

September 28, 2017

Kennewick School District No. 17
Attn: Keith Colee, Maintenance and Operations Manager
1000 West Fourth Avenue
Kennewick, Washington, 99336

**RE: Winter 2016 Drinking Water Sampling Results
Keewaydin Discovery Center, 125 South Conway Place, Kennewick, Washington**

Dear Keith:

On Thursday, December 22, 2016, Fulcrum Environmental Consulting, Inc. (Fulcrum) collected eight drinking water samples for lead and copper analysis from Keewaydin Discovery Center (School) located at 125 South Conway Place in Kennewick, Washington. Sampling was completed as part of a District-wide project and all analysis was completed by Washington State Department of Ecology (Ecology) accredited laboratories.

The purpose of sampling was to evaluate current drinking water quality conditions with respect to lead and copper as a result of the increased national and local interest related to lead in drinking water. The intent of sampling was to meet the requirements of the pending regulations set forth in Washington Administrative Code (WAC) 246-366A-130 and 246-366A-135¹. Consistent with the pending regulations, Fulcrum completed sampling at the rates of at least 50% of plumbing fixtures used regularly for drinking or cooking in elementary and preschools and at least 25% of drinking or cooking fixtures in middle schools, junior high schools, and high schools. In addition, Fulcrum sampled administrative facilities in the District at the same rate as elementary schools, of at least 50% of drinking and cooking fixtures.

Summary

Fulcrum completed initial sampling in the building on December 22, 2016. Analytical results indicate that all of the samples were below the Environmental Protection Agency (EPA) action level of 15 micrograms per liter ($\mu\text{g/L}$) for lead and 1,300 $\mu\text{g/L}$ for copper.

At this time, Fulcrum does not recommend any additional sampling. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before December 2021). Additionally, if WAC 246-366A-130 is enacted, the regulations would require testing of all remaining fixtures within two years of the effective date (July 1, 2017). See Figure 1 in Attachment A for fixture locations and laboratory results.

¹ Washington State Department of Health, WAC 246-366A, *The Environmental Health and Safety Standards of Primary and Secondary Schools*, <http://apps.leg.wa.gov/WAC/default.aspx?cite=246-366A>, July 26, 2016

Sampling Methodology

As a portion of this project, Fulcrum prepared a Sampling and Analysis Plan (SAP) intended to satisfy future initial sampling requirements under pending regulations.

For initial evaluation purposes, Fulcrum collected “first draw” samples. This “first draw” water volume consists of 250 milliliters (mL) and is intended to represent the water quality in the fixture, tubing connecting the fixture to the building piping, and potentially a portion of the building piping. If lead or copper are present, this first-draw sample typically contains the highest lead and copper levels.

Field evaluation of pH and temperature of drinking water was completed during the initial cold water flush and immediately following sample collection on select fixtures.

Sampling Activities

Fulcrum’s two-part sampling process consisted of an initial site visit the prior afternoon/evening to locate and flush each water sampling location (fixture). Sample collection occurred the following morning, after the fixture sat motionless for more than eight but no less than 18 hours, typically approximately 14 hours.

On the initial visit, Fulcrum flushed cold water through each fixture selected for sampling for approximately one minute. Following the flush, each fixture was covered and secured within a plastic bag. The plastic bags were marked with signage in English and Spanish indicating that testing was in progress and the fixture should not be used. Fulcrum returned to the school eight to 18 hours later to collect the samples. Each sample consisted of the first draw collected into 250-mL unpreserved polyethylene bottles and immediately placed on ice in a chilled cooler.

As a quality control measure, Fulcrum also included a laboratory blank of distilled water and a laboratory “spike” sample with known concentrations of lead and copper at the selected action levels for the project.

Collected samples were delivered under chain-of-custody to RJ Lee Group’s Columbia Basin Analytical Laboratory (Lab ID: C859-16) in Pasco, Washington for analysis.

Analytical Results

Samples were analyzed for lead and copper in drinking water by EPA Method 200.8. Sample locations and laboratory results are presented in Figure 1 in Attachment A of this letter. A site-specific sampling and analysis plan (SSSAP) that provides a building specific summary of the location, number, and sampling frequency of water fixture locations is located in Attachment B. The analytical results from this project are summarized in Table 1 located in Attachment C of this letter. Laboratory analytical results from the sampling event are located in Attachment D of this letter.

In addition, pH and temperature data is presented in Table 2 in Attachment C of this letter.

Discussion

Analytical results indicate that all of the samples were below the action level of 15 µg/L for lead and 1,300 µg/L for copper.

Recommendations

Although all samples collected contain detectable amounts of lead and copper, the concentrations identified are below the EPA action levels of 15 µg/L for lead and 1,300 µg/L for copper.

At this time, Fulcrum does not recommend any additional sampling. However, consistent with industry practice and the intent of WAC 246-366A, Fulcrum recommends that the District complete re-sampling of the building within the next five years (before November 2021). Additionally, if WAC 246-366A-130 is enacted, the regulations would require testing of all remaining fixtures within two years of the effective date (July 1, 2017).

If you have any questions, please feel free to contact me at (509) 574-0839.

Sincerely,



Amanda Enbysk, GIT
Environmental Geologist

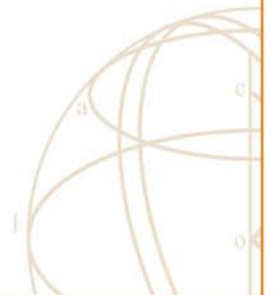


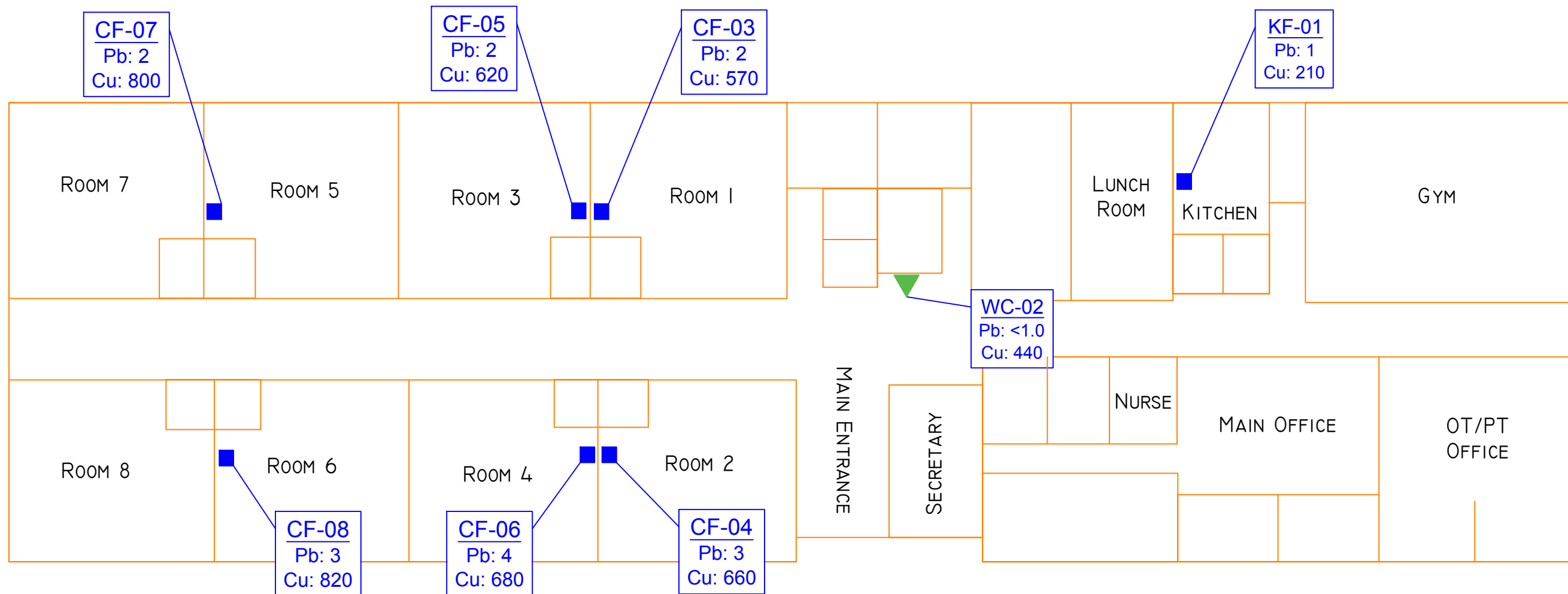
Ryan K. Mathews, CIH, CHMM
Principal



ATTACHMENT A

Figure 1: Sample Location Map





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LEGEND

- KF-## - Kitchen faucet
- CF-## - Classroom faucet
- WC-## - Water cooler fountain
- - Sample location: faucet
- ▼ - Sample location: water cooler fountain

Lead (Pb) and copper (Cu) results for each sample location are below each identifier. All results reported in µg/L.

ATTACHMENT B

Site-Specific Sampling and Analysis Plan



Site-Specific Sampling and Analysis Plan

Kennewick School District – Winter 2016 Drinking Water Sampling

Note: This SSSAP has been prepared as a supplement to the project SAP/QAPP and provide a building specific summary of the location, number, and sampling frequency of water fixture locations.

Campus/Building: Keewaydin Discovery Center Address: 125 S. Conway Place, Kennewick, WA

Elementary Middle School High School Administration

Date of Construction: 1975 **Modernizations:** _____

Fixture Type	Locations	Fixture Styles ¹	Samples	Ratio
Drinking fountain/water cooler (DF/WC)	2	2	1	50%
Kitchen Fixture (KF)	1	1	1	100%
Classroom faucet, including faucets in Food Labs and Life Sciences Classrooms (CF)	8	1	6	75%
Classroom drinking fountain at sink (CDF)	N/A	N/A	N/A	-
Nurse’s Office/Health Room (NF)	N/A	N/A	N/A	-
Teacher’s Lounges/Work Rooms (OF)	N/A	N/A	N/A	-
TOTALS	11		8	73%

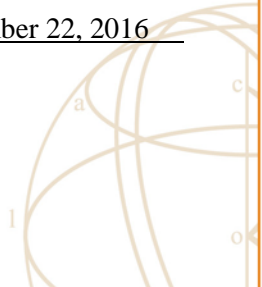
¹ Fixture styles are approximate based on sampler’s observations

Lead Sampler: Kyle Ames Date: 12/22/2016

Sample Prefix: KDC – 122216 – P (first-draw) – _____ – 01-10
School Code Date Sample Type Fixture Type Sample Number

Laboratory: R. J. Lee Group, Columbia Basin Analytical Delivery Date: December 22, 2016

Comments:



ATTACHMENT C

Table 1: Analytical Results Summary Table
Table 2: pH and Temperature Data Summary Table

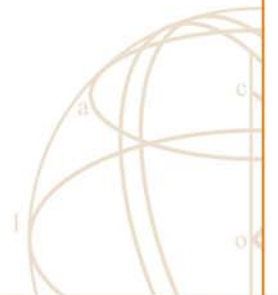


Table 1: Initial Sampling Analytical Results

Sample Identification and Location	Fixture Type	Lead Results (µg/L)	Copper Results (µg/L)
KDC122116-P-KF-01: Kitchen	Kitchen Faucet	1	210
KDC122116-P-WC-02: Main Entry	Water Cooler	<1.0	440
KDC122116-P-CF-03: Room 1	Classroom Faucet	2	570
KDC122116-P-CF-04: Room 2	Classroom Faucet	3	660
KDC122116-P-CF-05: Room 3	Classroom Faucet	2	620
KDC122116-P-CF-06: Room 4	Classroom Faucet	4	680
KDC122116-P-CF-07: Room 5	Classroom Faucet	2	800
KDC122116-P-CF-08: Room 6	Classroom Faucet	3	820
<i>KDC122116-P-CF-09: Laboratory Blank</i>	<i>Distilled Water Blank</i>	<i><1.0</i>	<i><10</i>
<i>KDC122116-P-CF-10: Laboratory Spike</i>	<i>Lead and Copper Spike</i>	<i>15</i>	<i>1,370</i>
EPA Action Level		15	1,300

1 µg/L means microgram per liter or parts per billion (ppb).

2 Action levels based on the U.S. EPA's Lead and Copper Rule.

Results indicated in **bold** indicate concentrations above the action levels of 15 µg/L for lead and 1,300 µg/L for copper

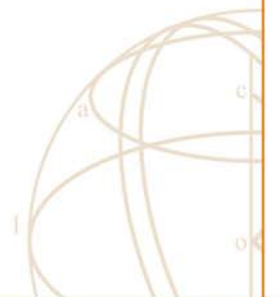
Results indicated in *italics* are quality assurance spike and blank samples

Table 2: pH and Temperature Data Summary

Sample Number and Location	Fixture Type	pH Flush	pH Sample	Temperature Flush (°C)	Temperature Sample (°C)
KDC122116-P-CF-04: Room 2	Classroom Faucet	7.92	7.05	24.8	19.9
KDC122116-P-CF-08: Room 6	Classroom Faucet	7.88	7.02	22.0	20.4

ATTACHMENT D

Analytical Results





RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratories

2710 North 20th Avenue, Pasco WA 99301

Tel: (509) 545-4989 | Fax: (509) 544-6010

Fulcrum Environmental
406 N. 2nd St.
Yakima, WA 98901

Subject: Chemical Analysis Report

Columbia Basin Analytical Laboratories received 10 sample(s) on 12/22/16 for analysis. These sample(s) have been assigned a login order number of W612110. Enclosed is the final report that consists of a summary report of the sample(s), and a copy of the chain of custody.

General Lab Comments

The results provided in this report relate only to the items tested. Sample(s) were received in acceptable conditions unless otherwise noted in the comments above. Sample(s) have not been field blank corrected unless otherwise noted in the general set comments above. The sample(s) were prepared in accordance with EPA 200.8 and analyzed in compliance with EPA 200.8. This test report shall not be reproduced, except in full, without written approval of Columbia Basin Analytical Laboratories. Any questions, please contact our office.

Release of the data contained in the hard copy report has been authorized by the Laboratory Director or a designee as verified by the following signature. This report has been administratively reviewed by the following individual:

01/27/17

Project Coordinator II, M. Fernanda Pincheira

Date

If you have any questions please feel free to contact Fernanda Pincheira at MPincheira@rjleegroup.com.



Laboratory Report

Amanda Enbysk
Fulcrum Environmental
406 N. 2nd St.
Yakima, WA 98901

RJ Lee Group No.: W612110
COC No.: Kennewick
Samples Received: 12/22/16
Analysis/Prep Date: 01/20/17
Report Date: 01/27/17

Client Project:

Fulcrum Kennewick

Sample Name: KDC122216-P-KF-01 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-01 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.21	0.01	
Lead	EPA 200.8	0.001	0.001	

Sample Name: KDC122216-P-WC-02 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-02 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.44	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: KDC122216-P-CF-03 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-03 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.57	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: KDC122216-P-CF-04 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-04 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.66	0.01	
Lead	EPA 200.8	0.003	0.001	

Sample Name: KDC122216-P-CF-05 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-05 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.62	0.01	
Lead	EPA 200.8	0.002	0.001	

Columbia Basin Analytical Laboratories | 2710 North 20th Avenue, Pasco WA 93301 | 509.545.4989

WWW.RJLEEGROUP.COM

Report Template: GenMetalReportFull_v12.rpt

Approved: 01/27/17 12:33
Report Time Stamp: 01/27/17 16:42



Sample Name: KDC122216-P-CF-06 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-06 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.68	0.01	
Lead	EPA 200.8	0.004	0.001	

Sample Name: KDC122216-P-CF-07 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-07 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.80	0.01	
Lead	EPA 200.8	0.002	0.001	

Sample Name: KDC122216-P-CF-08 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-08 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	0.82	0.01	
Lead	EPA 200.8	0.003	0.001	

Sample Name: KDC122216-P-CF-09 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-09 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	< 0.010	0.01	
Lead	EPA 200.8	< 0.0010	0.001	

Sample Name: KDC122216-P-CF-10 **Matrix:** Potable Water **Date Received:** 12/22/16
RJ Lee Grp. ID: W612110-10 **Date Analyzed:** 01/20/17

Analyte	Method	Result (mg/L)	PQL (mg/L)	Qualifiers
Copper	EPA 200.8	1.37	0.01	
Lead	EPA 200.8	0.015	0.001	



Report Qualifiers:

A = Target Analyte media breakthrough suspect, see analytical report

D = Analyte analyzed in a dilution

E = Report concentration was above the instrument calibration range

J = Analyte detected below quantitation limits, concentration is estimated

P = Library spectrum match, $rsd > 90\%$ w RT match

Q = Result out of method specific acceptance QC criteria

S = Spike Recovery outside accepted recovery limits

Z = Not ELAP accredited analyte

ND = Not Detected

B = Analyte detected in the associated blank

d = Data that exceeds the RSD criteria set by the SOP

H = Holding times for preparation or analysis exceeded

L = Sample condition at receipt out of compliance with method defined conditions

R = RPD (relative percent difference) outside accepted recovery limits

U = Analyte analyzed for but not detected

N/A = Not Applicable

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These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under ORELAP Lab Code 4061 AIHA-LAP, LLC Lab ID 178656 EPA ID WA01195 and WA DOE Lab ID C859. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or to the sample(s) as received by the laboratory. Any reproduction of this document must be in full for the report to be valid. Quality control data is available upon request.

