January 10, 2023

Kevin Montague
Tigard-Tualatin School District
6960 SW Sandburg Street
Tigard, OR 97233

Via email: shawn@srcandp.com
Shawn Christensen, SR Consulting + Projects, LLCus

Regarding: Lead in Drinking Water Sampling
Mary Woodward Elementary School
12325 SW Katherine Avenue
Tigard, Oregon 97223
PBS Project 27482.000 Phase 0007

Dear Mr. Montague:

On December 14, 2022, PBS Engineering and Environmental Inc. (PBS) performed drinking water sampling at Mary Woodward Elementary School located at 12325 SW Katherine Avenue in Tigard, Oregon. The testing was requested by Tigard-Tualatin School District to meet requirements from the Oregon Department of Education (ODE) and Oregon Health Authority (OHA) to conduct water testing for lead in school drinking water systems.

BACKGROUND AND SAMPLING PROCEDURE

Oregon Administrative Rule (OAR) 333-061-0400 *Reducing Lead in School Drinking Water* required school districts to conduct initial testing for lead from each qualifying tap prior to June 30, 2020. This deadline was extended due to the COVID-19 pandemic.

The sampling methodology followed the protocol described in Section 4 of the Environmental Protection Agency (EPA) document *3Ts for Reducing Lead in Drinking Water in Schools and Childcare Facilities, October 2018* (3Ts) and guidelines established by OHA and ODE. Following these guidelines, PBS assigned identification numbers and collected first draw samples from each test location. First draw samples consisted of the first 250 milliliters (mL) of water drawn from a fixture after the water has been sitting stagnant for 8 to 18 hours. The 3Ts' sampling protocol is designed to maximize the likelihood that the highest concentrations of lead in water used for consumption are identified. Because 250 mL samples are relatively small and thus undiluted, the action level set by the EPA for lead is 15 parts per billion (ppb).

The water sampling process was supervised by an Oregon Health Authority certified lead risk assessor. The samples were delivered under chain of custody to Apex Laboratories in Tigard, Oregon, for lead analysis.

FINDINGS

First draw samples were collected from 3 fixtures and delivered under chain of custody to Apex Laboratories in Tigard, Oregon, for lead analysis using EPA Method 200.8 ICPMS. The following table lists the results of the analysis.

Table 1: Main Building

Sample ID*	Sample Location	Fixture Type	Sample Type	Sample Results (ppb)*
22420300-001DW22A	Cafeteria	Drinking Fountain	First	ND
22420300-002DW22A	Outside Gym; Left Fountain	Drinking Fountain	First	ND
22420300-003DW22A	Outside Gym; Right Fountain	Drinking Fountain	First	ND

ND = no lead detected
ppb = parts per billion
*Samples above the action level of 15 ppb are shown in **bold***

All samples were below the action level of 15 parts per billion (ppb).

Please refer to the attached laboratory analytical report for additional details. The laboratory analytical results are reported in micrograms per liter (µg/L), a unit of measure that is equivalent to ppb.

REIMBURSEMENT
The Tigard-Tualatin School District is eligible for reimbursement from the State of Oregon for the cost of laboratory analytical testing and shipping, but not consultant fees. This is done by completing the ODE's reimbursement template spreadsheet for each facility and submitting the information to ODE. PBS is available to assist with filing for reimbursement upon request.

ONGOING TESTING
According to OAR 333-061-0400, school districts are required to complete ongoing testing at least once every six years, starting from July 1, 2020. Taps are exempt from ongoing testing if the tap was installed after January 4, 2014, and meets the lead-free standard of no more than 0.25% lead by weight and the piping feeding the tap is a material other than copper or was installed after January 4, 2014; the solder and flux meets the leadfree standard of no more than 0.2% lead; and was tested during initial testing and results were less than 1 ppb lead.

Please feel free to contact me at 503.417.7603 or rich@pbsusa.com with any questions or comments.

Sincerely,

Digitally signed
by Rich Dufresne
Date: 2023.01.11
10:53:44 -08'00'

Rich Dufresne
Senior Project Manager
PBS Engineering and Environmental Inc.

Attachments: Laboratory Results
Chain-of-Custody Form
Lead Risk Assessor Certification

The information contained in this document is proprietary and shall not be duplicated, used, or disclosed in whole or in part to other parties without the permission of PBS.

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

ANALYTICAL REPORT

Thursday, December 29, 2022

Rich Dufresne
PBS Engineering and Environmental
4412 S Corbett Ave
Portland, OR 97239

RE: A2L0633 - Tigard-Tualatin SD - Mary Woodward Elementary School/27482.000

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 A2L0633, which was received by the laboratory on 12/15/2022 at 9:23:00AM.

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	15.8 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

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Laboratories, LLC

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503-718-2323
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ANALYTICAL REPORT

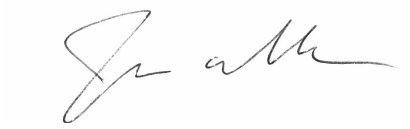
PBS Engineering and Environmental	Project: **Tigard-Tualatin SD**	
4412 S Corbett Ave	Project Number: **Mary Woodward Elementa**	**Report ID:**
Portland, OR 97239	Project Manager: **Rich Dufresne**	**A2L0633 - 12 29 22 1146**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22420300-001DW22A	A2L0633-01	Drinking Water	12/14/22 00:00	12/15/22 09:23
22420300-002DW22A	A2L0633-02	Drinking Water	12/14/22 00:00	12/15/22 09:23
22420300-003DW22A	A2L0633-03	Drinking Water	12/14/22 00:00	12/15/22 09:23

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ANALYTICAL REPORT

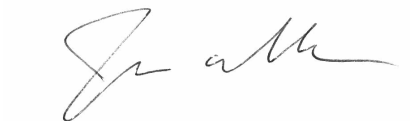
PBS Engineering and Environmental	Project: **Tigard-Tualatin SD**	
4412 S Corbett Ave	Project Number: **Mary Woodward Elementa**	**Report ID:**
Portland, OR 97239	Project Manager: **Rich Dufresne**	**A2L0633 - 12 29 22 1146**

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
22420300-001DW22A (A2L0633-01)				**Matrix: Drinking Water**				
Batch: 22L0667								
Lead	ND	---	0.200	ug/L	1	12/19/22 21:06	EPA 200.8	
22420300-002DW22A (A2L0633-02)				**Matrix: Drinking Water**				
Batch: 22L0667								
Lead	ND	---	0.200	ug/L	1	12/19/22 21:09	EPA 200.8	
22420300-003DW22A (A2L0633-03)				**Matrix: Drinking Water**				
Batch: 22L0667								
Lead	ND	---	0.200	ug/L	1	12/19/22 21:12	EPA 200.8	

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Jason Woodcock, Project Manager

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ANALYTICAL REPORT

PBS Engineering and Environmental	Project: **Tigard-Tualatin SD**	
4412 S Corbett Ave	Project Number: **Mary Woodward Elementar**	**Report ID:**
Portland, OR 97239	Project Manager: **Rich Dufresne**	**A2L0633 - 12 29 22 1146**

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 22L0667 - EPA 200.8 Direct Analysis											**Drinking Water**	
Blank (22L0667-BLK1)		Prepared: 12/19/22 13:17		Analyzed: 12/19/22 19:38								
EPA 200.8												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
LCS (22L0667-BS1)		Prepared: 12/19/22 13:17		Analyzed: 12/19/22 19:41								
EPA 200.8												
Lead	15.5	---	0.201	ug/L	1	15.0	---	103	85 - 115%	---	---	

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Jason Woodcock, Project Manager

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Portland, OR 97239	Project Manager: **Rich Dufresne**	**A2L0633 - 12 29 22 1146**

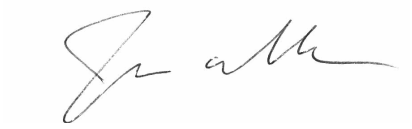
SAMPLE PREPARATION INFORMATION

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: 22L0667							
A2L0633-01	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0633-02	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0633-03	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00

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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:

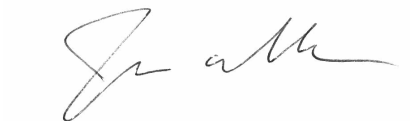
" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " 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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Jason Woodcock, Project Manager

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Portland, OR 97239	Project Manager:	**Rich Dufresne**	**A2L0633 - 12 29 22 1146**

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:

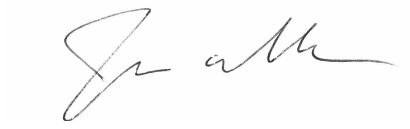
Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) 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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Portland, OR 97239	Project Manager: **Rich Dufresne**	**A2L0633 - 12 29 22 1146**

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.

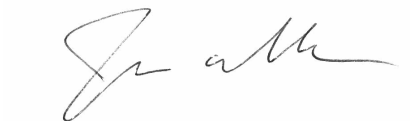
Subcontract Laboratory Accreditations

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



Jason Woodcock, Project Manager

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A2L0633

PBS

LEAD IN DRINKING WATER CHAIN OF CUSTODY

Project Name Mary Woodward Elementary School **Project** No: 27482.000 **Phase:** 0001 **Task:**

Samples **submitted** undamaged to lab by: Name/Sign: Ellie D. (Inspector) Date: 12-14-22 Time: 14:00

Samples **received** by lab undamaged: Name/Sign: (Lab) APEX Date: 12/15/22 Time: 923

Lab APEX (specify) **Turnaround time (check one):** ☐ **5 days** ☒ **10 days**

Send Results to: Rich D. , Ellie D.

SAMPLE #	DATE COLLECTED	BUILDING	ROOM	DESCRIPTION
22420300 – 001DW22A	12-14-22	Main	Cafeteria	
22420300 - 002DW22A	12-14-22	Main	Outside Gym	Left Fountain
22420300 - 003DW22A	12-14-22	Main	Outside Gym	Right Fountain

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Jason Woodcock, Project Manager

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APEX LABS COOLER RECEIPT FORM

Client: PBS Element WO#: A2L0633

Project/Project #: Mary Woodward Elementary School 27482.000 Phase001

Delivery Info:

Date/time received: 12/15/22 @ 923 By: EST

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

Cooler Inspection Date/time inspected: 12/15/22 @ 1000 By: EST

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)	15.8						
Received on ice? (Y/N)	N						
Temp. blanks? (Y/N)	N						
Ice type: (Gel/Real/Other)	NA						
Condition (In/Out):	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: 12/15/22 @ 18:25 By: [signature]

All samples intact? Yes X No ___ Comments: ___

Bottle labels/COCs agree? Yes ___ No X Comments: ID prefix + suffix missing on containers

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: [signature] RHP Witness: RHP Cooler Inspected by: [signature]

Form Y-003 R-00

Apex Laboratories

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Jason Woodcock, Project Manager

State of Oregon
Oregon Health Authority

Richard A. Dufresne

is certified by the Oregon Health Authority to conduct Lead-Based Paint Activities

Risk Assessor

Certification Number:	1268--Indv--R
Issuance Date:	7/30/2020
Expiration Date:	7/30/2023

Oregon Health Authority