



Lead in Drinking Water Sampling Report

Hillview Middle School
1100 Elder Avenue
Menlo Park, Ca 94025

Prepared For:

Menlo Park City School District
181 Encinal Ave,
Atherton, CA 94027

Prepared By:

Air & Water SCIENCES
Environmental Consultants
625 Second Street, Suite 210
Petaluma, CA 94952

November 2016



A handwritten signature in blue ink that reads "Heidi M. Bauer".

Heidi Bauer, PG



A handwritten signature in blue ink that reads "Chip Prokop".

Chip Prokop, PE
DWTO T-1 #33506
WDO D-1 #42258

Lead in Drinking Water Sampling Report

Hillview Middle School

Introduction

The Menlo Park City School District (MPCSD) requested that the potable water at this school used for drinking and cooking by students and staff be tested for the presence of the heavy metal lead. Schools are not required under federal or state law to test potable water sources for lead if their water is supplied by a public water supply system. Federal law requires that the public water supply districts test water for lead and that lead levels in the drinking water supply have lead concentrations below the US Environmental Protection Agency (EPA) action level of 15 µg/L. However, the MPCSD recognizes that schools, particularly older facilities (pre-1990) may contain sources of lead in the plumbing pipes and fixtures which could contribute to lead levels in school drinking water. The presence of lead in drinking water can lead to adverse health effects in people, especially children. Therefore, AWS was requested to conduct sampling for the presence and/or amount of lead in the drinking water at outlets at this school designated by MPCSD.

Sources of Lead in Drinking Water at Schools

Lead can enter the drinking water at a school either by being present in the water entering the school from the municipal water source (i.e. public water supply agency) or through the plumbing system within the school where materials containing lead, such as lead pipes, lead solder and fluxes may be present. Stagnant water in the school pipes can have extended contact with lead containing materials and components. Due to these irregular use patterns elevated concentrations of lead could be present in the drinking water. Other factors such as the pH of the water and the temperature can also affect the rate at which lead is absorbed into the water.

Summary of Regulations to Reduce Lead in Drinking Water

In 1986 the Safe Water Drinking Act (SWDA) required the use of “lead-free” pipe, solder, and flux in the installation or repair of any public water system or any plumbing in a residential or non-residential facility providing water for human consumption. Solders and flux are considered to be lead-free when they contain less than 0.2% lead. Before this ban took effect on June 19, 1986, solders used to join water pipes typically contained about 50% lead. Pipes

and pipe fittings were considered “lead-free” under the Lead Ban when they contained less than 8% lead. In January 2010, California enacted a law which reduced the maximum allowable lead content of pipes, pipe fittings, plumbing fittings and fixtures used to convey water for human consumption to less than 0.25% lead of wetted surfaces as determined by a weighted average. On January 4, 2014 the “Reduction of Lead in Drinking Water Act”, more commonly known as the Lead Free law, went into effect. This resulted in a national mandate requiring that every pipe, fixture, and fitting used to convey water for potable use contain less than 0.25% of lead by weight.

In 1988, the Lead Contamination Control Act (LCCA) was signed. This required the identification of water coolers that were not lead-free, the removal or repair of water coolers with lead lined tanks, banned the manufacture and sale of water coolers that are not lead-free and required the identification and resolution of lead problems in schools. The LCCA was aimed at secondary and primary schools, kindergartens, daycare centers, water cooler manufacturers and federal, state and local agencies.

In 1991 the Lead and Copper Rule (LCR) was signed into law. The LCR requires public water suppliers to monitor for lead and copper in drinking water at select residential dwellings supplied water by the public agency. If lead or copper are found above the EPA action levels, the water supply agency must provide corrosion treatment.

Lead Contaminant Levels in Drinking Water

The State of California and the City of Menlo Park must comply with the LCR which sets a regulatory action level for lead in water at 15 µg/L for public water supply systems. The regulatory action level is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

The lead testing protocol specified by the LCR and used by public water systems is aimed at identifying system-wide problems rather than problems at outlets in individual buildings. The LCR for public water systems established a lead action level of 15 µg/L for one liter samples collected at high-risk residences. If more than 10 percent of the samples at residences exceed 15 µg/L, system-wide corrosion control treatment may be necessary. The 15 µg/L action level for public water systems is the trigger level for treatment.

The EPA guidance document for testing for lead in the potable water supply at schools is entitled “*3Ts for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance*,”

October 2006" (EPA 3T's). This document recommends that water fountains and/or other outlets used for consumption be taken out of service if lead levels exceed 20 µg/L. This is based on the collection of 250 mL first-draw samples (i.e., samples of water that have remained stagnant for 8-18 hours prior to flushing or use occurs). The EPA recommends this first-draw sample combined with the 8-18 hour waiting period in order to maximize the likelihood that the highest concentrations of lead are found in the outlets being tested.

Although EPA recommends using a concentration of 20 µg/L as the trigger level to conduct additional testing to determine the source, AWS has recommended, with the school district's concurrence, to use exceedances of 15 µg/L lead in drinking water in the schools as the trigger point to take an outlet out of service and to perform additional testing to determine the source of lead.

Purpose and Scope of Work

The scope of work is to determine if the drinking water in the school contains elevated levels of the heavy metal lead (Pb). The scope of work includes:

- Collect drinking water samples from representative priority outlets.
- Compare water sampling results to EPA MCL of 15 µg/L for lead.
- Provide recommendations for additional sampling, if needed.

This sampling strategy, procedures and analytical tests were based on guidance provided by the *EPA 3T's guidance document*.

Site Background

Hillview Middle School (HMS) is located at 1100 Elder Avenue in Menlo Park, CA. The school is a middle school and serves children from 6th to 8th grade. The exact date of original construction is not known but it appears that major construction was performed in 1991 on the campus.

Drinking Water Outlet Selection Procedure

Water samples were collected from high priority drinking water outlets identified by MPCSD and AWS. High priority outlets are defined as those that are used regularly for cooking and drinking. These include: drinking fountains (all types), classroom combination sinks with

drinking fountains, sinks in teachers' lounges, nurses' offices, and special education rooms, and kitchen faucets used for drinking, cooking or washing food including home economic faucets. Water samples representative of the service connection and municipal water supply main were also collected during the testing.

Water Sampling Procedures

Drinking water samples were collected at HMS on October 6, 2016. The water samples were collected by an AWS environmental scientist in accordance with the EPA's 3T's guidance document.

AWS collected a first-draw water sample from each selected outlet, with the exception of the service connection samples, between the hours of 6:00AM-9:00AM. A first-draw sample of water is the first to come out of the tap after a period of inactivity. This water was stagnant; meaning that the outlet was not used for at least eight hours prior to sampling. Since the selected outlets were taped off after the end of the previous school day the outlets had remained stagnant for a period between 8 and 18 hours.

The two (2) samples collected from the water service connection were collected from the cold water outlet that was assumed to be closest to the service connection. Following the EPA's 3T's sampling guidelines these samples were not first-draw. The first sample was collected approximately 30 seconds after running the water and the second sample was collected after approximately three minutes of running the water. These samples should be representative of the water quality entering the facility from the service connection and the municipal water supply main, respectively. In addition, a duplicate sample was collected with the municipal water supply main sample at each facility as a Quality Assurance/Quality Control (QA/QC) sample.

Samples were collected in a 250 milliliters (ml) laboratory provided container. The sample size is representative of a smaller section of plumbing primarily associated with the fixture providing the water and, therefore, more effective in identifying the source if elevated lead levels are identified if follow-up flush sampling is necessary.

AWS collected a total of forty (40) samples from the Hillview Middle School including the service connection samples (2) and the quality control sample (1). Samples were each given a unique sampling identification number. The sample location, date and time of collection, and the type of outlet were recorded and are shown on the attached chain of custody (COC) proceeded by the attached laboratory report.

Analytical Methods

Samples were delivered by courier to Alpha Analytical Laboratories in Ukiah, California under standard chain-of-custody procedures. This laboratory is certified by the State of California as part of the Environmental Laboratory Accreditation Program (ELAP# 1551). Water samples were analyzed for lead (Pb) by EPA Method 200.8 which is the determination of trace elements in waters and wastes by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS). The reporting limit as determined by the laboratory is 4 µg/L.

Analytical Results

The analytical results from the testing are shown on the attached table (Table 1). All of the samples collected from this site were below the EPA's action level of 15 µg/L for lead in public water supply systems, as well as being below the EPA's 20 µg/L recommendation for lead in school drinking water.

Conclusions and Recommendations

As mentioned above, the EPA's 3T's guidance document states that the sample results should be below 20 µg/L and that outlets that are found above these levels should be taken out of service until the source can be determined. The EPA's action level for lead in public water supply systems is 15 µg/L and is used as a trigger to determine when system-wide corrosion control treatment may be necessary. AWS recommends using an exceedance of 15 µg/L of lead in drinking water in the schools as the trigger point to take an outlet out of service and to perform additional testing to determine the source.

None of the samples collected at the school site exceeded the MCL of 15 µg/L, therefore, no additional testing is warranted at this time. It is recommended that periodic monitoring of the outlets be performed at all of the schools built before 1990 to ensure that the older suspected lead containing fixtures and solders do not leach into the drinking water supply in the future.

In addition, the presence of aerators may contribute to lead in the water if lead-bearing solids have accumulated over time on the aerator; therefore, it is also recommended that all aerators in the school be put on a regular maintenance schedule which includes the removal and cleaning of the aerator and that aerators be replaced if needed.

Limitations

The conclusions and results contained herein are based solely on the information presented in this report. Additional information or contamination that was hidden, undiscovered, inaccessible, or are not a part of the finding presented herein, would result in the modification of the conclusions and recommendations of this report. Any remediation guidelines are minimum general guidelines based solely on the findings contained herein and are not to be considered a complete or detailed set of remediation specifications. AWS is not responsible for the accuracy of information provided by others, or for conditions or consequences arising from relevant facts that were withheld, concealed, undiscovered or not fully disclosed.

The scope of services provided by AWS was limited to the sampling of drinking water outlets identified in this report. Drinking water outlets, hazardous materials or controlled substances not specifically mentioned in this report were not evaluated. AWS is not qualified to present medical advice. If any present or future health issues are in question, it is recommended that the findings in this report be presented to a qualified medical professional for evaluation. AWS is not a law firm and, therefore, makes no representations regarding any potential liability of any person or entity for site conditions.

References

3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance
United States Environmental Protection Agency, October 2006.

Drinking Water Best Management Practices, United States Environmental Protection Agency,
April 2013



LEGEND

- DW - Drinking Water Fountain
- DWS - Drinking Fountain in Sink
- KF - Kitchen Faucet
- NS - Nurse's Office Sink
- TL - Teacher/Staff Lounge Sink
- CF - Classroom Faucet
- EC - Home Economics Sink
- WC - Water Cooler Fountain
- SC - Service Connection
- * New Faucet

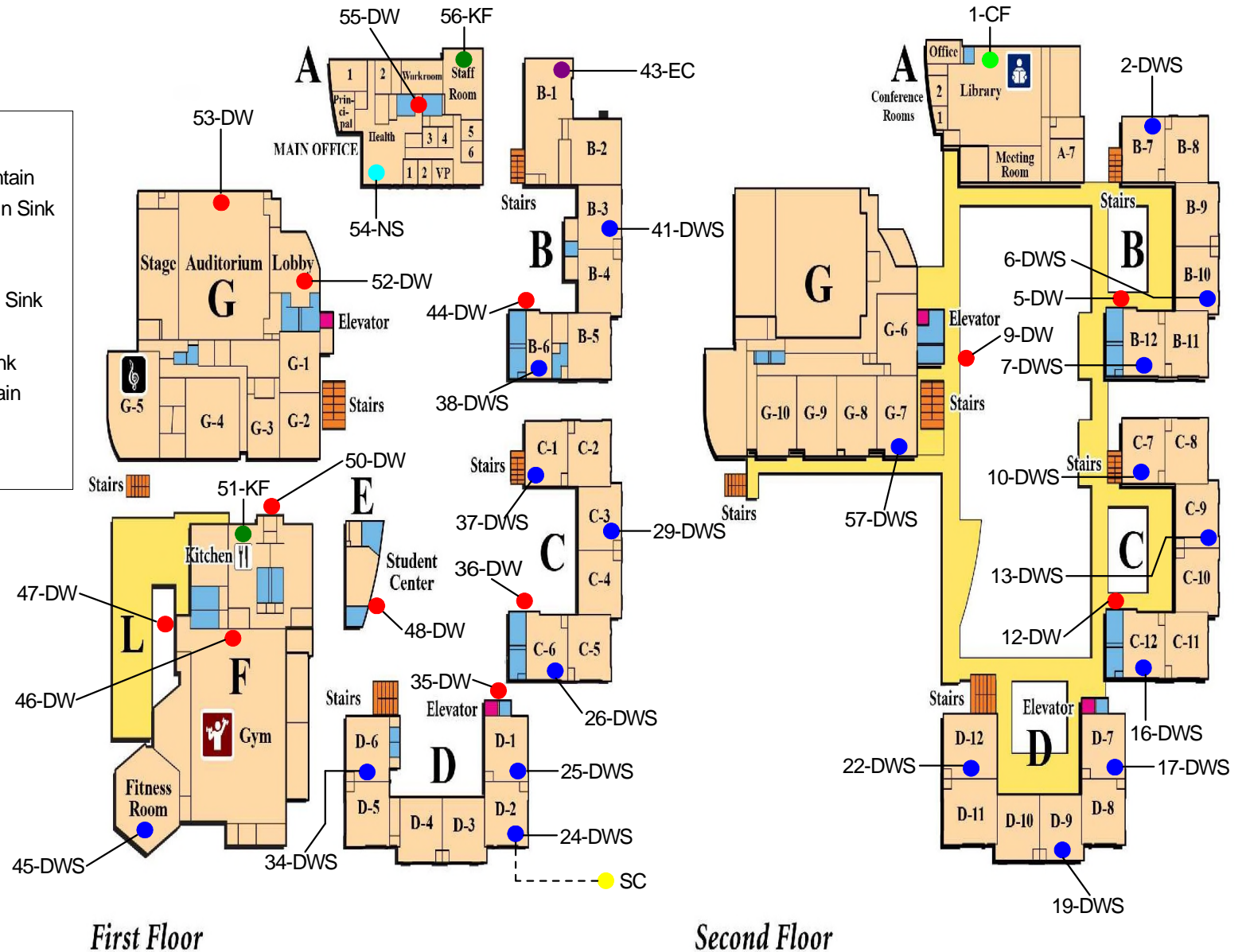


Table 1
Analytical Results
Lead (Pb) in Drinking Water
Hillview Middle School

Sample ID Number	Sample collection date	Type of Outlet	Sample Location	Type of Sample	Lead (Pb) (µg/L)
HMS-24-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room D-2	Initial	ND
HMS-1S-DWS-F	10/6/2016	Drinking Water Fountain with Sink	Room D-2, assumed representative of service connection	Flush (30 sec)	ND
HMS-1M-DWS-F	10/6/2016	Drinking Water Fountain with Sink	Room D-2, assumed representative of main	Flush (3 min)	ND
HMS-1MQ-DWS-F	10/6/2016	Drinking Water Fountain with Sink	Room D-2, assumed representative of main	Flush (3 min) Field QA/QC	ND
HMS-25-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room D-1	Initial	ND
HMS-34-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room D-6	Initial	ND
HMS-35-DW-P	10/6/2016	Drinking Water Fountain	Outside D-1	Initial	ND
HMS-57-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room G-7	Initial	ND
HMS-9-DW-P	10/6/2016	Drinking Water Fountain	Outside G-6	Initial	ND
HMS-1-CF-P	10/6/2016	Faucet	Library	Initial	ND
HMS-2-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room B-7	Initial	ND
HMS-6-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room B-10	Initial	ND
HMS-7-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room B-12	Initial	ND
HMS-5-DW-P	10/6/2016	Drinking Water Fountain	Outside B-12	Initial	ND
HMS-10-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room C-7	Initial	ND
HMS-13-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room C-9	Initial	ND
HMS-16-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room C-12	Initial	ND
HMS-12-DW-P	10/6/2016	Drinking Water Fountain	Outside C-12	Initial	ND
HMS-17-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room D-7	Initial	ND
HMS-19-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room D-9	Initial	ND
HMS-22-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room D-12	Initial	ND
HMS-36-DW-P	10/6/2016	Drinking Water Fountain	Outside C-6	Initial	ND
HMS-26-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room C-6	Initial	ND
HMS-29-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room C-3	Initial	ND
HMS-37-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room C-1	Initial	ND
HMS-44-DW-P	10/6/2016	Drinking Water Fountain	Room B-6	Initial	ND
HMS-38-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room B-5	Initial	ND

Notes:

- 1) Primary= sampled at first draw. Flush= sampled after water running for time indicated.
- 2) EPA Action Level is 15 µg/L
- 3) ND = None detected
- 4) Samples analyzed by EPA Method 200.8. Reporting limit is 4 µg/L

Table 1
Analytical Results
Lead (Pb) in Drinking Water
Hillview Middle School

Sample ID Number	Sample collection date	Type of Outlet	Sample Location	Type of Sample	Lead (Pb) (µg/L)
HMS-41-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Room B-3	Initial	ND
HMS-43-EC-P	10/6/2016	Faucet	Woodwork room	Initial	ND
HMS-56-KF-P	10/6/2016	Faucet	Staff room	Initial	ND
HMS-55-DW-P	10/6/2016	Drinking Water Fountain	Outside staff room	Initial	ND
HMS-54-NS-P	10/6/2016	Faucet	Nurse's station	Initial	ND
HMS-52-DW-P	10/6/2016	Drinking Water Fountain	Lobby	Initial	ND
HMS-53-DW-P	10/6/2016	Drinking Water Fountain	Auditorium	Initial	ND
HMS-48-DW-P	10/6/2016	Drinking Water Fountain	Outside student center	Initial	ND
HMS-46-DW-P	10/6/2016	Drinking Water Fountain	Gym	Initial	ND
HMS-45-DWS-P	10/6/2016	Drinking Water Fountain with Sink	Fitness room	Initial	ND
HMS-47-DW-P	10/6/2016	Drinking Water Fountain	Outside gym	Initial	ND
HMS-51-KF-P	10/6/2016	Faucet	Kitchen	Initial	ND
HMS-50-DW-P	10/6/2016	Drinking water fountain	Outside kitchen	Initial	ND

Notes:

- 1) Primary= sampled at first draw. Flush= sampled after water running for time indicated.
- 2) EPA Action Level is 15 ug/L
- 3) ND = None detected
- 4) Samples analyzed by EPA Method 200.8. Reporting limit is 4 ug/L



alpha

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Central Valley: 9090 Union Park Way, Suite 113, Elk Grove, CA 95624 • Phone: (916) 686-5190 • Fax: (916) 686-5192

ELAP Certificates 1551, 2728, and 2922

20 October 2016

Air & Water Sciences

Attn: Aniko Molnar

625 2nd Street, Suite 210

Petaluma, CA 94952

RE: Lead Monitoring Project

Work Order: 16J0584

Enclosed are the results of analyses for samples received by the laboratory on 10/06/16 14:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanette L. Poplin For Robbie C. Phillips

Project Manager



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Air & Water Sciences
625 2nd Street, Suite 210
Petaluma, CA 94952

Project Manager: Aniko Molnar
Project: Lead Monitoring Project
Project Number: MPCSD - Hillview Middle

Reported:
10/20/16 10:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HMS-24-DWS-P	16J0584-01	Water	10/06/16 05:40	10/06/16 14:30
HMS-1S-DWS-F	16J0584-02	Water	10/06/16 05:40	10/06/16 14:30
HMS-1M-DWS-F	16J0584-03	Water	10/06/16 05:41	10/06/16 14:30
HMS-1MQ-DWS-F	16J0584-04	Water	10/06/16 05:44	10/06/16 14:30
HMS-25-DWS-P	16J0584-05	Water	10/06/16 05:46	10/06/16 14:30
HMS-34-DWS-P	16J0584-06	Water	10/06/16 05:47	10/06/16 14:30
HMS-35-DW-P	16J0584-07	Water	10/06/16 05:49	10/06/16 14:30
HMS-57-DWS-P	16J0584-08	Water	10/06/16 05:50	10/06/16 14:30
HMS-9-DW-P	16J0584-09	Water	10/06/16 05:53	10/06/16 14:30
HMS-1-CF-P	16J0584-10	Water	10/06/16 05:55	10/06/16 14:30
HMS-2-DWS-P	16J0584-11	Water	10/06/16 05:58	10/06/16 14:30
HMS-6-DWS-P	16J0584-12	Water	10/06/16 06:00	10/06/16 14:30
HMS-7-DWS-P	16J0584-13	Water	10/06/16 06:01	10/06/16 14:30
HMS-5-DW-P	16J0584-14	Water	10/06/16 06:04	10/06/16 14:30
HMS-10-DWS-P	16J0584-15	Water	10/06/16 06:06	10/06/16 14:30
HMS-13-DWS-P	16J0584-16	Water	10/06/16 06:08	10/06/16 14:30
HMS-16-DWS-P	16J0584-17	Water	10/06/16 06:11	10/06/16 14:30
HMS-12-DW-P	16J0584-18	Water	10/06/16 06:15	10/06/16 14:30
HMS-17-DWS-P	16J0584-19	Water	10/06/16 06:19	10/06/16 14:30
HMS-19-DWS-P	16J0584-20	Water	10/06/16 06:22	10/06/16 14:30
HMS-22-DWS-P	16J0584-21	Water	10/06/16 06:25	10/06/16 14:30
HMS-36-DW-P	16J0584-22	Water	10/06/16 06:29	10/06/16 14:30
HMS-26-DWS-P	16J0584-23	Water	10/06/16 06:31	10/06/16 14:30
HMS-29-DWS-P	16J0584-24	Water	10/06/16 06:34	10/06/16 14:30
HMS-37-DWS-P	16J0584-25	Water	10/06/16 06:36	10/06/16 14:30
HMS-44-DW-P	16J0584-26	Water	10/06/16 06:40	10/06/16 14:30
HMS-38-DWS-P	16J0584-27	Water	10/06/16 06:43	10/06/16 14:30
HMS-41-DWS-P	16J0584-28	Water	10/06/16 06:45	10/06/16 14:30

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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Reported:
10/20/16 10:54

HMS-43-EC-P	16J0584-29	Water	10/06/16 06:53	10/06/16 14:30
HMS-56-KF-P	16J0584-30	Water	10/06/16 06:57	10/06/16 14:30
HMS-55-DW-P	16J0584-31	Water	10/06/16 06:59	10/06/16 14:30
HMS-54-NS-P	16J0584-32	Water	10/06/16 07:05	10/06/16 14:30
HMS-52-DW-P	16J0584-33	Water	10/06/16 07:10	10/06/16 14:30
HMS-53-DW-P	16J0584-34	Water	10/06/16 07:15	10/06/16 14:30
HMS-48-DW-P	16J0584-35	Water	10/06/16 07:19	10/06/16 14:30
HMS-46-DW-P	16J0584-36	Water	10/06/16 07:24	10/06/16 14:30
HMS-45-DWS-P	16J0584-37	Water	10/06/16 07:30	10/06/16 14:30
HMS-47-DW-P	16J0584-38	Water	10/06/16 07:35	10/06/16 14:30
HMS-51-KF-P	16J0584-39	Water	10/06/16 07:38	10/06/16 14:30
HMS-50-DW-P	16J0584-40	Water	10/06/16 07:45	10/06/16 14:30



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Air & Water Sciences
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Petaluma, CA 94952

Project Manager: Aniko Molnar
Project: Lead Monitoring Project
Project Number: MPCSD - Hillview Middle

Reported:
10/20/16 10:54

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	Method	Note
HMS-24-DWS-P (16J0584-01)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 16:14	EPA 200.8	
HMS-1S-DWS-F (16J0584-02)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 16:19	EPA 200.8	
HMS-1M-DWS-F (16J0584-03)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 16:24	EPA 200.8	
HMS-1MQ-DWS-F (16J0584-04)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 16:29	EPA 200.8	
HMS-25-DWS-P (16J0584-05)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 16:34	EPA 200.8	
HMS-34-DWS-P (16J0584-06)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:08	EPA 200.8	
HMS-35-DW-P (16J0584-07)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:13	EPA 200.8	
HMS-57-DWS-P (16J0584-08)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:18	EPA 200.8	
HMS-9-DW-P (16J0584-09)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:23	EPA 200.8	
HMS-1-CF-P (16J0584-10)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:27	EPA 200.8	
HMS-2-DWS-P (16J0584-11)								

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Central Valley: 9090 Union Park Way, Suite 113, Elk Grove, CA 95624 • Phone: (916) 686-5190 • Fax: (916) 686-5192

Air & Water Sciences
625 2nd Street, Suite 210
Petaluma, CA 94952

Project Manager: Aniko Molnar
Project: Lead Monitoring Project
Project Number: MPCSD - Hillview Middle

Reported:
10/20/16 10:54

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	Method	Note
HMS-2-DWS-P (16J0584-11)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:32	EPA 200.8	
HMS-6-DWS-P (16J0584-12)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:37	EPA 200.8	
HMS-7-DWS-P (16J0584-13)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:42	EPA 200.8	
HMS-5-DW-P (16J0584-14)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 15:21	EPA 200.8	
HMS-10-DWS-P (16J0584-15)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63434	10/11/16 09:55	10/12/16 17:47	EPA 200.8	
HMS-13-DWS-P (16J0584-16)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:00	EPA 200.8	
HMS-16-DWS-P (16J0584-17)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:35	EPA 200.8	
HMS-12-DW-P (16J0584-18)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:39	EPA 200.8	
HMS-17-DWS-P (16J0584-19)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:44	EPA 200.8	
HMS-19-DWS-P (16J0584-20)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:49	EPA 200.8	
HMS-22-DWS-P (16J0584-21)								

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Project Manager: Aniko Molnar
Project: Lead Monitoring Project
Project Number: MPCSD - Hillview Middle

Reported:
10/20/16 10:54

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	Method	Note
HMS-22-DWS-P (16J0584-21)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:54	EPA 200.8	
HMS-36-DW-P (16J0584-22)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:59	EPA 200.8	
HMS-26-DWS-P (16J0584-23)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:04	EPA 200.8	
HMS-29-DWS-P (16J0584-24)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:09	EPA 200.8	
HMS-37-DWS-P (16J0584-25)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:14	EPA 200.8	
HMS-44-DW-P (16J0584-26)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:43	EPA 200.8	
HMS-38-DWS-P (16J0584-27)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:48	EPA 200.8	
HMS-41-DWS-P (16J0584-28)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:53	EPA 200.8	
HMS-43-EC-P (16J0584-29)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 20:58	EPA 200.8	
HMS-56-KF-P (16J0584-30)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 21:03	EPA 200.8	
HMS-55-DW-P (16J0584-31)								

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Project Manager: Aniko Molnar
Project: Lead Monitoring Project
Project Number: MPCSD - Hillview Middle

Reported:
10/20/16 10:54

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	Method	Note
HMS-55-DW-P (16J0584-31)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 21:08	EPA 200.8	
HMS-54-NS-P (16J0584-32)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 21:13	EPA 200.8	
HMS-52-DW-P (16J0584-33)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 21:18	EPA 200.8	
HMS-53-DW-P (16J0584-34)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 21:23	EPA 200.8	
HMS-48-DW-P (16J0584-35)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63435	10/11/16 09:58	10/12/16 19:05	EPA 200.8	
HMS-46-DW-P (16J0584-36)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63436	10/11/16 10:01	10/13/16 11:10	EPA 200.8	
HMS-45-DWS-P (16J0584-37)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63436	10/11/16 10:01	10/13/16 11:49	EPA 200.8	
HMS-47-DW-P (16J0584-38)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63436	10/11/16 10:01	10/13/16 11:54	EPA 200.8	
HMS-51-KF-P (16J0584-39)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63436	10/11/16 10:01	10/13/16 11:59	EPA 200.8	
HMS-50-DW-P (16J0584-40)								
Metals by EPA Method 200.8 ICP/MS								P-02
Lead	ND ug/L	4.0	1	AJ63436	10/11/16 10:01	10/13/16 12:04	EPA 200.8	

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Project: Lead Monitoring Project
Project Number: MPCSD - Hillview Middle

Reported:
10/20/16 10:54

Metals by EPA Method 200.8 ICP/MS - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ63434 - EPA 200 Series										
Blank (AJ63434-BLK1)				Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	ND	4.0	ug/L							
LCS (AJ63434-BS1)				Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	21.0	4.0	ug/L	20.0		105	85-115			
Duplicate (AJ63434-DUP1)				Source: 16J0443-01		Prepared: 10/11/16 Analyzed: 10/12/16				
Lead	ND	4.0	ug/L		ND			3.81	20	
Matrix Spike (AJ63434-MS1)				Source: 16J0443-01		Prepared: 10/11/16 Analyzed: 10/12/16				
Lead	107	4.0	ug/L	100	ND	106	70-130			
Matrix Spike (AJ63434-MS2)				Source: 16J0584-14		Prepared: 10/11/16 Analyzed: 10/12/16				
Lead	106	4.0	ug/L	100	ND	106	70-130			
Matrix Spike Dup (AJ63434-MSD1)				Source: 16J0443-01		Prepared: 10/11/16 Analyzed: 10/12/16				
Lead	107	4.0	ug/L	100	ND	105	70-130	0.529	20	
Batch AJ63435 - EPA 200 Series										
Blank (AJ63435-BLK1)				Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	ND	4.0	ug/L							
LCS (AJ63435-BS1)				Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	21.2	4.0	ug/L	20.0		106	85-115			
Duplicate (AJ63435-DUP1)				Source: 16J0584-16		Prepared: 10/11/16 Analyzed: 10/12/16				
Lead	ND	4.0	ug/L		ND				20	



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Reported:
10/20/16 10:54

Metals by EPA Method 200.8 ICP/MS - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AJ63435 - EPA 200 Series										
Matrix Spike (AJ63435-MS1)		Source: 16J0584-16		Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	107	4.0	ug/L	100	ND	107	70-130			
Matrix Spike (AJ63435-MS2)		Source: 16J0584-35		Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	107	4.0	ug/L	100	ND	107	70-130			
Matrix Spike Dup (AJ63435-MSD1)		Source: 16J0584-16		Prepared: 10/11/16 Analyzed: 10/12/16						
Lead	107	4.0	ug/L	100	ND	107	70-130	0.541	20	
Batch AJ63436 - EPA 200 Series										
Blank (AJ63436-BLK1)		Prepared: 10/11/16 Analyzed: 10/13/16								
Lead	ND	4.0	ug/L							
LCS (AJ63436-BS1)		Prepared: 10/11/16 Analyzed: 10/13/16								
Lead	21.4	4.0	ug/L	20.0		107	85-115			
Duplicate (AJ63436-DUP1)		Source: 16J0584-36		Prepared: 10/11/16 Analyzed: 10/13/16						
Lead	ND	4.0	ug/L		ND			1.65	20	
Matrix Spike (AJ63436-MS1)		Source: 16J0584-36		Prepared: 10/11/16 Analyzed: 10/13/16						
Lead	107	4.0	ug/L	100	ND	106	70-130			
Matrix Spike (AJ63436-MS2)		Source: 16J0750-11		Prepared: 10/11/16 Analyzed: 10/13/16						
Lead	114	4.0	ug/L	100	ND	113	70-130			
Matrix Spike Dup (AJ63436-MSD1)		Source: 16J0584-36		Prepared: 10/11/16 Analyzed: 10/13/16						
Lead	109	4.0	ug/L	100	ND	109	70-130	2.72	20	



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Reported:
10/20/16 10:54

Notes and Definitions

P-02 Sample was received with insufficient preservative. Sample was preserved and allowed to sit 24 hours before further processing.

ND Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

REC Recovery

RPD Relative Percent Difference



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Chain of Custody - Work Order

Reports and Invoices delivered by email in PDF format

Please also email EDF report

Lab No 1650584 Pg 1 of 4

Report to				Signature below authorizes work under terms stated on reverse side.											
Company: Air and Water Sciences		Contact: Aniko Molnar/Heidi Bauer		Phone: 707-769-2289		Analysis Request						TAT Standard 10 days		Temp upon Receipt Ukiah temp:	
Attn: Heidi Bauer, Aniko Molnar, Chip Prokop and Becky Shellink		INVOICE TO: lesley@awsciences.com		Project ID: MPCSD		Total Number of Containers per Sample ID Lead (200.8)						RUSH: 5 days 48 hours Other:		Dublin temp:	
Address: 625 2nd Street, ste 210 Petaluma, CA 94952		Attn: Lesley Hunter		Project No: 1753								Lab preapproval required			
Phone: 707-769-2289		PROJECT NAME: MPCSD-Hillview Middle													
Email Addresses for Reports: heidi@awsciences.com, amolnar@awsciences.com, cprokop@awsciences.com, becky@awsciences.com															
Field Sampler - Printed Name & Signature: Bryn Kirk Bryn Kirk				Container		Preservative		Matrix							
Sample Identification		Sampling		250 ml poly	NONE	Water	Total Number of Containers per Sample ID							Sample Notes or DDW Source Numbers:	
		Date	Time												
HMS-24-DWS-P		10/6/16	5:40	X	X	X	1	X							
HMS-18-DWS-F			5:40												
HMS-1M-DWS-F			5:41												
HMS-1MQ-DWS-F			5:44												
HMS-25-DWS-P			5:46												
HMS-34-DWS-P			5:47												
HMS-35-DW-P			5:49												
HMS-57-DWS-P			5:50												
HMS-222-DW-P			5:53												
HMS-1-CF-P			5:55												
HMS-2-DWS-P			5:58												
HMS-6-DWS-P			6:00												
Relinquished by				Received by		Date		Time		DDW Write On EDT Transmission? <input type="radio"/> Yes					
Bryn Kirk				Liz Harkaway		10-6-16		10:40		State System Number:					
Liz Harkaway				Liz Harkaway		10-6-16		14:30		If "Y" please enter the Source Number(s) in the column above					
										Travel and Site Time:		Mileage:		Misc. Supplies:	

[illegible]