

December 30, 2016

Jeremy Miller
Maintenance Manager
Department of Administrative Services
Enterprise Asset Management Division
1225 Ferry Street SE
Salem, Oregon 97301

Via email: Jeremy.W.MILLER@oregon.gov

Regarding: Drinking Water Sampling for Lead

Portland State Office Building 800 NE Oregon Street Portland, Oregon 97232

PBS Project # 25103.003 Phase 0040

Dear Mr. Miller:

On October 19, 2016, PBS Engineering and Environmental Inc. (PBS) performed drinking water sampling at the Portland State office building located at 800 NE Oregon Street in Portland, Oregon. The testing was requested by State of Oregon Department of Administrative Services in an effort to ensure that concentrations of lead in drinking water remain below the EPA action level.

Sampling methodology and the interpretation of laboratory results were based on the EPA Lead and Copper Rule (LCR). Following LCR sampling guidelines, PBS collected the first 1000 milliliters (mL) of water from each test location (first draw) early in the morning following an overnight stagnation period. The LCR's stagnation period, and sampling protocol specifying the first 1000 mL samples, is designed to maximize the likelihood that the highest concentrations of lead are identified in water used for consumption. At each sample location, immediately following first draw sampling, a flush sample was collected after the water had been allowed to run for 30 seconds.

The water sampling process was supervised by a certified industrial hygienist (CIH) who is also an Oregon Health Authority certified lead risk assessor.

The action level set by the EPA for lead is 15 parts per billion (ppb). If the action level is exceeded in more than 10 percent of taps sampled, then action must be taken to control plumbing-material corrosion.

Sixty-six first draw and flush drinking water samples were collected and delivered under chain of custody to BSK Laboratories in Vancouver, Washington for lead analysis. Initially, only first draw samples were analyzed. Any first draw sample that exceeded the EPA action level for lead had its associated flush sample analyzed.

Concentrations of lead in the first draw samples ranged from none detected to 18 ppb. Laboratory analysis indicates that one drinking water sample contained lead at a concentration above the EPA action level. The associated flush sample taken at the same location fell below the action level at 7.4 ppb. PBS is recommending that the fixture be replaced followed by re-testing.

The following tables present all first draw samples that fell below and exceeded the EPA action level of 15 ppb.

Lead Concentrations below 15 ppb

Sample Number	Sample Location	Lead Concentration (ppb)
SK-POSO-001-FD	Break room eleventh floor, suite 1125 kitchen sink	1.4
WF-POSO-003-FD	Water fountain eleventh floor between men's and women's bathrooms near suite 1125	2.0
SK-POSO-005-FD	Break room tenth floor BOLI near suite 1030 entrance, kitchen sink	1.8
WF-POSO-007-FD	Water fountain tenth floor between men's and women's bathrooms across from suite 1030	2.0
SK-POSO-009-FD	Break room ninth floor across from suite 918 kitchen sink	1.5
WF-POSO-011-FD	Water fountain ninth floor between men's and women's bathrooms near suite 925	4.7
SK-POSO-013-FD	Break room eighth floor across from suite 825 kitchen sink	1.3
WF-POSO-015-FD	Water fountain eighth floor between men's and women's bathrooms across from suite 825	ND
WF-POSO-017-FD	Water fountain eighth floor, suite 800 fitness room spigot	ND
SK-POSO-019-FD	Break room seventh floor across from suite 710 kitchen sink	1.9
WF-POSO-021-FD	Water fountain seventh floor between men's and women's bathrooms, suite 730	ND
SK-POSO-023-FD	Break room sixth floor across from suite 618 conference room kitchen sink	1.6
WF-POSO-025-FD	Water fountain sixth floor, suite 640 between men's and women's bathrooms	1.0
SK-POSO-027-FD	Break room fifth floor across from suite 507, kitchen sink	1.7
SK-POSO-029-FD	Break room fourth floor across from suite 425, kitchen sink	2.3
WF-POSO-031-FD	Water fountain fourth floor between men's and women's bathrooms	6.7
SK-POSO-033-FD	Break room third floor kitchen sink	ND
WF-POSO-035-FD	Water fountain third floor between men's and women's bathrooms	1.1
SK-POSO-037-FD	Kitchenette second floor mail room kitchen sink	3.3
WF-POSO-039-FD	Water fountain second floor across suite 215	ND
SK-POSO-041-FD	Break room first floor kitchen sink with server/computer and files, suite 150 Oregon Board of Pharmacy	ND

Sample Number	Sample Location	Lead Concentration (ppb)
WF-POSO-043-FD	Water fountain first floor between men's and women's bathrooms across from suite 150 Oregon Board of Pharmacy	ND
SK-POSO-045-FD	Employee lunch/break room basement kitchen sink	ND
SK-POSO-047-FD	Water fountain fifth floor between men's/women's bathrooms	ND
SK-POSO-049-FD	Cafe kitchen sink next to elevator	ND
SK-POSO-051-FD	Water fill station kitchen sink adjacent to conference room 1D	ND
SK-POSO-055-FD	Kitchen sink (middle sink) dish wash area	13
SK-POSO-057-FD	Kitchen sink left of dishwasher, dish wash area	3.2
SK-POSO-059-FD	Kitchen sink left of ice machine food prep area	2.3
SK-POSO-061-FD	Kitchen sink middle food prep area	1.3
SK-POSO-063-FD	Kitchen sink west food prep area	1.4
SK-POSO-065-FD	Kitchen sink far left/east food prep area	1.4

ND: None Detected

Lead Concentration above 15 ppb and Associated Flush Sample

Sample Location	First Draw Sample Number	First Draw Lead Concentration (ppb)	Flush Draw Sample Number	Flush Draw Lead Concentration (ppb)
Kitchen sink (left/south) dish wash area	SK-POSO-053-FD	18	SK-POSO-054-FL	7.4

ND: None Detected

Please refer to the attached Chain of Custody form and laboratory data for greater details. It should be noted that quality control (QC) sample results are included at the end of laboratory information. The QC samples are both laboratory blanks and spiked samples used internally by the laboratory to assess accuracy.

Drinking Water Sampling for Lead, Department of Administrative Services Portland State Office Building December 30, 2016
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Please feel free to contact me at 503.417.7602 or derek.may@pbsenv.com with any questions or comments.

Sincerely,

PBS Engineering and Environmental Inc.

Derek May, Principal

S. Dul sky

Attachments: Laboratory Results
Chain of Custody Form

DM::bmp

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.



Derek May PBS Environmental 4412 SW Corbett Ave Portland, OR 97239

RE: Report for A6J2625 Oregon DAS - Lead

Dear Derek May,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/20/2016. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

If additional clarification of any information is required, please contact your Project Manager, Debra Karlsson, at 559-497-2888.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Debra Karlsson, Project Coordinator



Accredited in Accordance with NELAP
ORELAP #4021

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Case Narrative

Project and Report Details Invoice Details

Client: PBS Environmental Invoice To: PBS Environmental Report To: Derek May Invoice Attn: Accounts Payable

Project #: Portland State Office Building #25103.003 PH 40 Project PO#: -

Received: 10/20/2016 - 09:00

Report Due: 11/03/2016

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Sample Receipt Conditions

Cooler:Default CoolerContainers IntactTemperature on Receipt °C:19.6COC/Labels Agree

Received with no thermal preservation. Sample(s) split after receipt at the laboratory.

Initial receipt at BSK-VAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s) Report Format CC:

Derek May FINAL.RPT





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J2625-01
 Sample Date - Time: 10/19/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water Sample Type: First Draw

Sample Description: SK-POSO-001-FD // Breakroom 11th Floor Suite 1125 kitchen

sink

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0014	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-03 Sampled By: Client

Sample Description: WF-POSO-003-FD // Water fountain 11th Floor between

men's/women's bathrooms near Suite 1125

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual	
Lead	EPA 200.8	0.0020	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-05

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sampled By: Client

Sample Description: SK-POSO-005-FD // Breakroom 10th Floor BOLI near Suite

1030 entrance, kitchen sink

Sample Type: First Draw

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	0.0018	0.0010	mg/L	1	A614769	10/26/16	10/27/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-07

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sampled By: Client

Sample Description: WF-POSO-007-FD // Water fountain 10th Floor between

Sample Type: First Draw

men's/women's bathrooms across from Suite 1030

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	0.0020	0.0010	mg/L	1	A614769	10/26/16	10/27/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-09 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-009-FD // Breakroom 9th Floor across from Suite 918

Sample Type: First Draw

kitchen sink

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0015	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-11
Sampled By: Client

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Sample Description: WF-POSO-011-FD // Water fountain 9th Floor between

men's/women's bathrooms near Suite 925

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0047	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-13 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water Sample Type: First Draw

Sample Description: SK-POSO-013-FD // Breakroom 8th Floor across from Suite 825

kitchen sink

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0013	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-15

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Sampled By: Client

Sample Description: WF-POSO-015-FD // Water fountain 8th Floor between

men's/women's bathrooms across from Suite 825

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614769	10/26/16	10/27/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-17 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: WF-POSO-017-FD // Water fountain 8th Floor Suite 800 Fitness

Sample Type: First Draw

room spigot

BSK Associates Fresno Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614769	10/26/16	10/27/16	

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Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J2625-19
 Sample Date - Time: 10/19/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water Sample Type: First Draw

Sample Description: SK-POSO-019-FD // Breakroom 7th Floor across from Suite 710

kitchen sink

	Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ī	Lead	EPA 200.8	0.0019	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-21 Sampled By: Client Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Description: WF-POSO-021-FD // Water fountain 7th Floor between

Sample Type: First Draw

men's/women's bathrooms Suite 730

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614769	10/26/16	10/27/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-23 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water Sample Type: First Draw

Sample Description: SK-POSO-023-FD // Breakroom 6th Floor across from Suite 618

Conf. Room kitchen sink

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0016	0.0010	mg/L	1	A614769	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-25 Sampled By: Client Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Description: WF-POSO-025-FD // Water fountain 6th Floor Suite 640

Sample Type: First Draw

between men's/women's bathrooms

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0010	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-27

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sampled By: Client

Sample Type: First Draw

Sample Description: SK-POSO-027-FD // Breakroom 5th Floor across Suite 507

kitchen sink

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0017	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J2625-29
 Sample Date - Time: 10/19/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water Sample Type: First Draw

 $\textbf{Sample Description:} \ \mathsf{SK-POSO-029-FD} \ \textit{//} \ \mathsf{Breakroom} \ \mathsf{4th} \ \mathsf{Floor} \ \mathsf{across} \ \mathsf{from} \ \mathsf{Suite} \ \mathsf{425}$

kitchen sink

	Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
•	Lead	EPA 200.8	0.0023	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-31 Sampled By: Client

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Sample Description: WF-POSO-031-FD // Water fountain 4th Floor between men's/women's bathrooms

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0067	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-33 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-033-FD // Breakroom 3rd Floor kitchen sink

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614770	10/26/16	10/27/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-35 Sampled By: Client Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Sample Description: WF-POSO-035-FD // Water fountain 3rd Floor between men's/women's bathrooms

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0011	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-37 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-037-FD // Kitchenette 2nd Floor mail room kitchen

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0033	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-39 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: WF-POSO-039-FD // Water fountain 2nd Floor across Suite 215

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614770	10/26/16	10/27/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-41 Sampled By: Client

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Sample Description: SK-POSO-041-FD // Breakroom 1st Floor kitchen sink with server/computer & files Suite 150 Oregon Board of Pharmacy

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-43
Sampled By: Client

Sample Date - Time: 10/19/16 - 00:00

Matrix: Drinking Water

Sample Type: First Draw

Sample Description: WF-POSO-043-FD // Water fountain 1st Floor between men's/women's bathrooms across from Suite 150 Oregon Board of Pharm

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614770	10/26/16	10/27/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J2625-45 **Sample Date - Time:** 10/19/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-045-FD // Employee lunch/breakroom basement

Sample Type: First Draw

kitchen sink

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A614770	10/26/16	10/27/16



BSK Associates Fresno Metals Quality Control Report

		letals Qu		Spike	Source		%REC		RPD	Date	
Analyte	Result	RL	Units	Level	Result	%REC	Limits	RPD		Analyzed	Qual
		EPA 20	00.8 - Q	uality Co	ntrol						
Batch: A614769										Prepared:	10/26/2016
Prep Method: EPA 200.2 - Pb/Cu Rule										Ar	nalyst: GNG
Blank (A614769-BLK1)											
Lead	ND	0.0010	mg/L							10/27/16	
Blank Spike (A614769-BS1)											
ead	0.094	0.0010	mg/L	0.10		94	85-115			10/27/16	
Blank Spike Dup (A614769-BSD1)											
ead	0.098	0.0010	mg/L	0.10		98	85-115	4	20	10/27/16	
Matrix Spike (A614769-MS1), Source: A	6J2562-01										
Lead	0.21	0.0020	mg/L	0.20	0.023	95	70-130			10/27/16	
Matrix Spike (A614769-MS2), Source: A	6J2625-05										
Lead	0.18	0.0020	mg/L	0.20	ND	91	70-130			10/27/16	
Matrix Spike Dup (A614769-MSD1), Sou	rce: A6J2562-01										
Lead	0.22	0.0020	mg/L	0.20	0.023	97	70-130	2	20	10/27/16	
Matrix Spike Dup (A614769-MSD2), Sou	rce: A6J2625-05										
Lead	0.19	0.0020	mg/L	0.20	ND	92	70-130	0	20	10/27/16	
		EPA 20	00.8 - Q	uality Co	ntrol						
Batch: A614770										Prepared:	10/26/2016
Prep Method: EPA 200.2 - Pb/Cu Rule										Ar	nalyst: GNG
Blank (A614770-BLK1)											
Lead	ND	0.0010	mg/L							10/27/16	
Blank Spike (A614770-BS1)											
Lead	0.096	0.0010	mg/L	0.10		96	85-115			10/27/16	
Blank Spike Dup (A614770-BSD1)											
Lead	0.096	0.0010	mg/L	0.10		96	85-115	0	20	10/27/16	
Matrix Spike (A614770-MS1), Source: A	6J2625-25										
Lead	0.18	0.0020	mg/L	0.20	ND	91	70-130			10/27/16	
Matrix Spike (A614770-MS2), Source: A	6J2625-45										
_ead	0.20	0.0020	mg/L	0.20	ND	98	70-130			10/27/16	
Matrix Spike Dup (A614770-MSD1), Sou	rce: A6J2625-25										
Lead	0.19	0.0020	mg/L	0.20	ND	96	70-130	5	20	10/27/16	
Matrix Spike Dup (A614770-MSD2), Sou	rce: A6J2625-45										
ead	0.20	0.0020	mg/L	0.20	ND	98	70-130	1	20	10/27/16	

A6J2625 FINAL 11022016 1606

Printed: 11/2/2016

QA-RP-0001-10 Final.rpt



Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- · Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- · (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- · RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
μg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
μg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

WA100008-008

BSK is not accredited under the NELAP program for the following parameters: **NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno			
State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAP	4021
EPA - UCMR3	CA00079	State of Washington	C997-16
Sacramento			
State of California - ELAP	2435		
San Bernardino			
State of California - ELAP	2993	State of Oregon - NELAP	4119-001

A6J2625 FINAL 11022016 1606

Printed: 11/2/2016

Vancouver

State of Oregon - NELAP

QA-RP-0001-10 Final.rpt

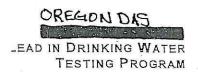
C824-16

State of Washington



Engineering + Environmental A6J2625 PBSEN1939

10/20/2016



25103.003

	FACILITY NAME: POPTIAND STATE OFFICE BUILDING	GPROJECT#: PH 4
	ANALYSIS REQUESTED: LEAD (PB) IN DRINKING WATER COPPER (CU) IN DRINKING WATER	DATE: 10 14 16
-12	RELINQ'D BY/SIGNATURE: Wike Golden With De	DATE/TIME: 18 (4 16) 700
60	RECEIVED BY/SIGNATURE: Junea Kangell	DATE/TIME: 10 20/16 0900
	EMAIL RESULTS TO: derek may Epbsenv. com	TURN AROUND TIME: 7-10 days

LAB	SAMPLE#	BUILDING	ROOM	LOCATION IN ROOM
1	SK-POSO-00 -F	50		Breakroom, With Floor, Suite
2	SK-P050-002-F			1175 KILLIA SIAK
\$ 3	WF-P050-003-F0			1125 Kitchen SiNC Worker Fountain 11th Floor, - between Mens Womans both 100m near Syll
4	WF-POSD-004-FL	AND SILVE VIII		between mens/ Womans bathroom near Syll
				1125
5	SK-P050-005-FO			Breakroom, 1044 Hoor, & BOLT
6	SK-P050-006-FL			mante suite 1630 autmano Vitcher R
Ż.	WF-P050-007-FD			water Fountain 10th Floor
8	WF-9050-008- FL			between Mensy Woman both room across 500
9	SK- P050- 009 FD			between Mensy Woman balancom across signs Break 100m, 9th Floor across four Build 918, Kitchen Sink
10	6K- POSO -010-76		- W	Tou Buite 918, Kitchen Sink
	WF - POSO - O11 - FO			Water tourstain good floor, between
12	VF- POSO- 012-FL			mens/womans bothrooms near sorte 925
13	SK- POSO - 013-FD			Breakroom 8th Floor, deruss from
14	SK-9050 - OM-FL			Stite 825 Kitchen Sink
15	WF-P050-015-F0			Water Fruntain, 8th Floor between Mens Womans bathrooms, across floor
16	WF-9050- 016- FL			Mens Womans bathrooms, asinte 835
17	WF . POSO - 017-FU			Water Fountain, 8th Floor, Suite 800
18	WF-9050-018-FL			Fitness foom (spigot)
19	SK- 6050- 019- FD			Break room, 7th Floor, across from
20	SIC-9050 - 020- FL			Suite 710, Kitchen Sink
22	WF-P050-032-FL			worder Fountain, 7th Floor Sur between Mens Womans both rooms T
23		1		Breakroom, 6th Floor, across from son le
24	SK-9050- 024-FL			018 (Cont. room) Kntcken Sink
25				World Fountain 6th Floor
	WF- 8050 - 026- FL			Suite 640, between news womans



Engineering + Environmental

A6J2625 PBSEN1939



10/20/2016



25103.003

	FACILITY NAME: PORTLAND STATE OFFICE BULDING	PROJECT #: PH 40
	Analysis requested: Lead (PB) in Drinking Water Copper (Cu) in Drinking Water	DATE: 10 19 20 16
	RELING'D BY/SIGNATURE Wike Golden / Wind	DATE/TIME: W (1911 18 1700
6	RECEIVED BY/SIGNATURE TOURS Sungel	DATE/TIME: 10 20 16 0900
	EMAIL RESULTS TO: derek may Eposeny com	TURN AROUND TIME: 7-10 days

		SAMPLE	DATA FO	DRM
AB	SAMPLE#	BUILDING	ROOM	LOCATION IN ROOM
17	SK-P050-027- FD.			Breakroom, 5th Floor, across
18	5K-9050-028-FL			Suite 504 Kitchen Sink
29	SK-9050-029-FD			Breakloom 444. Floor across from
30	SK- POSO - 030-FL			Svite 425, Kitchen Sink
31_	WF - 2050 - 031-FD			Wooler Fountain 4th Floor between
32	WF-P050-032-FL			mens/womans buthrooms
33	SK-P050-032-FD			Breakroom, STA Floor, Kitchen
34	5K-9050-034-FL			SINK
35	NF- POSO - 035- FO			Water Fountain, 3rd Floor,
36	WF-P050- 086-FL			between news womans backroods
37	SK-9050-037-FD			Kitchenette, 2nd Floor, Mail
38	5K-P050-035-FL			Room, Kitchen Sink
39	WF-P050- 039-FD			Water Fountain, 2nd Floor,
40	WF-P050-040-FL			across suite 215
41	SK- POSO- 041-FD			Breakroom 1st Floor Kitchey
42	SK-9050-042-FL	***		Sink (with somer Computer 2 files Suite 150 (Diagon Board of Phase
.10				Suite 150 Wiegon Board of Phase
43	WF-P050-043-FD			Wader Fountium, 1st Avor, between
44	WF-8050-044-FU			mens (womans both rooms, across.
11-				From suite 150 (oragon Board of 1
45	sk-9050-045-FD			Employee Lunch Break room, Baseman
46	5K-P050-046-FL			Kitchey Sink

Labeled by: @	Labels checked by:	@	RUSH Paged by:	Page 30 of 32







10212016

PBSEN1939

Turnaround: Standard

Due Date: 11/3/2016



PBS Environmental





Printed: 10/26/2016 11:34:11AM

BSK	Associates SR-FL-0002-16				Δ	6J2625		10/	20/201	.6
Sa	ample Integrity					BSEN193	9		10	
BS	SK Bottles: (Yes) No Page	e of								
	Was temperature within range?	Yes No	(AN	We	ere correct co			(E5 /		
ق ا	Chemistry ≤ 6°C Micro < 10°C If samples were taken today, is there evidence	103 110	3		eived for the test			(Yes	No NA
COC Info	that chilling has begun?	Yes No	NA)	We	re there bubbles latiles Only)	in the VO	A vials?		Yes	No (NA)
ဗု	Did all bottles arrive unbroken and intact?	(Yes) N	<u>, 10</u>		s a sufficient am	ount of ear	nole rece	: JO	17	+
၂ ပ	Did all bottle labels agree with COC?	7	yo.	Do	samples have a	hold time	72 hours	ved?	Yes	
	Was sodium thiosulfate added to CN sample(s)	Yes No	(()	Wa	s PM notified of	discrepand	ies?	:	res	(No)
	until chlorine was no longer present?		-/ -	PM:		By/Time:			Yes	No (NA)
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V) Bacti Na ₂ S ₂ O ₃	Checks	Pas	sed?	1-40					
		-							The T	
	None (P)White Cap	_		_						
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	Y	Ν					7	
	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	Y	N						
40,04	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2S04 7199	pH 9.0-9.5	Υ	N						- 75
.2	HNO3 (P) Bed Cap or HCI (P) Purple Cap/Lt. Blue Label		_	_	10					- Arai
performed	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label	pH < 2	Υ				-			
r.	NaOH (P) Green Cap			······	green die j					3.4
à	NaOH + ZnAc (P)	Cl, pH >10	Υ	N						
מ	The state of the s	9 < Hq	Υ	N						
Č	Dissolved Oxygen 300ml (g)	_	_	•						<u> </u>
ъ Ž	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270					/	21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Received are either N	HCI (AG) ^{Lt. Blue Label} O&G, Diesel	_		-			<u> </u>	- 12.00		82 (1 (1 (12))
Cei	Ascorbic, EDTA, KH ₂ Ct (AG) ^{Pink Label} 525	_						+		
Re	Na ₂ O ₃ S 250mL (AG)Neon Green Label 515		<u> </u>							
es Sks	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549	_	·			<u> </u>		<u> </u>		
Bottles ne checks	Na ₂ S ₂ O ₃ (AG) ^{Blue Label} 548, THM, 524		· , · · · ·	-						
B. B	Na ₂ S ₂ O ₃ (CG) ^{Blue Label} 504, 505, 547		·							
웆		_	~							
Bc ation/chlorine	Na ₂ S ₂ O ₃ + MCAA (CG) ^{Orange Label} 531	pH < 3	Υ	N						
	NH ₄ Cl (AG) ^{Purple Label} 552	_		.						
ser	EDA (AG) ^{Brown Label} DBPs		-			- 13/4	· Larry part ·	 		
pre	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624									
means preserv	Buffer pH 4 (CG)									
шe	H ₃ PO ₄ (CG)Salmon Label		1,500	+						35.
- 1	Other:		<u> </u>					1.00		
<u> </u>	Asbestos 1Liter Plastic w/ Foil			-						
	Low Level Hg / Metals Double Baggie			_				-		
L	Bottled Water	_						 		
-	Clear Glass 250mL / 500mL / 1 Liter							1		
- 1	Soil Tube Brass / Steel / Plastic							ļ — —		
	Tedlar Bag / Plastic Bag		_						_	
Split	Container Preservative Date/	Time/Initials	<u> </u>	_	Container	Prese	rvative	Date/	Time/	Initials
S	S P		S							
	0 1		S	٢						
Comments	* odd ,	rumber Till	24	On	ly. ReR	All	Contain	ers i	recen	red inta
	12 (IWT	I WV R	JK	_						

BSK Associates SR-FL-0002-16



Derek May PBS Environmental 4412 SW Corbett Ave Portland, OR 97239

RE: Report for A6J3197 Oregon DAS - Lead

Dear Derek May,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/27/2016. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

If additional clarification of any information is required, please contact your Project Manager, Debra Karlsson, at 559-497-2888.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Debra Karlsson, Project Coordinator



Accredited in Accordance with NELAP
ORELAP #4021



Case Narrative

Project and Report Details Invoice Details

Client: PBS Environmental Invoice To: PBS Environmental Report To: Derek May Invoice Attn: Accounts Payable

Project #: Portland State Office Building #25103.003 PH 40 Project PO#: -

Received: 10/27/2016 - 15:10

Report Due: 11/10/2016

Sample Receipt Conditions

Cooler:Default CoolerContainers IntactTemperature on Receipt °C:20.4COC/Labels Agree

Received with no thermal preservation. Sample(s) split after receipt at the laboratory.

Initial receipt at BSK-VAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

Report Distribution

 Recipient(s)
 Report Format
 CC:

 Derek May
 FINAL.RPT
 beth.powers@pbsenv.com

A6J3197 FINAL 11112016 1553

Printed: 11/11/2016

^{***}None applied***





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-01

Sample Date - Time: 10/22/16 - 00:00

Matrix: Drinking Water

Sampled By: Client

Sample Type: First Draw

Sample Description: SK-POSO-047-FD // Water fountain 5th Floor between

men's/women's bathrooms

Analyte	Method	Result	RL	Units	RL Mult	Batch Prepared	Analyzed Qual
Lead	FPA 200 8	ND	0.0010	ma/l	1	A615042 11/01/16	11/02/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-03 **Sample Date - Time:** 10/22/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-049-FD // Cafe kitchen sink next to elevator

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	0.0048	0.0010	mg/L	1	A615042	11/01/16	11/02/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J3197-05
 Sample Date - Time: 10/22/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water Sample Type: First Draw

 $\textbf{Sample Description:} \ \ \text{SK-POSO-051-FD} \ \ \textit{//} \ \ \text{Water fill station kitchen sink adjacent to}$

Conf. Room 1D

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	ND	0.0010	mg/L	1	A615042	11/01/16	11/02/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-07Sample Date - Time: 10/22/16 - 00:00Sampled By: ClientMatrix: Drinking Water

Matrix: Drinking Water Sample Type: First Draw

Sample Description: SK-POSO-053-FD // Kitchen sink (Left/South) dishwash area

BSK Associates Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch Prepared	Analyzed Qual
Lead	EPA 200.8	0.018	0.0010	ma/L	1	A615042 11/01/16	11/02/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-08
Sampled By: Client
Sampled By: Drinking Water

Matrix: Drinking Water Sample Type: First Flush

Sample Description: SK-POSO-054-FL // Kitchen sink (Left/South) dishwash area

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0074	0.0010	mg/L	1	A615447	11/09/16	11/09/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-09
Sampled By: Client
Sampled By: Drinking Water

Matrix: Drinking Water
Sample Type: First Draw

Sample Description: SK-POSO-055-FD // Kitchen sink (middle sink) dishwash area

BSK Associates Fresno

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.013	0.0010	mg/L	1	A615042	11/01/16	11/02/16	

Metals





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J3197-11
 Sample Date - Time: 10/22/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water Sample Type: First Draw

 $\textbf{Sample Description:} \ \ \textbf{SK-POSO-057-FD} \ \ \textit{//} \ \ \textbf{Kitchen sink left of dishwasher, dishwash}$

area

	Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ī	Lead	EPA 200.8	0.0032	0.0010	mg/L	1	A615042	11/01/16	11/02/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J3197-13
 Sample Date - Time: 10/22/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water
Sample Type: First Draw

Sample Description: SK-POSO-059-FD // Kitchen sink left of ice machine food prep

area

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0023	0.0010	mg/L	1	A615042	11/01/16	11/02/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

 Sample ID: A6J3197-15
 Sample Date - Time: 10/22/16 - 00:00

 Sampled By: Client
 Matrix: Drinking Water

Matrix: Drinking Water
Sample Type: First Draw

Sample Description: SK-POSO-061-FD // Kitchen sink middle food prep area

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Lead	EPA 200.8	0.0013	0.0010	mg/L	1	A615042	11/01/16	11/02/16	





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-17 **Sample Date - Time:** 10/22/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-063-FD // Kitchen sink West food prep area

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	0.0014	0.0010	mg/L	1	A615042	11/01/16	11/02/16





Portland State Office Building #25103.003 PH 40

Certificate of Analysis

Sample ID: A6J3197-19 **Sample Date - Time:** 10/22/16 - 00:00 Sampled By: Client

Matrix: Drinking Water

Sample Description: SK-POSO-065-FD // Kitchen sink far left/East food prep area

Sample Type: First Draw

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed Qual
Lead	EPA 200.8	0.0014	0.0010	mg/L	1	A615042	11/01/16	11/02/16



BSK Associates Fresno Metals Quality Control Report

		etals Qu		Spike	Source		%REC		RPD	Date
Analyte	Result	RL	Units	Level	Result	%REC	Limits	RPD		Analyzed Qual
		EPA 20	00.8 - Qı	uality Co	ntrol					
Batch: A615042										Prepared: 11/1/2016
Prep Method: EPA 200.2										Analyst: GNG
Blank (A615042-BLK1)										
Lead	ND	0.0010	mg/L							11/02/16
Blank Spike (A615042-BS1)										
Lead	0.10	0.0010	mg/L	0.10		100	85-115			11/02/16
Blank Spike Dup (A615042-BSD1)										
Lead	0.10	0.0010	mg/L	0.10		102	85-115	2	20	11/02/16
Matrix Spike (A615042-MS1), Source: A	6J3197-01									
Lead	0.20	0.0020	mg/L	0.20	ND	98	70-130			11/02/16
Matrix Spike (A615042-MS2), Source: A	6J3200-01									
Lead	0.19	0.0020	mg/L	0.20	ND	95	70-130			11/02/16
Matrix Spike Dup (A615042-MSD1), Sou	ırce: A6J3197-01									
Lead	0.20	0.0020	mg/L	0.20	ND	99	70-130	1	20	11/02/16
Matrix Spike Dup (A615042-MSD2), Sou	ırce: A6J3200-01									
Lead	0.19	0.0020	mg/L	0.20	ND	96	70-130	1	20	11/02/16
		EPA 20	00.8 - Qı	uality Co	ntrol					
Batch: A615447				-						Prepared: 11/9/2016
Prep Method: EPA 200.2 - Pb/Cu Rule										Analyst: GNG
Blank (A615447-BLK1)										
Lead	ND	0.0010	mg/L							11/09/16
Blank Spike (A615447-BS1)										
Lead	0.089	0.0010	mg/L	0.10		89	85-115			11/09/16
Blank Spike Dup (A615447-BSD1)										
Lead	0.089	0.0010	mg/L	0.10		89	85-115	0	20	11/09/16
Matrix Spike (A615447-MS1), Source: A	.6J2696-10									
	0.18	0.0020	mg/L	0.20	0.0048	89	70-130			11/09/16
Lead										
Lead Matrix Spike (A615447-MS2), Source: A Lead		0.0020	mg/L	0.20	0.026	101	70-130			11/09/16
Matrix Spike (A615447-MS2), Source: A	.6J3336-12 0.23	0.0020	mg/L	0.20	0.026	101	70-130			11/09/16
Matrix Spike (A615447-MS2), Source: A Lead	.6J3336-12 0.23	0.0020	mg/L	0.20	0.026	101 87	70-130 70-130	2	20	11/09/16 11/09/16
Matrix Spike (A615447-MS2), Source: A Lead Matrix Spike Dup (A615447-MSD1), Sou	0.23 urce: A6J2696-10 0.18		-					2	20	



Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- · (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- · Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- · RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
μg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
μg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

WA100008-008

BSK is not accredited under the NELAP program for the following parameters: **NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno			
State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAP	4021
EPA - UCMR3	CA00079	State of Washington	C997-16
Sacramento			
State of California - ELAP	2435		
San Bernardino			
State of California - ELAP	2993	State of Oregon - NELAP	4119-001
Vancouver			

State of Washington

State of Oregon - NELAP

C824-16



Engineering + Environmental

A6J3197 PBSEN1939



10/27/2016



25103.003

		2.27 - 0.003
	FACILITY NAME: PORTLAND STATE OFFICE BUILDING	PROJECT#: PH
	ANALYSIS REQUESTED:	1 1
	LEAD (PB) IN DRINKING WATER	DATE: 10/22/16
	COPPER (CU) IN DRINKING WATER	
	RELING'D BY/SIGNATURE: Mike Golden / Mim &	DATE/TIME: 10 26 16 1300
0.0	RECEIVED BY/SIGNATURE: Denny Wolls	DATE/TIME: 10/21/16 15:10
	EMAIL RESULTS TO: deret may Pobsery com	TURN AROUND TIME: 7-10 days

		SAMPLE	DATA FO	RM
LAB	SAMPLE#	BUILDING	ROOM	LOCATION IN ROOM
l)	SK-9050-47-FD			Water Fountain 5th Floor
2	SK-POSD-48-FL			between mens womans bothrooms
3	5K-P050 - 49 - FD		CAFE	Kytelen Sink a next to
4	5K-8050-50-FL			elevator.
5	5K-P050-51- FO			Water Fill Station, Kitchen
4	5K-P050-52- FL			Sink, adjacent to cour. room 1
1	SK-P050-53-FD			KITCHEN SIAK (LEFT/SOUTH)
8	SK-P050-54-FL			Dish Woch Area
9	SK-P050-55-F0	W		Kitchen Sink (Middle Sink)
10	54-9030-56-FL			Dish Wook Area
1	SK-P050-57-F0			Kitchen Sink Laft of
12	5K-P050-58-F4			Dishwooler, Dish Work Area
13	5K-POSU-39-FC)		Kitchen Sink, Left of Ice Mach
14	SK-9050-60-FC			Food Prep Area
15	SK-P050-61-FC)		Bitchey Sink Middle
16	SK-P050-62-FI			Food thep Arecy
17	5K-P050-63-F	O .		Kitchen Sink West
18	SK-P050-64-F	<u> </u>		Food Prep Area
19	5K-P050-65-F	0		Kitchen SMK For Left East.
20	SK-POSO- 66-F	<u> </u>		Food Ptep Area
5.55				

-				

Sample Integrity

A6J3197 PBSEN1939

10/27/2016 ------10

BS	SK Bottles: (Yes) No Page	e of								,
	Was temperature within range? Chemistry ≤ 6°C Micro < 10°C		Yes No (NA) Were correct containers and preservatives received for the tests requested?				; (J.)	res) N	io NA	
Jfo	If samples were taken today, is there evidence	Yes No NA)		Wer	Were there bubbles in the VOA vials?					
=	that chilling has begun?	(Vc		(Vola	atiles Only)	STATE THE SHIPPING THE PORTS AND	BATTALOGO PROCESS		es N	lo (NA)
COC Info	Did all bottles arrive unbroken and intact? Did all bottle labels agree with COC?				a sufficient amo			:d? (Yes)	No
	Was sodium thiosulfate added to CN sample(s)	4	6		samples have a hamples PM notified of d			Yes (No)		(No)
	until chlorine was no longer present?	THE NOTINA		PM:		By/Time:	,,,	Y	'es N	lo (NA)
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Pas	sed?	1-20	-				
	Bacti Na ₂ S ₂ O ₃	_	_							
	None (P)White Cap		-	-			BAILE, SOMEDIO			
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	CI, pH > 8	Y	N						
,	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	Υ	N			AND THE STATE OF STREET			
de la	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199 ***24 HOUR HOLD TIME***	pH 9.0-9.5	Y	N						
.5	HNO ₃ (P) Bed Cap or HCI (P) Purple Cap/Lt. Blue Label	_	_		10,					
ă	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label	pH < 2	Y	N						
Į.	NaOH (P) Green Cap	CI, pH >10	Υ	N						
are performed in	NaOH + ZnAc (P)	pH > 9	Υ	N						
A	None (AC) sessessations on appropriate and		2,172.5			A MEASON S				
eived either N/	HOLE (AC) t Blue label 200 7:	_								
Received	HCI (AG) ^{Lt. Blue Label} O&G, Diesel									
90	710001810, EB 171, 1(11201 (710) 320		_	_						
R	Na ₂ O ₃ S 250mL (AG) ^{Neon Green Label} 515		-	-						
Bottles ine checks	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549	-	-	-						
o	Na ₂ S ₂ O ₃ (AG) ^{Blue Label} 548, THM, 524	-1	_	_						
E in	Na ₂ S ₂ O ₃ (CG) ^{Blue Label} 504, 505, 547	_	-	-						
n/chl	Na ₂ S ₂ O ₃ + MCAA (CG) ^{Orange Label} 531	pH < 3	Υ	N						
atio	NH ₄ Cl (AG) ^{Purple Label} 552	_	-	_						
Serv	EDA (AG)Brown Label DBPs	<u>-</u>	-							
prese	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	_								
SUS	Buffer pH 4 (CG)									
meg	H ₃ PO ₄ (CG)Salmon Label			SPERM MESSE						
-	Other:									
Ξ.	Asbestos 1Liter Plastic w/ Foil									
	Low Level Hg / Metals Double Baggie	_								AST 188 10 1
	Bottled Water									
	Clear Glass 250mL / 500mL / 1 Liter	_		-						
	Soil Tube Brass / Steel / Plastic	7 (-		- 1						
-	Tedlar Bag / Plastic Bag	— <u> </u>	_	- 1						
Split	Container Preservative Date/	Time/Initials	+	P	Container	Prese	rvative	Date/	Time/Ir	nitials
S	S P			P				-		
		14-1-11		<u> </u>						
Comments	* odd	numbe	RA	On	ly. Ril	-				

Labeled by: _____ @ ____

Labels checked by: _____@ ____

RUSH Paged by:__

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10272016

PBSEN1939

Turnaround: Standard

Due Date: 11/10/2016



PBS Environmental





10/27/2016 ----

10

Sample Integrity			
BSK Bottles: Ves / No	Door	o.t	

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C If samples were taken today, is there evidence that chilling has begun? Did all bottles arrive unbroken and intact? Did all bottle labels agree with COC? Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes N	(AV	rece Wer	e correct contain ived for the tests e there bubbles i atiles Only)	requested	d?			No N
If samples were taken today, is there evidence that chilling has begun? Did all bottles arrive unbroken and intact? Did all bottle labels agree with COC? Was sodium thiosulfate added to CN sample(s)	Yes N	\smile	Wer	e there bubbles i					
Did all bottles arrive unbroken and intact? Did all bottle labels agree with COC? Was sodium thiosulfate added to CN sample(s)	Yes N	\smile	(Vola	atiles Only)				YAC	
Did all bottle labels agree with COC? Was sodium thiosulfate added to CN sample(s)	7								No (N
Was sodium thiosulfate added to CN sample(s)		10		a sufficient amo		<u>. </u>	ed?	Yes	
	reg	yo.		amples have a h				Yes	_(N
	Yes No('N	NA/	PM:		iiscrepanci By/Time:	es?		Yes	No /N
250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Pass		1-20	<i>Dyr</i> 111110.		T		
Bacti Na ₂ S ₂ O ₃		† –	_	- (~~			1		
None (P)White Cap	_	_	_				1	+	
Cr6 (P) Lt. Green Label/Blue Cap NH40H(NH4)2SO4 DW	Cl, pH > 8	Y	N				<u> </u>		
		1			· · · · · · · · · · · · · · · · · · ·		-		
Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199	рН 9.0-9.5	Y	N						
	<u> </u>	<u> </u>	_	10			1		
	nH < 2	V	NI						
		1					ļ		<u></u>
		ļ					<u> </u>		
	pH > 9	Y	N						
Dissolved Oxygen 300ml (g)							L.		
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	_	-	-						٠.
HCI (AG) ^{Lt. Blue Label} O&G, Diesel	_	_	_						
Ascorbic, EDTA, KH ₂ Ct (AG) ^{Pink Label} 525	_	_	_				<u> </u>		-
Na ₂ O ₃ S 250mL (AG)Neon Green Label 515	_	<u> </u>	_						
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Soil Tube Brass / Steel / Plastic			-						
Tedlar Bag / Plastic Bag			-						
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Time/Initials	3		Container	Prese	ervative	Date	/Time	/Initial:
		S	Р						
SP		S	Р						
SP	numbe <i>Re-</i>			ly. Kill odd bs) ++ /e				
	HNO3 (P) Be Cap Of HCI (P) Purple Cap/Lt. Blue Label H2SO4 (P) or (AG) Yellow Cap/Label NaOH (P) Green Cap NaOH + ZnAc (P) Dissolved Oxygen 300ml (g) None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270 HCI (AG)Lt. Blue Label O&G, Diesel Ascorbic, EDTA, KH2Ct (AG)Pink Label 525 Na2O3S 250mL (AG)Neon Green Label 515 Na2S2O3 1 Liter (Brown P) 549 Na2S2O3 (AG)Blue Label 548, THM, 524 Na2S2O3 (CG) Blue Label 504, 505, 547 Na2S2O3 + MCAA (CG)Orange Label 531 NH4Cl (AG)Purple Label 552 EDA (AG)Brown Label DBPs HCL (CG) 524.2.BTEX,Gas, MTBE, 8260/624 Buffer pH 4 (CG) H3PO4 (CG)Salmon Label Other: Asbestos 1Liter Plastic w/ Foil Low Level Hg / Metals Double Baggie Bottled Water Clear Glass 250mL / 500mL / 1 Liter Soil Tube Brass / Steel / Plastic Tedlar Bag / Plastic Bag Container Preservative Date/S P	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199 pH 9.0-9.5 Y ***24 HOUR HOLD TIME**** HNO3 (P) Bed Cap Of HCI (P) Purple Cap/L. Blue Label	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199 pH 9.0-9.5 Y N HNO3 (P) BS Cap Or HCI (P) Purple Cap/LL Blue Label — — — — — — — — — — — — — — — — — — —	Cr6 (P) Black Label/Blue Cap	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199 pH 9.0-9.5 Y N HNO3 (P) Brown or HCI (P) Purple Capit. Blue Label — — — — — — — — — — — — — — — — — — —	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2504 7199 pH 9.0-9.5 Y N HNO3 (P) PRO Cas OF HCI (P) Purple Capit. Bue Label — — — — — — — — — — — — — — — — — — —	Cr6 (P) Block Label/Blue Cap NH40H(NH4)2S04 7199 PH 9.0-9.5 Y N N N N N N N N N	Crite (P) Brack Label (Blue Cap NH40H(NH4)SS04 7189

Sample Integrity

A6J3197 10/27/2016
PBSEN1939 10

BSK Bottles: Yes No Page of Was temperature within range? Were correct containers and preservatives Nα Yes NA) Yes Chemistry ≤ 6°C Micro < 10°C No NA received for the tests requested? Info If samples were taken today, is there evidence Were there bubbles in the VOA vials? Yes No(NA that chilling has begun? (Volatiles Only) No (NA Yes Did all bottles arrive unbroken and intact? No Was a sufficient amount of sample received? No Did all bottle labels agree with COC? Do samples have a hold time <72 hours? Yes No (No) Was sodium thiosulfate added to CN sample(s) Was PM notified of discrepancies? Yes No/ NA until chlorine was no longer present? Yes /NÀ By/Time: 250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V) Checks Passed? Bacti Na₂S₂O₃ None (P)White Cap Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW Cl, pH > 8 Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW pH 9.3-9.7 Ν <u>a</u> Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199 pH 9.0-9.5 Υ N ***24 HOUR HOLD TIME*** HNO3 (P) Red Cap or HCI (P) Purple Cap/Lt. Blue Label H₂SO₄ (P) or (AG) Yellow Cap/Label pH < 2 Y N NaOH (P) Green Cap CI, pH >10 Υ NaOH + ZnAc (P) pH > 9 Y N Dissolved Oxygen 300ml (g) None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270 **Bottles Received** HCI (AG)Lt. Blue Label O&G, Diesel Ascorbic, EDTA, KH2Ct (AG)Pink Label 525 Na₂O₃S 250mL (AG)Neon Green Label 515 Na₂S₂O₃ 1 Liter (Brown P) 549 Na₂S₂O₃ (AG)^{Blue Label} 548, THM, 524 Na₂S₂O₃ (CG) Blue Label 504, 505, 547 Na₂S₂O₃ + MCAA (CG)^{Orange Label} 531 6 > HqΥN NH₄CI (AG)^{Purple Label} 552 EDA (AG)Brown Label DBPs HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624 Buffer pH 4 (CG) H₃PO₄ (CG)^{Salmon Label} Other: Asbestos 1Liter Plastic w/ Foil Low Level Hg / Metals Double Baggie **Bottled Water** 250mL / 500mL / 1 Liter Clear Glass Soil Tube Brass / Steel / Plastic Plastic Bag Tedlar Bag Container Preservative Date/Time/Initials Container Preservative Date/Time/Initials 11-7250ml SP FO sample exceeded MCL FL Sample pulled for analysis DC PERETUED ALL 250ML POLY ON 11-8-16 1230 -TSY

abeled by:@	Labels checked by: @	RUSH Paged by:@	
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