Shoreline
Environmental Resources

April 5, 2017

Mr. Gregory B. Williams
Plant Operations Manager
Berkeley Unified School District
1707 Russell St.
Berkeley, CA 94703

RE: Summary Report of Sampling and Analysis, Drinking Water Fountains,
Berkeley Unified School District, Jefferson Elementary School

Dear Mr. Williams:

Shoreline Environmental Resources, Inc. (Shoreline) is pleased to provide for your review and consideration the following Report of Sampling and Analysis pertaining to the sampling and testing performed at the above-referenced location and at the request of the BUSD.

Scope of Work

On March 25, 2017 and for purposes of assessing the water quality pertaining to potential impact by heavy metals of the drinking water at two specified locations at the Jefferson Elementary School, Shoreline did mobilize to the subject site for purposes of collecting the requested samples.

Water samples were collected from specified locations as directed by a BUSD representative and as follows:

- DF-1, New Building Drinking fountain
- DF-2, Old Building Drinking fountain

Each sample was collected using sterile glass and plastic containers. Upon retrieval, the sample containers were labeled with the Client's name and a sample identification number, and placed in a pre-cooled container for transport. The samples were transported and submitted under chain of custody to SunStar Laboratories., a State certified laboratory located in Lake Forest, CA for evaluation. Each sample was evaluated for Heavy Metals using EPA method 6010B.

Findings

The pH of the water was checked in the field using a Horiba meter. The field analysis indicated a pH of 7.2 and 7.6 from the drinking fountains tested. The resultant analysis of the evaluation performed indicates detectable concentrations of Barium (.050 ppm) and Copper (.120 ppm) in the samples collected. A full presentation of the laboratory analysis is presented in the SunStar Laboratories, Inc., Certified Analytical Report attached hereto.

When weighed and evaluated against the attached US EPA, Maximum Contaminant Levels for Drinking Water Standards and concentrations converted from milligrams per liter (mg/l) as stated on the Drinking Water Standard to micrograms per liter (ug/l) as presented on the laboratory report, none of the constituents which are represented by detectable concentrations (Barium - .050 ppm and Copper - .120 ppm) exceed the Drinking Water Standards.

Please contact us at your earliest convenience if you have any questions concerning the information provided.

Sincerely,

David C. Solis
Principal Engineer/Toxicologist

Attachment

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

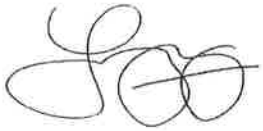
05 April 2017

David Solis
Shoreline Environmental Resources
2465 Salvio Street, Suite C
Concord, CA 94520

RE: BUSD

Enclosed are the results of analyses for samples received by the laboratory on 03/29/17 10:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa Nguyen
Project Manager Assistant

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
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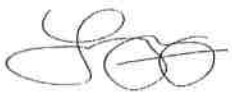
Shoreline Environmental Resources	Project: BUSD	
2465 Salvio Street, Suite C	Project Number: BUSD	**Reported:**
Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DF-1	T170792-01	Water	03/25/17 09:00	03/29/17 10:00
DF-2	T170792-02	Water	03/25/17 09:30	03/29/17 10:00

SunStar Laboratories, Inc.



Lisa Nguyen, Project Manager Assistant

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

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Providing Quality Analytical Services Nationwide

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2465 Salvio Street, Suite C	Project Number: BUSD	**Reported:**
Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

DETECTIONS SUMMARY

Sample ID: DF-1 **Laboratory ID:** T170792-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**50**	50	ug/l	EPA 6010b	
Copper	**120**	50	ug/l	EPA 6010b	

Sample ID: DF-2 **Laboratory ID:** T170792-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**50**	50	ug/l	EPA 6010b	
Copper	**74**	50	ug/l	EPA 6010b	

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2465 Salvio Street, Suite C	Project Number: BUSD	**Reported:**
Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

DF-1

T170792-01 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	50	ug/l	1	7033025	03/30/17	03/31/17	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	**50**	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	"	"	
Cadmium	ND	50	"	"	"	"	"	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	**120**	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	7033027	03/30/17	03/31/17	EPA 7470A Water	

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Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

DF-2

T170792-02 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	50	ug/l	1	7033025	03/30/17	03/31/17	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	**50**	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	"	"	
Cadmium	ND	50	"	"	"	"	"	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	**74**	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.50	ug/l	1	7033027	03/30/17	03/31/17	EPA 7470A Water	

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Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7033025 - EPA 3010A										
Blank (7033025-BLK1)				Prepared: 03/30/17 Analyzed: 03/31/17						
Antimony	ND	50	ug/l							
Silver	ND	50	"							
Arsenic	ND	50	"							
Barium	ND	50	"							
Beryllium	ND	50	"							
Cadmium	ND	50	"							
Chromium	ND	50	"							
Cobalt	ND	50	"							
Copper	ND	50	"							
Lead	ND	50	"							
Molybdenum	ND	50	"							
Nickel	ND	50	"							
Selenium	ND	50	"							
Thallium	ND	50	"							
Vanadium	ND	50	"							
Zinc	ND	50	"							
LCS (7033025-BS1)				Prepared: 03/30/17 Analyzed: 03/31/17						
Arsenic	493	50	ug/l	500		98.6	75-125			
Barium	481	50	"	500		96.2	75-125			
Cadmium	484	50	"	500		96.7	75-125			
Chromium	489	50	"	500		97.9	75-125			
Lead	503	50	"	500		101	75-125			
Matrix Spike (7033025-MS1)	**Source: T170792-01**			Prepared: 03/30/17 Analyzed: 03/31/17						
Arsenic	498	50	ug/l	500	17.5	96.1	75-125			
Barium	495	50	"	500	49.9	88.9	75-125			
Cadmium	462	50	"	500	ND	92.4	75-125			
Chromium	468	50	"	500	ND	93.5	75-125			
Lead	483	50	"	500	ND	96.6	75-125			

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2465 Salvio Street, Suite C	Project Number: BUSD	**Reported:**
Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7033025 - EPA 3010A										
Matrix Spike Dup (7033025-MSD1)	**Source: T170792-01**			Prepared: 03/30/17 Analyzed: 03/31/17						
Arsenic	485	50	ug/l	500	17.5	93.6	75-125	2.53	20	
Barium	510	50	"	500	49.9	92.1	75-125	3.15	20	
Cadmium	479	50	"	500	ND	95.9	75-125	3.68	20	
Chromium	483	50	"	500	ND	96.6	75-125	3.25	20	
Lead	487	50	"	500	ND	97.3	75-125	0.776	20	

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2465 Salvio Street, Suite C	Project Number: BUSD	**Reported:**
Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7033027 - EPA 7470A Water										
Blank (7033027-BLK1)				Prepared: 03/30/17 Analyzed: 03/31/17						
Mercury	ND	0.50	ug/l							
LCS (7033027-BS1)				Prepared: 03/30/17 Analyzed: 03/31/17						
Mercury	4.21	0.50	ug/l	5.00		84.1	75-125			
Matrix Spike (7033027-MS1)	**Source: T170792-02**			Prepared: 03/30/17 Analyzed: 03/31/17						
Mercury	4.38	0.50	ug/l	5.00	0.0401	86.7	75-125			
Matrix Spike Dup (7033027-MSD1)	**Source: T170792-02**			Prepared: 03/30/17 Analyzed: 03/31/17						
Mercury	4.48	0.50	ug/l	5.00	0.0401	88.8	75-125	2.34	20	

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Shoreline Environmental Resources	Project: BUSD	
2465 Salvio Street, Suite C	Project Number: BUSD	**Reported:**
Concord CA, 94520	Project Manager: David Solis	04/05/17 12:13

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

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Lisa Nguyen, Project Manager Assistant

Shoreline
Environmental Resources

CHAIN OF CUSTODY RECORD

DATE: 3-28-17

PAGE: 1 OF 1

LABORATORY CLIENT: Shoreline Environmentall Resources		CLIENT PROJECT NAME / NUMBER: BUSD .	SITE LOCATION: Jefferson Elementary
ADDRESS: 2465 Salvio Street, Suite C		PROJECT CONTACT: D. Solis	LABORATORY: Sunstar
CITY: Concord	STATE: CA ZIP: 94520	SAMPLER(S): (SIGNATURE)	LAB USE ONLY: 17-0792
TEL: 925-891-4293	FAX: 925-891-0225	E-MAIL: dsolis@shoreline-env.com	

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAYS ☐ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
x10 rule for metals

2.0

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Please list tests required	Hydrocarbon Chain 8015	VOC 8260	Semi VOC 8270	CAM 17 Metals 6010
01	DF-1	New Bldg	3/25/2017	9:00 AM	W	1					x
02	DF-2	Old Bldg	3/25/2017	9:30 AM	W	1					x

Relinquished by: (Signature)	Received by: (Signature)	Date: 3/28/17	Time: 09:23
Relinquished by: (Signature) GSD	Received by: (Signature)	Date: 3-29-17	Time: 10:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

02/24/10 Revision

SunStar Laboratories — Celebrating 20 Years!

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 1710792

Client Name: SHORELINE Project: BUSD

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other

If Courier, Received by: Date/Time Courier Received:

Lab Received by: SUNNY Date/Time Lab Received: 3.29.17 / 10:00

Total number of coolers received: 1

Temperature: Cooler #1 2.2	°C +/- the CF (- 0.2°C) = 2.0	°C corrected temperature	
Temperature: Cooler #2	°C +/- the CF (- 0.2°C) =	°C corrected temperature	
Temperature: Cooler #3	°C +/- the CF (- 0.2°C) =	°C corrected temperature	
Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	☒ **Yes** ☐ **No**	
If NO:			
Samples received on ice?	☐ Yes	☐ **No → Complete Non-Conformance Sheet**	
If on ice, samples received same day collected?	☐ Yes → Acceptable	☐ **No → Complete Non-Conformance Sheet**	

Custody seals intact on cooler/sample	☒ Yes	☐ No*	☐ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☒ Yes	☐ No*	☐ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: SL 3.29.17

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T170792

Client:	**Shoreline Environmental Resources**	**Project Manager:**	**Lisa Nguyen**
Project:	**BUSD**	**Project Number:**	**BUSD**

Report To:
Shoreline Environmental Resources
David Solis
2465 Salvio Street, Suite C
Concord, CA 94520

Date Due:	04/05/17 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	03/29/17 10:00
Logged In By:	Sunny Lounethone	Date Logged In:	03/29/17 10:15

Samples Received at: 2°C

Custody Seals	Yes	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirm	Yes		

Analysis	Due	TAT	Expires	Comments
T170792-01 DF-1 [Water] Sampled 03/25/17 09:00 (GMT-08:00) Pacific Time (US &				
6010 Title 22	04/05/17 15:00	5	09/21/17 09:00	
T170792-02 DF-2 [Water] Sampled 03/25/17 09:30 (GMT-08:00) Pacific Time (US &				
6010 Title 22	04/05/17 15:00	5	09/21/17 09:30	

Analysis groups included in this work order

6010 Title 22

subgroup 6010B T22 7470/71 Hg

Reviewed By

Date

Maximum Contaminant Levels (MCLs) for Drinking Water

Notes: mg/l (milligrams per liter) is same as ppm (parts per million).
Primary MCL refers to health-related effects.
Secondary MCL refers to cosmetic (skin or tooth discoloration) or aesthetic (taste, odor, or color) effects.
For more detailed information, go to the EPA website www.epa.gov/safewater.

Parameter	Primary MCL	Secondary MCL	Potential Effects
Alkalinity	None	None	Alkalinity is influenced by local rock type and reflects the chemical properties of dissolved constituents.
Arsenic	**0.01 mg/l**	None	Arsenic is a carcinogen.
Barium	**2 mg/l**	None	Can cause increase in blood pressure.
Cadmium	**0.005 mg/l**	None	Can cause liver damage.
Calcium	None	None	
Chromium	**0.1 mg/l**	None	Can cause allergic dermatitis.
Chloride	**250 mg/l**	None	Chloride can affect taste, and can indicate salt water intrusion.
Copper	**1.3 mg/l**	**1.0 mg/l**	In large doses, copper is dangerous to infants and people with certain metabolic disorders. However, lack of copper intake causes anemia, growth inhibition, and problems with blood circulation.
Fluoride	**4.0 mg/l**	**2.0 mg/l**	Fluoride in concentrations above 4 mg/l can cause skeletal damage. Fluoride in concentrations above 2 mg/l can cause staining.
Hardness	None	None	Indicates the presence of dissolved ions in water.
Iron	None	**0.30 mg/l**	Iron may contribute to bad taste, pipe clogging, and clothes, tub, sink, and teeth staining.
Lead	**0.015 mg/l** (action level)	None	Lead can cause neurological and physical problems, especially in young children.
Magnesium	None	None	
Manganese	None	**0.05 mg/l**	In large doses, manganese can cause headaches, apathy, irritability, insomnia, and weakness of the legs. Long-term heavy exposure may result in nervous-system disorders.
Mercury	**0.002 mg/l**	None	Can cause kidney damage.
Nitrate	**10.0 mg/l**	None	Nitrates and Nitrites can cause shortness of breath and "blue baby syndrome" in children under the age of 6 months.
Nitrite	**1.0 mg/l**	None	Nitrites and Nitrates can cause shortness of breath and "blue baby syndrome" in children under the age of 6 months.
pH	None	**6.5-8.5**	Low pH (less than 6.5) can contribute to the corrosiveness of water and can allow leaching of impurities from pipes into drinking water.
Selenium	**0.05 mg/l**	None	Too much selenium can cause hair or fingernail loss, numbness in fingers or toes, and circulatory problems.
Silver	None	**0.10 mg/l**	Silver can cause skin discoloration (Argyria) if ingested. Additionally, silver is used as an antibacterial agent in home water treatment systems.
Sodium	None	None	Water softeners can contribute to the level of sodium in water.
Zinc	None	**5.0 mg/l**	More than 5.0 mg/l causes a metallic bitter taste and 25 – 40 mg/l may cause nausea and vomiting.