	<b>5</b> ug/L	1.0	1		07/15/21 13:2	20 7439-92-1	
Sample: 300A_063021	Lab ID:	70179825008	Collected: 06/30/2	21 09:30	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	,	Method: EPA 20 ytical Services -						
Lead	<1.	<b>0</b> ug/L	1.0	1		07/15/21 13:2	21 7439-92-1	
Sample: 300B_063021	Lab ID:	70179825009	Collected: 06/30/2	21 09:30	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	Method: EPA 20 ytical Services -						
Lead	<1.	<b>0</b> ug/L	1.0	1		07/15/21 13:2	22 7439-92-1	
Sample: 308A_063021	Lab ID:	70179825010	Collected: 06/30/2	21 09:32	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
								_
200.8 MET ICPMS Drinking Water	•	Method: EPA 20 ytical Services -						



Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Pace Project No.: 70179825								
Sample: 308B_063021	Lab ID: 701	79825011	Collected: 06/30/2	21 09:32	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met							
Lead	8.8	ug/L	1.0	1		07/15/21 13:2	24 7439-92-1	
Sample: 401A_063021	Lab ID: 701	79825012	Collected: 06/30/2	21 09:35	Received:	07/06/21 19:20	Matrix: Drinking	y Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met							
Lead	<1.0	ug/L	1.0	1		07/15/21 13:2	28 7439-92-1	
Sample: 401B_063021	Lab ID: 701	79825013	Collected: 06/30/2	21 09:35	Received:	07/06/21 19:20	Matrix: Drinking	y Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met							
Lead	<1.0	ug/L	1.0	1		07/15/21 13:2	29 7439-92-1	
Sample: 407A_063021	Lab ID: 701	79825014	Collected: 06/30/2	21 09:36	Received:	07/06/21 19:20	Matrix: Drinking	y Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met							
Lead	<1.0	ug/L	1.0	1		07/15/21 13:3	30 7439-92-1	
Sample: 407B_063021	Lab ID: 701	79825015	Collected: 06/30/2	21 09:37	Received:	07/06/21 19:20	Matrix: Drinking	g Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 2	00.8					
	Pace Analytica	al Services	- Melville					



Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Lab ID: 7	0179825016	Collected: 06/30/2	21 09:38	Received:	07/06/21 19:20	Matrix: Drinking	Water
Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
Analytical M	lethod: EPA 20	00.8					
Pace Analyt	ical Services -	Melville					
5.9	ug/L	1.0	1		07/15/21 13:3	33 7439-92-1	
Lab ID: 7	0179825017	Collected: 06/30/2	21 09:39	Received:	07/06/21 19:20	Matrix: Drinking	Water
Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
•							
4.8	ug/L	1.0	1		07/15/21 13:3	34 7439-92-1	
Lab ID: 7	0179825018	Collected: 06/30/2	21 09:41	Received:	07/06/21 19:20	Matrix: Drinking	Water
Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
,							
<1.0	ug/L	1.0	1		07/15/21 13:3	35 7439-92-1	
Lab ID: 7	0179825019	Collected: 06/30/2	21 09:42	Received:	07/06/21 19:20	Matrix: Drinking	Water
Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
•							
<1.0	ug/L	1.0	1		07/15/21 13:3	86 7439-92-1	
Lab ID: 7	0179825020	Collected: 06/30/2	21 09:43	Received:	07/06/21 19:20	Matrix: Drinking	Water
Lab ID: 7	<b>0179825020</b> Units	Collected: 06/30/2	21 09:43 DF	Received:	07/06/21 19:20 Analyzed	Matrix: Drinking	Water Qua
Results Analytical M		Report Limit 00.8				_	
	Analytical M Pace Analytical M	Analytical Method: EPA 20 Pace Analytical Services - 5.9 ug/L  Lab ID: 70179825017 Results Units  Analytical Method: EPA 20 Pace Analytical Services - 4.8 ug/L  Lab ID: 70179825018 Results Units  Analytical Method: EPA 20 Pace Analytical Services - <1.0 ug/L  Lab ID: 70179825019 Results Units  Analytical Method: EPA 20 Pace Analytical Services - <1.0 ug/L  Analytical Method: EPA 20 Pace Analytical Services - Analytical Method: EPA 20 Pace Analytical Services -	Results Units Report Limit  Analytical Method: EPA 200.8 Pace Analytical Services - Melville  5.9 ug/L 1.0  Lab ID: 70179825017 Collected: 06/30/2 Results Units Report Limit  Analytical Method: EPA 200.8 Pace Analytical Services - Melville  4.8 ug/L 1.0  Lab ID: 70179825018 Collected: 06/30/2 Results Units Report Limit  Analytical Method: EPA 200.8 Pace Analytical Services - Melville  <1.0 ug/L 1.0  Lab ID: 70179825019 Collected: 06/30/2 Results Units Report Limit  Analytical Method: EPA 200.8 Pace Analytical Services - Melville  <1.0 ug/L 1.0  Analytical Method: EPA 200.8 Pace Analytical Services - Melville  Analytical Method: EPA 200.8 Pace Analytical Services - Melville	Results         Units         Report Limit         DF           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1           5.9         ug/L         1.0         1           Lab ID: 70179825017         Collected: 06/30/21 09:39           Results         Units         Report Limit         DF           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1           Lab ID: 70179825018         Collected: 06/30/21 09:41         DF           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1           Lab ID: 70179825019         Collected: 06/30/21 09:42         DF           Analytical Method: EPA 200.8 Pace Analytical Method: EPA 200.8 Pace Analytical Services - Melville         Report Limit         DF	Analytical Method: EPA 200.8 Pace Analytical Services - Melville  5.9	Results         Units         Report Limit         DF         Prepared         Analyzed           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1         07/15/21 13:3           Lab ID: 70179825017         Collected: 06/30/21 09:39         Received: 07/06/21 19:20           Results         Units         Report Limit         DF         Prepared         Analyzed           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1         07/15/21 13:3           Lab ID: 70179825018         Collected: 06/30/21 09:41         Received: 07/06/21 19:20           Results         Units         Report Limit         DF         Prepared         Analyzed           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1         07/15/21 13:3           Lab ID: 70179825019         Collected: 06/30/21 09:42         Received: 07/06/21 19:20           Results         Units         Report Limit         DF         Prepared         Analyzed           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         Prepared         Analyzed	Results         Units         Report Limit         DF         Prepared         Analyzed         CAS No.           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1         07/15/21 13:33 7439-92-1           Lab ID: 70179825017 Collected: 06/30/21 09:39 Received: 07/06/21 19:20 Matrix: Drinking Results         Units Report Limit DF         Prepared Analyzed CAS No.           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         4.8 ug/L         1.0         1         07/15/21 13:34 7439-92-1           Lab ID: 70179825018 Collected: 06/30/21 09:41 Received: 07/06/21 19:20 Matrix: Drinking Results Units Report Limit DF         Prepared Analyzed CAS No.           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         1.0         1         07/15/21 13:35 7439-92-1           Lab ID: 70179825019 Collected: 06/30/21 09:42 Received: 07/06/21 19:20 Matrix: Drinking Results Units Report Limit DF Prepared Analyzed CAS No.           Analytical Method: EPA 200.8 Pace Analytical Services - Melville         Prepared Analyzed CAS No.



Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Pace Project No.: 70179825								
Sample: 508B_063021	Lab ID: 7	0179825021	Collected: 06/30/2	21 09:44	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical M	lethod: EPA 20	00.8					
	Pace Analyt	ical Services -	Melville					
Lead	7.9	ug/L	1.0	1		07/15/21 13:4	10 7439-92-1	
Sample: 600A_063021	Lab ID: 7	0179825022	Collected: 06/30/2	21 09:46	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	lethod: EPA 20 ical Services -						
Lead	<1.0	ug/L	1.0	1		07/15/21 13:4	15 7439-92-1	
Sample: 600B_063021	Lab ID: 7	0179825023	Collected: 06/30/2	21 09:47	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	,	lethod: EPA 20 ical Services -						
Lead	<1.0	ug/L	1.0	1		07/15/21 13:4	16 7439-92-1	
Sample: 608A_063021	Lab ID: 7	0179825024	Collected: 06/30/2	21 09:48	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	•	lethod: EPA 20 ical Services -						
Lead	32.2	ug/L	1.0	1		07/15/21 13:4	17 7439-92-1	
Sample: 608B_063021	Lab ID: 7	0179825025	Collected: 06/30/2	21 09:49	Received:	07/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	,	lethod: EPA 20						
Lead	12.2	ug/L	1.0	1		07/15/21 13:4	18 7439-92-1	



Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Sample: 104_063021	Lab ID: 70	179825026	Collected: 06/30/2	21 09:51	Received: 0	7/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Me	ethod: EPA 20	00.8					
	Pace Analytic	cal Services -	Melville					
Lead	8.0	ug/L	1.0	1		07/15/21 13:4	19 7439-92-1	
Sample: 103_063021	Lab ID: 70	0179825027	Collected: 06/30/	21 09:52	Received: 0	7/06/21 19:20	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Me							
	•							
Lead	4.9	ug/L	1.0	1		07/15/21 13:5	50 7439-92-1	



#### **QUALITY CONTROL DATA**

Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Parameter

Parameter

Date: 07/15/2021 04:56 PM

Lead

Lead

QC Batch: EPA 200.8 217833 Analysis Method:

QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET No Prep Drinking Water

> Laboratory: Pace Analytical Services - Melville

70179825001, 70179825002, 70179825003, 70179825004, 70179825005, 70179825006, 70179825007, Associated Lab Samples:

70179825008, 70179825009, 70179825010, 70179825011, 70179825012, 70179825013, 70179825014,

70179825015, 70179825016, 70179825017, 70179825018, 70179825019, 70179825020

METHOD BLANK: 1097971 Matrix: Water

Associated Lab Samples: 70179825001, 70179825002, 70179825003, 70179825004, 70179825005, 70179825006, 70179825007,

70179825008, 70179825009, 70179825010, 70179825011, 70179825012, 70179825013, 70179825014, 70179825015, 70179825016, 70179825017, 70179825018, 70179825019, 70179825020 Blank Reporting Limit Parameter Units Result Analyzed Qualifiers ug/L 07/15/21 13:08 Lead < 1.0 LABORATORY CONTROL SAMPLE: 1097972 LCS LCS % Rec Spike Parameter Units Conc. Result % Rec Limits Qualifiers Lead 50 51.2 102 85-115 ug/L MATRIX SPIKE SAMPLE: 1097974 70179825001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers 3.5 137 70-130 M1 Lead 50 71.9 ug/L MATRIX SPIKE SAMPLE: 1097976 70179825011 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers Lead ug/L 8.8 50 68.8 120 70-130 SAMPLE DUPLICATE: 1097973 70179825001 Dup

SAMPLE DUPLICATE: 1097975 70179825011 Dup RPD

Result

Result

3.5

8.8

Units

ug/L

Units

ug/L

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

Result

Result

3.5

8.8

**RPD** 

2

0

Qualifiers

Qualifiers



#### **QUALITY CONTROL DATA**

Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

QC Batch: 217834 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: 70179825021, 70179825022, 70179825023, 70179825024, 70179825025, 70179825026, 70179825027

METHOD BLANK: 1097977 Matrix: Water

Associated Lab Samples: 70179825021, 70179825022, 70179825023, 70179825024, 70179825025, 70179825026, 70179825027

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Lead ug/L <1.0 1.0 07/15/21 13:39

LABORATORY CONTROL SAMPLE: 1097978

Spike LCS LCS % Rec Conc. Limits Qualifiers Parameter Units Result % Rec Lead 51.0 102 85-115 ug/L

MATRIX SPIKE SAMPLE: 1097980

MS MS % Rec 70179825021 Spike Parameter Units Result Conc. Result % Rec Limits Qualifiers 7.9 70-130 Lead ug/L 50 67.9 120

SAMPLE DUPLICATE: 1097979

Date: 07/15/2021 04:56 PM

 Parameter
 Units
 70179825021 Result
 Dup Result
 RPD
 Qualifiers

 Lead
 ug/L
 7.9
 7.8
 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.



#### **QUALIFIERS**

Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

#### **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**

Date: 07/15/2021 04:56 PM

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



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: CENTRAL BUCKS SD (PINE RUN)

Pace Project No.: 70179825

Date: 07/15/2021 04:56 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70179825001	 101_063021	EPA 200.8	217833		
70179825002	200A_063021	EPA 200.8	217833		
70179825003	200B_063021	EPA 200.8	217833		
70179825004	204_063021	EPA 200.8	217833		
70179825005	207_063021	EPA 200.8	217833		
70179825006	210_063021	EPA 200.8	217833		
70179825007	210T_063021	EPA 200.8	217833		
70179825008	300A_063021	EPA 200.8	217833		
70179825009	300B_063021	EPA 200.8	217833		
70179825010	308A_063021	EPA 200.8	217833		
70179825011	308B_063021	EPA 200.8	217833		
70179825012	401A_063021	EPA 200.8	217833		
70179825013	401B_063021	EPA 200.8	217833		
70179825014	407A_063021	EPA 200.8	217833		
70179825015	407B_063021	EPA 200.8	217833		
70179825016	408A_063021	EPA 200.8	217833		
70179825017	408B_063021	EPA 200.8	217833		
70179825018	500A_063021	EPA 200.8	217833		
70179825019	500B_063021	EPA 200.8	217833		
70179825020	508A_063021	EPA 200.8	217833		
70179825021	508B_063021	EPA 200.8	217834		
70179825022	600A_063021	EPA 200.8	217834		
70179825023	600B_063021	EPA 200.8	217834		
70179825024	608A_063021	EPA 200.8	217834		
70179825025	608B_063021	EPA 200.8	217834		
70179825026	104_063021	EPA 200.8	217834		
70179825027	103_063021	EPA 200.8	217834		



W0#:70179825 CHAIN-OF-CUSTOI
The Chain-of-Custody is a LEt 70179825

ely.

Section	A	Report To: Bill Lambing ad, Suite 200  Copy To:  Purchase Order #: 200130403-400-001  Fax 2015-491-6501  Project Name: Central Bucks School District (Pine Run)  Standard Turn Around (5 day)  Project #: 200130403																								- /					
Require	d Client Information:		<u> </u>		_			Invo	oice	Infor						_							_	-,			age	£	_1	Of	3
Compan			Bill L	ambing	g	_			_	Atter				ambin			_							-							
Address		Сору То:				-			-	Addr					n Eng Road,			,				-	_	-		7	Por	udate	ory Agenc	v	S .= .74
Warring Email:	ton, PA 18976	Purchase Or	der#	20	00120402	400 001			-	Pace			2700	Kelly					MSA			_		╫	-		Keg	jurau	ory Agenc	<u> </u>	
Phone:	<u>blambing@langan.com</u> 215-491-6500 Fax 2015-491-6501						trict (Pine I	Run)	-			ject N	lana	ger:						acela	hs c	om		-			SI	ate /	Location	- 101	
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1.04000	Standard Turny Todrio (5 day)									_										Req	ueste	d Ana	lysis	Filtere	ed (Y	N)			THE RES	30 00	S 1.7
	MATRIX	CODE	s to left)	(OMP)		COLL	ECTED		z				Pres	serva	atives	;		N/X													
# W:	SAMPLE ID  One Character per box.  (A-Z, 0-9 / , -)  Wate Wala  Wala Wal  Product  Soil/Soid  Oil  Wipe  Air  Other	WT or WW P SL OL WP AR OT	SODE	TYPE (G=GRAB	STAF	RT	EN	ND	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	03	_ =	Na2S203	Methanol	er	Analyses Test	200.7 Metals (PB)									Residual Chlorine (Y/N)			
TEM			MAT	SAM	DATE	TIME	DATE	TIME	SAN	# o	P	H25	HNO3	되	Na2S2	Met	Other		200									Res	_		
1	101_063021		DW	G 6/3	30/2021	920	6/30/2021	920		1			х					Γ	х								П				
2	200A_063021		DW	G 6/3	30/2021	921	6/30/2021	921		1			х						х		L						Ц				
3	200B_063021		DW	G 6/3	30/2021	921	6/30/2021	921		1			х						х			Ш				$\sqcup$	Ш				
4	204_063021		DW	G 6/	30/2021	924	6/30/2021	924		1			х						х			Ш					Ш	ļ			
5	207_063021	0	DW	G 6/3	30/2021	924	6/30/2021	924		1			x						х									ļ			
6	210_063021		DW	G 6/3	30/2021	927	6/30/2021	927		1			х						х					1			Ц				
7	210T_063021		DW	G 6/3	30/2021	928	6/30/2021	928		1			х						х		L						Ш				
8	300A_063021		DW	G 6/	/30/2021	930	6/30/2021	930		1			х						х	$\perp$						$\sqcup$	Ш				
9	300B_063021		DW	G 6/	/30/2021	930	6/30/2021	930		1			х						х						_						
10	308A_063021		DW	G 6/	/30/2021	932	6/30/2021	932		1			х	_	1				х	1	1				-	$\vdash$	Ш				
11	308B_063021		DW	G 6/	/30/2021	932	6/30/2021	932		1			х	4	-	_		-	х	4			4	_	+		Ш				
12	401A_063021	-	-		/30/2021	935	6/30/2021	935		1			x					L	х		_					TIME	Н	$\perp$	CAMPI E C	ONDITION	
25	ADDITIONAL COMMENTS		RELI	INQUISI	HED BY / A	FFILIATI	N	DATE			TIME		7	2	AC	JEPT8	ED B	YIAF	FILIA	HON	_ 0	174		ATE		TIME	+		SAMPLE C	ONDITIONS	
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Page		1.0				SAMPLI	ER NAME A	ND SIGNA	ATUF	RE	1		H	8 5		Ju z				. 5			o A	20		Sec.			_		
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13 of 16							GNATURE			20	×	8	X	en	rl			70		mbing DATE	Signe	d:		7/:	2/202	1	TEMP i		Received Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)



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

Section Require	A d Client Information:	Section B Required Pr	oject	Infor	rmation;			Invoid	Secti ce Inf			:												F	age :	2	Of	3
Compan		Report To:	Bill	Lamb	ing					tenti			Lamb															
Address		Copy To:									any N																	
	ton, PA 18976			_					_	idres			0 Kell			uite 2									Regu	latory Agen	су	
Email:	blambing@langan.com	Purchase Or			200130403						Quote						n-Pac											
Phone:	215-491-6500 Fax 2015-491-6501	Project Name			tral Bucks S	chool Dis	trict (Pine F	Run)	_		Projec			_	soph	ia.sı	oarke	es@	pacel	abs.co	<u>m</u>				Sta	te / Location		
Request	ed Due Date: Standard Turn Around (5 day)	Project #: 20	0130	403					Pa	ice F	Profile	#:	7983	3											_	PA		
																		_	Re	uested	Analy	ysis Filtere	d (Y/N)	)	_			120
	MATRIX Drinking V	CODE	des to left)	C=COMP)		COLL	ECTED		20			Pre	esen	vativ	es	_	X/N											
	Water Waste We Froduct  SAMPLE ID Soil/Solid Oil Oil	WT	(see valid codes to left)	(G=GRAB C	STA	RT	EN	ID F	COLLECT								Test	(PB)							(A)			
ITEM #	One Character per box. Wipo (A-Z, 0-9 / , -) Air Other Sample Ids must be unique Tissue	WP AR OT TS	MATRIX CODE (	SAMPLE TYPE				i d m	TAIN L	Laycayard	H2SO4	HNO3	HCI	NaOH	Na2S203	Methanol	alyses					5 .			8	מחקק מיינים		
13	401B_063021		Т	П	DATE 6/30/2021	TIME 935	6/30/2021	935	<i>n</i> #	T	1	X		_	_	2 0		\x	$\vdash$	$\forall$	$\dashv$			$\top$	Ħ			
14	407A_063021				6/30/2021	936	6/30/2021	936	1	T		×	П					x										
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16	408A_063021		DW	G	6/30/2021	938	6/30/2021	938	1	+		×			4	-	-	×			4		H	_	Н			
17	408B_063021		DW	G	6/30/2021	939	6/30/2021	939	1	+	4	X		_	4	+	-	X	$\vdash$	+			$\vdash$	$\perp$				
18	500A_063021		DW	G	6/30/2021	941	6/30/2021	941	1	-	-	X		-	4	+	-	X	$\vdash$	+	_		$\vdash$	_	Н	-		
19	500B_063021		DW	G	6/30/2021	942	6/30/2021	942	1	+	-	X				+	-	×	$\vdash$	+	-		₩		+			
20	508A_063021		DW	G	6/30/2021	943	6/30/2021	943	1	4	-	X	-	4	4	+	4	X	$\vdash$	+	_		$\vdash$	_	Н			
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22	600A_063021		DW	G	6/30/2021	946	6/30/2021	946	1	4	-	X		_	_	+	4	X	$\vdash$			-	H	_				
23	600B_063021		DW	G	6/30/2021	947	6/30/2021	947	1	-	-	X		_	$\dashv$	+	-	×	$\vdash$	+	$\perp$		$\vdash$	+	Н	1		
24	608A_063021		_	_	6/30/2021	948	6/30/2021	948	1	1	L	Х			_	_	L	×	_	Ш					$\sqcup$			
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f 16						SI	GNATURE (	of SAMPLER	/	1	0	07	CX	Pa	40			Ī		Signed		7/2/	/2021		TEMP	Receil Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)



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

Company Address: Warringt Email: Phone:	d Client Information:  V: Langan Engineering	Section B Required Pr Report To: Copy To: Purchase Or Project Name Project #: 20	Bill I der #:	_ambi	ing 200130403-		strict (Pine F		oice	Addre Pace	tion: bany ess: Quo Proj	Name 27 ote: ject Ma	'00 Ke	gan E Ily Ro	ad, S See	Suite 2 Langa	200 an-Pa	_	Фрас		S.COM		sis Filtere	nd (Y)h			gulat	3 ory Agenc Location PA		3
	MATRIX Drinking V Water Wasta We Product Soll/Solid Oil	WT	(see valid codes to left)	(G=GRAB C=COMP)	STAI		ECTED	D	AT COLLECTION	RS		F	rese	rvativ	ves		Toet	163									ine (Y/N)			
ITEM #	One Character per box. Wipe (A-Z, 0-9 / , -) Air Other Sample lds must be unique Tissue	WP AR OT TS	MATRIX CODE	SAMPLE TYPE	DATE	TIME	DATE	TIME	SAMPLE TEMP	# OF CONTAINERS	Unpreserved	H2SO4	HC E	NaOH	Na2S2O3	Methanol	Other	Significant	ZUU, Metals (PB)								Residual Chlorine (			
25	608B_063021		DW	G	6/30/2021	949	6/30/2021	949		1		;	<	L					x			_				-	П			
26	104_063021		DW	G	6/30/2021	951	6/30/2021	951		1	4	;	4	L.	Ш		4	L	x L	$\perp$										
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Page 15 of						SAMPLE	ER NAME A	ND SIGN	ATUS	E			V	8	80				80	10			- 7 -	1000				_		$\vdash \vdash$
15 c						0.77	RINT Name		6				P	V 116				-								- 6	ე ⊑	red on	<u> </u>	s
of 16						SIG	GNATURE (	of SAMPL	ER:	<u> </u>	20	H	V	2				Bill	Lami	ing TE Si	gned:		7/2	2/2021			TEMP in C	Received (Ice (Y/N)	Sealed Cooler	Samples Intact (Y/N)

	Sa	ımple C	Conditio	n Upon	кесе		0#:7017	9825	
Pace Analytical "	Client Na	ame.			Projec			Date: 07/21/21	
/	CHEIR IN	Lang						pate. Officer	
Courier: Fed Ex UPS USPS Client				r		CL.	ENT: LAN-PA		
		,							
racking #:	s 📝 No	Seals int	tact: 🗌 Yes	□/No			Temperature Blank Pre	esent: YesL No	
racking Material: Bubble Wrap Bubble	Bags 🗆	Ziploc 🔀	None 🗀 Oth	ner			Type of Ice: Wet Blu		
hermometer Used: (409)	Correcti	ion Factor:	10.	0			Samples on ice, cooling (	process has begun	
Cooler Temperature(°C): 19.0	Cooler T	Temperatu	re Correcte	ed(°C): 19	1.0		Date/Time 5035A kits p	laced in freeze <u>r</u>	_
emp should be above freezing to 6.0°C								10-11-1-1-	.,
JSDA Regulated Soil ( $\square$ N/A, water sample	)			Date and	Initials o	of pers	son examining content	5. 19.116D	4
Did samples originate in a quarantine zone wi	thin the l	Inited State	S AL AR CA	, FL, GA, ID,	LA, MS, N	C,	Did samples orignate fro	om a foreign source	
							including Hawaii and Pu	erto Rico)? 🗀 Yesl🗶 N	10
NM, NY, OK, OR, SC, TN, TX, or VA (check map)? f Yes to either question, fill out a Regulate	ar L 17 lin2 bo	s — No necklist (F	-I I-C-010) a	nd include	with SC	UR/CO	C paperwork.		_
f yes to either question, fill out a Regulati	eu Juli Gi	TOOKHOU J.					COMMENTS:		_
Chain of Custody Proport	Yes	□No		1.					
Chain of Custody Present: Chain of Custody Filled Out:	Zíyes	□No		2.					
Chain of Custody Relinquished:	ZiYes	□No		3.					_
Sampler Name & Signature on COC:	ZÝes	□No	□N/A	4.					_
Samples Arrived within Hold Time:	⊠Yes	□No		5.					_
Short Hold Time Analysis (<72hr):	□Yes	₽Ño		6.					
Rush Turn Around Time Requested:	□Yes	ENO		7.					_
Sufficient Volume: (Triple volume provided fo		□No		8.					_
Correct Containers Used:	Wes	□No		9.					
-Pace Containers Used:	∠iYes	□No							
Containers Intact:	Wes	□No		10.				l l dalam	
Filtered volume received for Dissolved tests	Eyes	□No	□N/A	11.	Note if	sedin	nent is visible in the disso	olved container.	_
Sample Labels match COC:	□¥es	□No		12.					
-Includes date/time/ID, Matrix: SL WT	OIL							C IICI	
All containers needing preservation have been	en □ <b>y</b> /es	□No	□N/A	13.		)3	□H <sub>2</sub> SO <sub>4</sub> □NaOH	□ HCI	
l)	_			İ					
IpH paper Lot # HCO 2013C	0			Comple	#				
All containers needing preservation are four	nd to be			Sample :	#				
in compliance with method recommendation	n?		A1 / A						
(HNO₃, H₂SO₄, HCl, NaOH>9 Sulfide,	<b>Z</b> Yes	□No	□N/A						
NAOH>12 Cyanide)									
Exceptions: VOA, Coliform, TOC/DOC, Oil and	Grease,			Initial wh	on comp	leted-	Lot # of added	Date/Time preservativ	ve
DRO/8015 (water).	960 C			linidal Wi	ien comp	no tou.	preservative:	added:	
Per Method, VOA pH is checked after analys			CLN/A	14.			processing		
Samples checked for dechlorination:	□Yes	□No	LHIN/A	14.					
KI starch test strips Lot #					Positive	for Re	es. Chlorine? Y N		
Residual chlorine strips Lot #		- TNo	DN/A	15.	1 0311110	101 110			
SM 4500 CN samples checked for sulfide?	□Yes	□No	TINYA	10.					
Lead Acetate Strips Lot #	=1/	- III	ШN/A	16.					
Headspace in VOA Vials ( >6mm):	□Yes	□No	DN/A	17.					
Trip Blank Present:	□Yes		DN/A	1.2					
Trip Blank Custody Seals Present	□Yes	□No	T						_
Pace Trip Blank Lot # (if applicable):				Field Da	ta Requir	ed?	Y / N		
Client Notification/ Resolution:					-	/Time:			_
Person Contacted:									_
Comments/ Resolution:									
V <u>er</u>									
									_

<sup>\*</sup> PM (Project Manager) review is documented electronically in LIMS.