



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  
Tigard High School  
9000 SW Durham Road  
Tigard, Oregon 97224  
PBS Project 27482.000 Phase 0009

Dear Mr. Montague:

On December 14, 2022, PBS Engineering and Environmental Inc. (PBS) performed drinking water sampling at Tigard High School located at 9000 SW Durham Road 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 7 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: Portables**

Sample ID*	Sample Location	Fixture Type	Sample Type	Sample Results (ppb)*
22421109-001BF22A	Portable Room 704/706	Bathroom Faucet	First	ND
22421109-002CF22A	Portable Room 704/706; High Faucet	Classroom Faucet	First	0.249
22421109-003CF22A	Portable Room 704/706; Low Faucet	Classroom Faucet	First	0.311
22421113-004CF22A	Portable Room 700/702; Kitchen Area	Classroom Faucet	First	0.291
22421113-005BF22A	Portable Room 700/702; Kitchen Area	Bathroom Faucet	First	ND
22421113-006DW22A	Portable Room 700/702	Drinking Fountain	First	1.77
22421113-007BF22A	Portable Room 700/702	Bathroom Faucet	First	0.450

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,

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.



ANALYTICAL REPORT

**Apex Laboratories, LLC**

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

Thursday, December 29, 2022

Rich Dufresne

PBS Engineering and Environmental

4412 S Corbett Ave

Portland, OR 97239

RE: A2L0630 - Tigard-Tualatin SD - Tigard High 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 A2L0630, 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](mailto: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.

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Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1

15.8 degC

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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.

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Apex Laboratories

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Jason Woodcock, Project Manager



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PBS Engineering and Environmental

4412 S Corbett Ave  
Portland, OR 97239

Project: Tigard-Tualatin SD

Project Number: Tigard High School/27482.0  
Project Manager: Rich Dufresne

Report ID:

A2L0630 - 12 29 22 1112

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22421109-001BF22A	A2L0630-01	Drinking Water	12/14/22 00:00	12/15/22 09:23
22421109-002CF22A	A2L0630-02	Drinking Water	12/14/22 00:00	12/15/22 09:23
22421109-003CF22A	A2L0630-03	Drinking Water	12/14/22 00:00	12/15/22 09:23
22421109-004CF22A	A2L0630-04	Drinking Water	12/14/22 00:00	12/15/22 09:23
22421109-005BF22A	A2L0630-05	Drinking Water	12/14/22 00:00	12/15/22 09:23
22421109-006DW22A	A2L0630-06	Drinking Water	12/14/22 00:00	12/15/22 09:23
22421109-007CF22A	A2L0630-07	Drinking Water	12/14/22 00:00	12/15/22 09:23

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6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062**PBS Engineering and Environmental**4412 S Corbett Ave  
Portland, OR 97239Project: **Tigard-Tualatin SD**Project Number: **Tigard High School/27482.0**Project Manager: **Rich Dufresne****Report ID:****A2L0630 - 12 29 22 1112**

## 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
22421109-001BF22A (A2L0630-01)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	ND	---	0.200	ug/L	1	12/19/22 20:24	EPA 200.8	
22421109-002CF22A (A2L0630-02)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	0.249	---	0.200	ug/L	1	12/19/22 20:27	EPA 200.8	
22421109-003CF22A (A2L0630-03)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	0.311	---	0.200	ug/L	1	12/19/22 20:30	EPA 200.8	
22421109-004CF22A (A2L0630-04)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	0.291	---	0.200	ug/L	1	12/19/22 20:34	EPA 200.8	
22421109-005BF22A (A2L0630-05)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	ND	---	0.200	ug/L	1	12/19/22 20:37	EPA 200.8	
22421109-006DW22A (A2L0630-06)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	1.77	---	0.200	ug/L	1	12/19/22 20:40	EPA 200.8	
22421109-007CF22A (A2L0630-07)				Matrix: Drinking Water				
Batch: 22L0667								
Lead	0.450	---	0.200	ug/L	1	12/19/22 20:52	EPA 200.8	

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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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Project Number: **Tigard High School/27482.0**

Project Manager: **Rich Dufresne**

**Report ID:**

**A2L0630 - 12 29 22 1112**

## 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
<b><u>Batch: 22L0667</u></b>							
A2L0630-01	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0630-02	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0630-03	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0630-04	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0630-05	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0630-06	Drinking Water	EPA 200.8	12/14/22 00:00	12/19/22 13:17	10mL/10mL	10mL/10mL	1.00
A2L0630-07	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

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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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### 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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### 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
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

**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 provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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## APEX LABS COOLER RECEIPT FORM

Client: PBS Element WO#: A2 20630Project/Project #: Tigard High School 27482.000 Phase 001

## Delivery Info:

Date/time received: 12/15/22 @ 923 By: ESTDelivered by: Apex ☒ Client ☐ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐Cooler Inspection Date/time inspected: 12/15/22 @ 1000 By: ESTChain of Custody included? Yes ☒ No ☐ Custody seals? Yes ☐ No ☒Signed/dated by client? Yes ☒ No ☐Signed/dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>15.8</u>						
Received on ice? (Y/N)	<u>N</u>						
Temp. blanks? (Y/N)	<u>N</u>						
Ice type: (Gel/Real/Other)	<u>NA</u>						
Condition (In/Out):	<u>OUT</u>						

Cooler out of temp? (Y/N) Possible reason why: Drinking WatersGreen 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 @ 18:12 By: afousAll samples intact? Yes ☒ No ☐ Comments: \_\_\_\_\_Bottle labels/COCs agree? Yes ☐ No ☒ Comments: 10 prefix + suffix missing on containerCOC/container discrepancies form initiated? Yes ☐ No ☒Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: \_\_\_\_\_Do VOA vials have visible headspace? Yes ☐ No ☐ NA ☒

Comments: \_\_\_\_\_

Water samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐

Comments: \_\_\_\_\_

Additional information: \_\_\_\_\_

Labeled by:

afous

Witness:

AJM

Cooler Inspected by:

afous

Form Y-003 R-00

Apex Laboratories

Jason Woodcock, Project Manager

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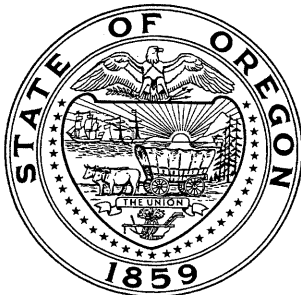
State of Oregon  
Oregon Health Authority

**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