



March 5, 2021

Adam Stewart  
Hillsboro School District  
4901 SE Witch Hazel Road  
Hillsboro, Oregon 97123

Via e-mail:       stewart@hsd.or.k12.us

Regarding:       Revised Drinking Water Sampling Report  
                  Indian Hills Elementary School – Modular Building  
                  21260 SW Rock Road  
                  Aloha, Oregon 97003  
                  PBS Project 23440.088, Phase 0001

Dear Mr. Stewart:

On September 28, and December 17, 2020, PBS Engineering and Environmental Inc. (PBS) performed drinking water sampling in the new modular building at Indian Hills Elementary School Aloha, Oregon. The testing was requested by Hillsboro School District as part of their efforts to ensure that concentrations of lead in drinking water at the school remain below the Oregon Department of Education (ODE) action level of 15 parts per billion (ppb).

Eleven water samples were delivered under chain of custody to Apex Laboratories in Tigard, Oregon, for lead analysis. Lead concentrations in all samples were below 15 ppb.

The following table lists the results of the analysis:

<b>Sample Number</b>	<b>Location / Room No.</b>	<b>Description</b>	<b>Results (ppb)</b>
22391003-001WB20A	Lobby	Water Bottle Filler	ND
22391003-002DF20A	Lobby	Drinking Fountain - Left	ND
22391003-003DF20A	Lobby	Drinking Fountain - Right	ND
22391003-004CF20A	K-3	Classroom Sink	0.515
22391003-005CF20A	K-2	Classroom Sink	0.203
22391003-006CFB20A	K-1	Classroom Sink	0.919
22391003-007BF20A	Boys Restroom Sink – Left	Bathroom Faucet	4.19
22391003-008BF20A	Boys Restroom Sink - Right	Bathroom Faucet	3.37
22391003-009BF20A	Girls Restroom Sink – Left	Bathroom Faucet	4.14
22391003-010BF20A	Girls Restroom Sink - Right	Bathroom Faucet	2.45
22391003-011BFB20A	Staff Restroom Sink	Bathroom Faucet	13.3

ND = No lead detected

Please refer to the attached sample location drawing and laboratory analytical report for additional details. The laboratory analytical results are reported in micrograms per liter ( $\mu\text{g/L}$ ), a unit of measure that is equivalent to ppb.

Sampling methodology and the interpretation of laboratory results were based on the Environmental Protection Agency guidance document titled *3Ts for Reducing Lead in Drinking Water in Schools*. Following this guideline, PBS collected first draw samples from each test location. First draw samples consist of the first 250 milliliters (mL) of water drawn from a fixture after the water has been sitting stagnant for at least 8 hours. The 3Ts' sampling protocol specifying 250-mL samples is designed to maximize the likelihood that the highest concentrations of lead in water used for consumption are identified.

Please feel free to contact me at 503.515.4726 or voeller@pbsusa.com with any questions or comments.

Sincerely,

Dale Voeller, CHMM, CSP  
Senior Project Manager

Attachments: Sample Location Drawing  
Laboratory Analytical Report

DSV:mo





**Apex Laboratories, LLC**

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

Thursday, October 8, 2020

Dale Voeller  
PBS Engineering and Environmental  
4412 SW Corbett Ave  
Portland, OR 97239

RE: A0I0806 - Indian Hills Elementary School - 23440.088-0001

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 A0I0806, which was received by the laboratory on 9/29/2020 at 1:40:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [ldomenighini@apex-labs.com](mailto:ldomenighini@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            24.9 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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Lisa Domenighini, Client Services Manager



**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
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503-718-2323  
ORELAP ID: OR100062

<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>Indian Hills Elementary School</b> Project Number: 23440.088-0001 Project Manager: Dale Voeller	<b>Report ID:</b> A010806 - 10 08 20 1005
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**ANALYTICAL REPORT FOR SAMPLES**

**SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22391003-001WB20A	A010806-01	Drinking Water	09/28/20 00:00	09/29/20 13:40
22391003-002DF20A	A010806-02	Drinking Water	09/28/20 00:00	09/29/20 13:40
22391003-003DF20A	A010806-03	Drinking Water	09/28/20 00:00	09/29/20 13:40
22391003-004CF20A	A010806-04	Drinking Water	09/28/20 00:00	09/29/20 13:40
22391003-005CF20A	A010806-05	Drinking Water	09/28/20 00:00	09/29/20 13:40
22391003-006CFB20A	A010806-06	Drinking Water	09/28/20 00:00	09/29/20 13:40

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Lisa Domenighini, Client Services Manager



<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>Indian Hills Elementary School</b> Project Number: <b>23440.088-0001</b> Project Manager: <b>Dale Voeller</b>	<b>Report ID:</b> <b>A010806 - 10 08 20 1005</b>
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**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
<b>22391003-001WB20A (A010806-01)</b>				<b>Matrix: Drinking Water</b>				
Batch: 0090904								
Lead	ND	---	0.200	ug/L	1	10/02/20 15:48	EPA 200.8	
<b>22391003-002DF20A (A010806-02)</b>				<b>Matrix: Drinking Water</b>				
Batch: 0090904								
Lead	ND	---	0.200	ug/L	1	10/02/20 15:50	EPA 200.8	
<b>22391003-003DF20A (A010806-03)</b>				<b>Matrix: Drinking Water</b>				
Batch: 0090906								
Lead	ND	---	0.200	ug/L	1	10/02/20 16:07	EPA 200.8	
<b>22391003-004CF20A (A010806-04)</b>				<b>Matrix: Drinking Water</b>				
Batch: 0090906								
Lead	<b>0.515</b>	---	0.200	ug/L	1	10/02/20 16:12	EPA 200.8	
<b>22391003-005CF20A (A010806-05)</b>				<b>Matrix: Drinking Water</b>				
Batch: 0090906								
Lead	<b>0.203</b>	---	0.200	ug/L	1	10/02/20 16:14	EPA 200.8	
<b>22391003-006CFB20A (A010806-06)</b>				<b>Matrix: Drinking Water</b>				
Batch: 0090906								
Lead	<b>0.919</b>	---	0.200	ug/L	1	10/02/20 16:17	EPA 200.8	



<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>Indian Hills Elementary School</b> Project Number: <b>23440.088-0001</b> Project Manager: <b>Dale Voeller</b>	<b>Report ID:</b> <b>A010806 - 10 08 20 1005</b>
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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
<b>Batch 0090904 - Matrix Matched Direct Inject</b>						<b>Drinking Water</b>						
<b>Blank (0090904-BLK1)</b>		Prepared: 09/30/20 14:55 Analyzed: 10/02/20 14:52										
<u>EPA 200.8</u>												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
<b>LCS (0090904-BS1)</b>		Prepared: 09/30/20 14:55 Analyzed: 10/02/20 14:54										
<u>EPA 200.8</u>												
Lead	16.8	---	0.200	ug/L	1	16.7	---	101	85 - 115%	---	---	---
<b>Batch 0090906 - Matrix Matched Direct Inject</b>						<b>Drinking Water</b>						
<b>Blank (0090906-BLK1)</b>		Prepared: 09/30/20 15:00 Analyzed: 10/02/20 15:58										
<u>EPA 200.8</u>												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
<b>LCS (0090906-BS1)</b>		Prepared: 09/30/20 15:00 Analyzed: 10/02/20 16:00										
<u>EPA 200.8</u>												
Lead	17.2	---	0.200	ug/L	1	16.7	---	103	85 - 115%	---	---	---
<b>Duplicate (0090906-DUP1)</b>		Prepared: 09/30/20 15:00 Analyzed: 10/02/20 16:19										
<u>QC Source Sample: 22391003-006CFB20A (A010806-06)</u>												
<u>EPA 200.8</u>												
Lead	0.937	---	0.200	ug/L	1	---	0.919	---	---	2	20%	---
<b>Matrix Spike (0090906-MS1)</b>		Prepared: 09/30/20 15:00 Analyzed: 10/02/20 16:21										
<u>QC Source Sample: 22391003-006CFB20A (A010806-06)</u>												
<u>EPA 200.8</u>												
Lead	18.0	---	0.200	ug/L	1	16.7	0.919	103	70 - 130%	---	---	---



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**PBS Engineering and Environmental**

4412 SW Corbett Ave  
Portland, OR 97239

Project: **Indian Hills Elementary School**

Project Number: **23440.088-0001**

Project Manager: **Dale Voeller**

**Report ID:**

**A010806 - 10 08 20 1005**

**SAMPLE PREPARATION INFORMATION**

**Total Metals in Drinking Water by EPA 200.8 (ICPMS)**

**Prep: Matrix Matched Direct Inject**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 0090904</b>							
A010806-01	Drinking Water	EPA 200.8	09/28/20 00:00	09/30/20 14:55	45mL/50mL	45mL/50mL	1.00
A010806-02	Drinking Water	EPA 200.8	09/28/20 00:00	09/30/20 14:55	45mL/50mL	45mL/50mL	1.00
<b>Batch: 0090906</b>							
A010806-03	Drinking Water	EPA 200.8	09/28/20 00:00	09/30/20 15:00	45mL/50mL	45mL/50mL	1.00
A010806-04	Drinking Water	EPA 200.8	09/28/20 00:00	09/30/20 15:00	45mL/50mL	45mL/50mL	1.00
A010806-05	Drinking Water	EPA 200.8	09/28/20 00:00	09/30/20 15:00	45mL/50mL	45mL/50mL	1.00
A010806-06	Drinking Water	EPA 200.8	09/28/20 00:00	09/30/20 15:00	45mL/50mL	45mL/50mL	1.00

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Lisa Domenighini, Client Services Manager



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PBS Engineering and Environmental

4412 SW Corbett Ave  
Portland, OR 97239

Project: Indian Hills Elementary School

Project Number: 23440.088-0001

Project Manager: Dale Voeller

Report ID:

A010806 - 10 08 20 1005

**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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<b>PBS Engineering and Environmental</b>	Project: <b>Indian Hills Elementary School</b>	
4412 SW Corbett Ave	Project Number: <b>23440.088-0001</b>	<b>Report ID:</b>
Portland, OR 97239	Project Manager: <b>Dale Voeller</b>	<b>A010806 - 10 08 20 1005</b>

**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 1/2 the Reporting Limit (RL).  
-For Blank hits falling between 1/2 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.



<b>PBS Engineering and Environmental</b>	Project: <b>Indian Hills Elementary School</b>	
4412 SW Corbett Ave	Project Number: <b>23440.088-0001</b>	<b>Report ID:</b>
Portland, OR 97239	Project Manager: <b>Dale Voeller</b>	<b>A010806 - 10 08 20 1005</b>

**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.



**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
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503-718-2323  
ORELAP ID: OR100062

<b><u>PBS Engineering and Environmental</u></b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b><u>Indian Hills Elementary School</u></b> Project Number: <b>23440.088-0001</b> Project Manager: <b>Dale Voeller</b>	<b>Report ID:</b> <b>A010806 - 10 08 20 1005</b>
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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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Lisa Domenighini, Client Services Manager



<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>Indian Hills Elementary School</b> Project Number: 23440.088-0001 Project Manager: Dale Voeller	Report ID: A010806 - 10 08 20 1005
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**APEX LABS COOLER RECEIPT FORM**

Client: PBS-PDX Element WO#: A0 1080600 *TAM 9-29-20*

Project/Project #: Indian Hills Elementary School Modular Building 23440.088/0001

**Delivery Info:**  
Date/time received: 9/29/20 @ 1340 By: EJ  
Delivered by: Apex  Client  ESS  FedEx  UPS  Swift  Senvoy  SDS  Other

**Cooler Inspection** Date/time inspected: 9/29/20 @ 1438 By: EJ  
Chain 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>24.9</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:	<u>OUT</u>						

Cooler out of temp?  Possible reason why: DW  
If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA   
Out of temperature samples form initiated? Yes/No/NA

**Samples Inspection:** Date/time inspected: 9/29/20 @ 18:10 By: TAM  
All samples intact? Yes  No  Comments: \_\_\_\_\_

Bottle labels/COCs agree? Yes  No  Comments: NO TID on conts, NO T on COC, 22391003-006CFB20A reads 22391003-006CF20A

COC/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: TAM Witness: AKK Cooler Inspected by: TAM See Project Contact Form:

*Lisa Domenighini*



**Apex Laboratories, LLC**

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

Tuesday, January 12, 2021

Dale Voeller  
PBS Engineering and Environmental  
4412 SW Corbett Ave  
Portland, OR 97239

RE: A0L0752 - Indian Hills Elementary School - 23440.088-0001 Modular Building

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 A0L0752, which was received by the laboratory on 12/18/2020 at 9:45:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [ldomenighini@apex-labs.com](mailto:ldomenighini@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            18.7 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.

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ORELAP ID: OR100062

<b><u>PBS Engineering and Environmental</u></b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b><u>Indian Hills Elementary School</u></b> Project Number: 23440.088-0001 Modular Bu Project Manager: Dale Voeller	<b>Report ID:</b> A0L0752 - 01 12 21 0936
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**ANALYTICAL REPORT FOR SAMPLES**

**SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22391003-007BF20A	A0L0752-01	Drinking Water	12/17/20 00:00	12/18/20 09:45
22391003-008BF20A	A0L0752-02	Drinking Water	12/17/20 00:00	12/18/20 09:45
22391003-009BF20A	A0L0752-03	Drinking Water	12/17/20 00:00	12/18/20 09:45
22391003-010BF20A	A0L0752-04	Drinking Water	12/17/20 00:00	12/18/20 09:45
22391003-011BF20A	A0L0752-05	Drinking Water	12/17/20 00:00	12/18/20 09:45

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Lisa Domenighini, Client Services Manager



<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>Indian Hills Elementary School</b> Project Number: <b>23440.088-0001 Modular Bu</b> Project Manager: <b>Dale Voeller</b>	<b>Report ID:</b> <b>A0L0752 - 01 12 21 0936</b>
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**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
<b>22391003-007BF20A (A0L0752-01RE1)</b>				<b>Matrix: Drinking Water</b>				
Batch: 1012567								
Lead	4.19	---	0.200	ug/L	1	01/06/21 18:16	EPA 200.8	
<b>22391003-008BF20A (A0L0752-02RE1)</b>				<b>Matrix: Drinking Water</b>				
Batch: 1012567								
Lead	3.37	---	0.200	ug/L	1	01/06/21 18:18	EPA 200.8	
<b>22391003-009BF20A (A0L0752-03)</b>				<b>Matrix: Drinking Water</b>				
Batch: 1012567								
Lead	4.14	---	0.200	ug/L	1	01/06/21 18:20	EPA 200.8	
<b>22391003-010BF20A (A0L0752-04)</b>				<b>Matrix: Drinking Water</b>				
Batch: 1012567								
Lead	2.45	---	0.200	ug/L	1	01/06/21 18:22	EPA 200.8	
<b>22391003-011BF20A (A0L0752-05)</b>				<b>Matrix: Drinking Water</b>				
Batch: 1012567								
Lead	13.3	---	0.200	ug/L	1	01/06/21 18:31	EPA 200.8	



**Apex Laboratories, LLC**

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<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>Indian Hills Elementary School</b> Project Number: <b>23440.088-0001 Modular Bu</b> Project Manager: <b>Dale Voeller</b>	<b>Report ID:</b> A0L0752 - 01 12 21 0936
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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
<b>Batch 1012567 - Matrix Matched Direct Inject</b>						<b>Drinking Water</b>						
<b>Blank (1012567-BLK2)</b>		Prepared: 01/06/21 11:58 Analyzed: 01/06/21 17:58										
<u>EPA 200.8</u>												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	Q-16
<b>LCS (1012567-BS2)</b>		Prepared: 01/06/21 11:58 Analyzed: 01/06/21 18:04										
<u>EPA 200.8</u>												
Lead	17.7	---	0.200	ug/L	1	16.7	---	106	85 - 115%	---	---	Q-16

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Lisa Domenighini, Client Services Manager



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**SAMPLE PREPARATION INFORMATION**

**Total Metals in Drinking Water by EPA 200.8 (ICPMS)**

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 1012567</u>							
A0L0752-01RE1	Drinking Water	EPA 200.8	12/17/20 00:00	01/06/21 11:58	45mL/50mL	45mL/50mL	1.00
A0L0752-02RE1	Drinking Water	EPA 200.8	12/17/20 00:00	01/06/21 11:58	45mL/50mL	45mL/50mL	1.00
A0L0752-03	Drinking Water	EPA 200.8	12/17/20 00:00	01/06/21 11:58	45mL/50mL	45mL/50mL	1.00
A0L0752-04	Drinking Water	EPA 200.8	12/17/20 00:00	01/06/21 11:58	45mL/50mL	45mL/50mL	1.00
A0L0752-05	Drinking Water	EPA 200.8	12/17/20 00:00	01/06/21 11:58	45mL/50mL	45mL/50mL	1.00

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**QUALIFIER DEFINITIONS**

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

**Apex Laboratories**

Q-16 Reanalysis of an original Batch QC sample.

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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 1/2 the Reporting Limit (RL).  
-For Blank hits falling between 1/2 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.

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Lisa Domenighini, Client Services Manager

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**APEX LABS COOLER RECEIPT FORM**

Client: PBS - PDX Element WO#: A0LD752

Project/Project #: Indian Hills Elementary Modular Building 23440.088/0001

**Delivery Info:**  
Date/time received: 12/18/20 @ 945 By: ES

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

**Cooler Inspection** Date/time inspected: 12/18/20 @ 1025 By: ES

Chain 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>18.7</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:	<u>OUT</u>						

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

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

**Samples Inspection:** Date/time inspected: 12-19-20 @ 12:45 By: TAM

All samples intact? Yes  No  Comments: \_\_\_\_\_

Bottle labels/COCs agree? Yes  No  Comments: \_\_\_\_\_

COC/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: TAM Witness: [Signature] Cooler Inspected by: TAM See Project Contact Form: Y

*Lisa Domenighini*