Portland Public Schools
Lead Water Sampling Results
Initial Flush Sample Data
Lent - Test 7

Sample Identification #	Location	Date/Time Collected	Date Analyzed	Lab ID	Analyte	Results	Detection Limit	PPS Action Level*	Units
266-DF-5247-A-007-A	Hallway (Classroom 113)	5/5/2022	5/16/2022	A2E0208-07	Lead	ND	0.2	15	ppb
266-DF-5258-A-007-A	Hallway (Classroom 136)	5/5/2022	5/16/2022	A2E0208-06	Lead	ND	0.2	15	ppb
266-DF-5259-A-007-A	Hallway (Classroom 125)	5/5/2022	5/16/2022	A2E0208-08	Lead	ND	0.2	15	ppb
266-DF-5260-A-007-A	Hallway (Entrance)	5/5/2022	5/16/2022	A2E0208-05	Lead	ND	0.2	15	ppb
266-DF-5294-N/A-007-A	Staff Room	5/5/2022	5/16/2022	A2E0208-01	Lead	8.29	0.2	15	ppb
266-DF-5300-A-007-A	Hallway (Classroom 152)	5/5/2022	5/16/2022	A2E0208-02	Lead	ND	0.2	15	ppb
266-DF-5309-A-007-A	Cafeteria	5/5/2022	5/16/2022	A2E0208-04	Lead	ND	0.2	15	ppb
266-DF-5897-N/A-007-A	Kitchen	5/5/2022	5/16/2022	A2E0208-03	Lead	0.766	0.2	15	ppb

*OHA Action Level = 15ppb

Analyzed by: Apex Laboratories
Reviewed by: PBS Engineering and Environmental

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Wednesday, May 18, 2022

Joel McCarthy
PBS Engineering and Environmental
4412 S Corbett Ave
Portland, OR 97239

RE: A2E0208 - Portland Public Schools - Lent/25000.219

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A2E0208, which was received by the laboratory on 5/5/2022 at 10:23:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: jwoodcock@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	19.7 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Jason Woodcock, Project Manager

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Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
266-DF-5294-N/A-007-A	A2E0208-01	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5300-A-007-A	A2E0208-02	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5897-N/A-007-A	A2E0208-03	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5309-A-007-A	A2E0208-04	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5260-A-007-A	A2E0208-05	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5258-A-007-A	A2E0208-06	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5247-A-007-A	A2E0208-07	Drinking Water	05/05/22 00:00	05/05/22 10:23
266-DF-5259-A-007-A	A2E0208-08	Drinking Water	05/05/22 00:00	05/05/22 10:23

Apex Laboratories

Jason Woodcock, Project Manager

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

ANALYTICAL SAMPLE RESULTS

Total Metals in Drinking Water by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
266-DF-5294-N/A-007-A (A2E0208-01)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	**8.29**	---	0.200	ug/L	1	05/16/22 15:43	EPA 200.8	
266-DF-5300-A-007-A (A2E0208-02)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	ND	---	0.200	ug/L	1	05/16/22 15:55	EPA 200.8	
266-DF-5897-N/A-007-A (A2E0208-03)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	**0.766**	---	0.200	ug/L	1	05/16/22 15:59	EPA 200.8	
266-DF-5309-A-007-A (A2E0208-04)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	ND	---	0.200	ug/L	1	05/16/22 16:02	EPA 200.8	
266-DF-5260-A-007-A (A2E0208-05)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	ND	---	0.200	ug/L	1	05/16/22 16:05	EPA 200.8	
266-DF-5258-A-007-A (A2E0208-06)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	ND	---	0.200	ug/L	1	05/16/22 16:09	EPA 200.8	
266-DF-5247-A-007-A (A2E0208-07)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	ND	---	0.200	ug/L	1	05/16/22 16:20	EPA 200.8	
266-DF-5259-A-007-A (A2E0208-08)				**Matrix: Drinking Water**				
Batch: 22E0561								
Lead	ND	---	0.200	ug/L	1	05/16/22 16:23	EPA 200.8	

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals in Drinking Water by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0561 - EPA 200.8 Direct Analysis							**Drinking Water**					
Blank (22E0561-BLK1)		Prepared: 05/16/22 07:43		Analyzed: 05/16/22 15:36								
EPA 200.8												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
LCS (22E0561-BS1)		Prepared: 05/16/22 07:43		Analyzed: 05/16/22 15:39								
EPA 200.8												
Lead	15.2	---	0.201	ug/L	1	15.0	---	101	85 - 115%	---	---	
Duplicate (22E0561-DUP1)		Prepared: 05/16/22 07:43		Analyzed: 05/16/22 15:47								
QC Source Sample: 266-DF-5294-N/A-007-A (A2E0208-01)												
EPA 200.8												
Lead	**8.73**	---	0.200	ug/L	1	---	8.29	---	---	5	20%	
Matrix Spike (22E0561-MS1)		Prepared: 05/16/22 07:43		Analyzed: 05/16/22 15:51								
QC Source Sample: 266-DF-5294-N/A-007-A (A2E0208-01)												
EPA 200.8												
Lead	23.7	---	0.201	ug/L	1	15.0	8.29	103	70 - 130%	---	---	

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

SAMPLE PREPARATION INFORMATION

Total Metals in Drinking Water by EPA 200.8 (ICPMS)

Prep: EPA 200.8 Direct Analysis

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22E0561							
A2E0208-01	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-02	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-03	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-04	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-05	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-06	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-07	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00
A2E0208-08	Drinking Water	EPA 200.8	05/05/22 00:00	05/16/22 07:43	10mL/10mL	10mL/10mL	1.00

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

There are No Qualifiers on Sample or QC Data for this report

Apex Laboratories

Jason Woodcock, Project Manager

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported.

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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PBS Engineering and Environmental	Project: **Portland Public Schools**	
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Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
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CHAIN OF CUSTODY

APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

Lab # A2E0208 COC 1 of 1

Company: PBS Eng. & Env. | Project Mgr: Joel McCarthy | Project Name: Lent | Project #: 25000.219
Address: 4412 S Corbett Ave, Portland, OR 97239 | Phone: 971.284.7762 | Email: joel.mccarthy@pbsusa.com | PO #
Sampled by:
Site Location: OR WA CA AK ID ____

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semi-Vols Full List	8082 PCBs	8081 Pest	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS. TCLP	TCLP Metals (8)	Archive
266-DF-5294-N/A-007-A		5/5/22	617	H2O	1													Lead			
266-DF-5300-A-007-A			619		1																
266-DF-5847-N/A-007-A			622		1																
266-DF-5309-A-007-A			624		1																
266-DF-5260-A-007-A			628		1																
266-DF-5258-A-007-A			631		1																
266-DF-5247-A-007-A			634		1																
266-DF-5259-A-007-A			637		1																

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day | 2 Day | 3 Day | 4 DAY | 5 DAY | Other: ____

SPECIAL INSTRUCTIONS:

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Date: 5/5/22	Date: 5/5/22	Date:	Date:
Time:	Time: 1023	Time:	Time:
Printed Name: Jason Swabel	Printed Name: Eli Joyce	Printed Name:	Printed Name:
Company: PBS	Company: APEX LABS	Company:	Company:

Apex Laboratories

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Portland Public Schools**	
4412 S Corbett Ave	Project Number: **Lent/25000.219**	**Report ID:**
Portland, OR 97239	Project Manager: **Joel McCarthy**	**A2E0208 - 05 18 22 1158**

APEX LABS COOLER RECEIPT FORM

Client: PBS Eng + Env Element WO#: A2E0208

Project/Project #: Lent 25000.219

Delivery Info:

Date/time received: 5/5/22 @ 1023 By: EJ

Delivered by: Apex X Client ___ ESS ___ FedEx ___ UPS ___ Swift ___ Senvoy ___ SDS ___ Other ___

Cooler Inspection Date/time inspected: 5/5/22 @ 1056 By: EJ

Chain of Custody included? Yes X No ___ Custody seals? Yes ___ No X

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	19.7						
Received on ice? (Y/N)	N						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	NA						
Condition:	OUT						

Cooler out of temp? (Y/N) Possible reason why: Drinking Waters

Green dots applied to out of temperature samples? Yes/(No)

Out of temperature samples form initiated? Yes/(No)

Sample Inspection: Date/time inspected: 5/6/22 @ 0843 By: HAS

All samples intact? Yes X No ___ Comments: ___

Bottle labels/COCs agree? Yes X No ___ Comments: ___

COC/container discrepancies form initiated? Yes ___ No X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ___

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments ___

Water samples: pH checked: Yes X No ___ NA ___ pH appropriate? Yes X No ___ NA ___

Comments: ___

Additional information: ___

Labeled by: HAS Witness: [illegible] Cooler Inspected by: EJ