

LEAD AND COPPER DRINKING WATER SAMPLING EVENT



ACPS MAINTENANCE SHOP

602-604 S. PICKETT STREET
ALEXANDRIA, VIRGINIA 22304

ECS PROJECT NO. 47:1519-K

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

JANUARY 31, 2020





January 31, 2020

Ms. Nicole Settles
Alexandria City Public Schools
1340 Braddock Place
Alexandria, Virginia 22314
nicole.settles@acps.k12.va.us

ECS Project No. 47:1519-K

Reference: Lead and Copper Drinking Water Sampling Event, ACPS Maintenance Shop, 602-604 S. Pickett Street, Alexandria, Virginia

Dear Ms. Settles:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the Lead and Copper Drinking Water Sampling Event performed at the ACPS Maintenance Shop located at 602-604 S. Pickett Street in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:13363-EPR and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Michael Hamill, CIH
Senior Project Manager
MHamill@ecslimited.com
703-471-8400

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Senior Project Manager
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1.0 SITE DESCRIPTION

The ACPS Maintenance Shop is a one-story warehouse building located at 602-604 S. Pickett Street in Alexandria, Virginia. The building is currently occupied and is used by Alexandria City Public Schools (ACPS) as a warehouse/carpentry shop. The site is located within Alexandria and is under the jurisdiction of the City of Alexandria and U.S. Environmental Protection Agency (EPA) drinking water regulations.

The site receives water from Virginia American Water, which is classified as a public drinking water system by the EPA under the Safe Drinking Water Act (SDWA). This ACPS building is connected to a public water system and therefore; does not have its own water supply nor is it considered a non-transient, non-community water system (NTNCWS).

2.0 PURPOSE

The purpose of this water sampling event was to identify if the sinks, water fountains, bottle refilling stations, and/or bubblers within the above-referenced building contain lead and/or copper concentrations in excess of the EPA's Lead and Copper Rule action levels.

The EPA created the Lead and Copper Rule under the SWDA. The EPA's Lead and Copper Rule established a lead action level of 0.015 mg/L (milligrams/liter) or 0.015 parts per million (PPM). The EPA's Lead and Copper Rule established a copper action level of 1.3 mg/L or 1.3 PPM. Note that ACPS buildings are not regulated by the EPA's Lead and Copper Rule because they do not meet the definition of a public water system as defined in EPA's 40 CFR Section 141 Subpart A.

The US EPA's *3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance (EPA 815-B-18-007)* was created to provide recommendations on how to address lead in drinking water in schools and child care facilities. The procedures and response actions outlined in the EPA's 3Ts document are recommendations not requirements. The EPA's 3Ts guidance document does not set action levels for lead or copper in drinking water but it does reference the action levels created for public water systems in the EPA's Lead and Copper Rule. The results of this water sampling event will be compared to the action levels set in the EPA's Lead and Copper Rule.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for sampling drinking water.

3.1 Lead and Copper in Drinking Water

Sample protocols were performed in general accordance with the US EPA's *3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance (EPA 815-B-18-007)* and the US EPA's Lead and Copper Rule. Provided there was access, water samples were collected from each sink, water fountain, bottle refilling station, and/or bubbler drinking water source within the above-referenced building. Samples were not collected from the exterior of the building or from janitor slop sinks.

ECS coordinated the water sampling with ACPS officials, and it is ECS's understanding that all of the water sources sampled were not in use at least 8 hours prior to sampling. ACPS personnel granted ECS access to the building. ECS attempted to access all drinking water sources within the building. During sampling, initial draw samples were collected. The samples were collected in 250 mL bottles with a nitric acid preservative. These water bottles were provided to ECS by Maryland Spectral Services, Inc. The water samples were provided with unique identification labels which include the school initials, a sequential number identifier, and sample location identifier.

The collected water samples were sealed and transported by courier to Maryland Spectral Services, Inc. located in Baltimore, Maryland. The water samples were submitted for lead and copper drinking water analysis per EPA Method 200.8.

Please note that efforts were made to collect a sample from each sink, water fountain, bottle refilling station, and/or bubbler drinking water source within the building. Some areas within the building were locked.

4.0 RESULTS

The following is a summary of laboratory results, findings, and observations.

4.1 Lead in Drinking Water

None of the water samples collected were reported to have concentrations above the EPA lead action level of 0.015 mg/L (PPM). In total, four (4) water samples were collected from the building. A table of the collected samples and the associated analytical results can be found in the appendices. Note that the analytical results displayed in the table have been converted to mg/L (PPM) for easy reference. A copy of the laboratory analytical results and chain of custody are attached to this report. A sketch identifying the approximate location of each water sample can also be found in the appendices.

4.2 Copper in Drinking Water

None of the water samples collected were reported to have concentrations above the EPA copper action level of 1.3 mg/L (PPM). In total, four (4) water samples were collected from the building. A table of the collected samples and the associated analytical results can be found in the appendices. Note that the analytical results displayed in the table have been converted to mg/L (PPM) for easy reference. A copy of the laboratory analytical results and chain of custody are attached to this report. A sketch identifying the approximate location of each water sample can also be found in the appendices.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Lead and Copper Drinking Water Sampling Event, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Lead in Drinking Water

The sample results were reported below the EPA's Lead and Copper Rule lead action level. No additional testing or remediation action in response to this lead drinking water sampling event is recommended at this time.

The EPA does not specify a specific time frame for which follow-up testing for schools needs to be performed. The EPA suggest that schools and child care facilities make testing a part of their routine building operations and states that annual monitoring provides information on changing concentrations and the effectiveness of remediation or treatment options.

As good practice, ECS recommends including this building in a comprehensive periodic follow-up screening sampling plan in which screening samples should be collected from this building at a minimum of every three years. If additional guidelines or regulations are enacted at a state or federal level in the future, the frequency of testing should be modified to reflect these changes.

In the US EPA 3Ts document, routine control measures are recommended as general good practice for over-all drinking water safety. The routine control measures that should be conducted to prevent exposure to elevated levels of lead, include the following:

- Clean debris from all accessible screens frequently;
- Use only cold water for food and beverage preparation. Hot water will dissolve lead more quickly than cold water and is likely to contain increased lead levels. If hot water is needed, it should be taken from the cold water tap and heated on a stove or in a microwave oven;
- If point-of-use filter devices have been installed, make sure they are maintained;
- Schedule routine flushing practices for drinking water and food preparation sources with emphasis on periods of time after weekends and long vacations where water may have remained stagnate for an extended period of time. Do not flush to many outlets at once because the increased flow may lead to additional contamination problems;
- Post placards near bathroom sinks with notices that water should not be consumed. The placards should use pictures if there are small children using bathrooms;
- US EPA recommends that the public and staff be notified of the findings of this sample event. EPA has described different procedures for dissemination of this information which are described in Section III.6 of the 3 Ts document. ACPS should review the different methods described and choose the most appropriate method; and,
- If future planned renovations will effect the plumbing systems, the building should be comprehensively sampled.

5.2 Copper in Drinking Water

The sample results were reported below the EPA's Lead and Copper Rule copper action level. No additional testing or remediation action in response to this copper drinking water sampling event is recommended at this time.

The EPA does not specify a specific time frame for which follow-up testing for schools needs to be performed. The EPA suggest that schools and child care facilities make testing a part of their routine building operations and states that annual monitoring provides information on changing

concentrations and the effectiveness of remediation or treatment options. As good practice, ECS recommends including this building in a comprehensive periodic follow-up screening sampling plan in which screening samples should be collected from this building at a minimum of every three years. If additional guidelines or regulations are enacted at a state or federal level in the future, the frequency of testing should be modified to reflect these changes.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

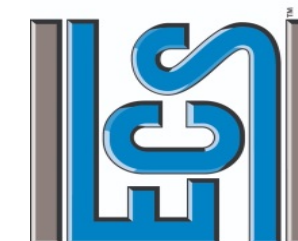
The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

The water samples collected and analyzed are only reflective of conditions at the time of this sampling event for the date of this report and these parameters can vary rapidly over time, depending upon a number of conditions, including site specific construction and environmental factors. As such, the sampling and results associated with this assessment is intended only as a description of available information at the dates and locations given. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

Appendix I: Sample Location Sketch

ACPS Maintenance Shop
602-604 Pickett Street
Alexandria, VA 22304

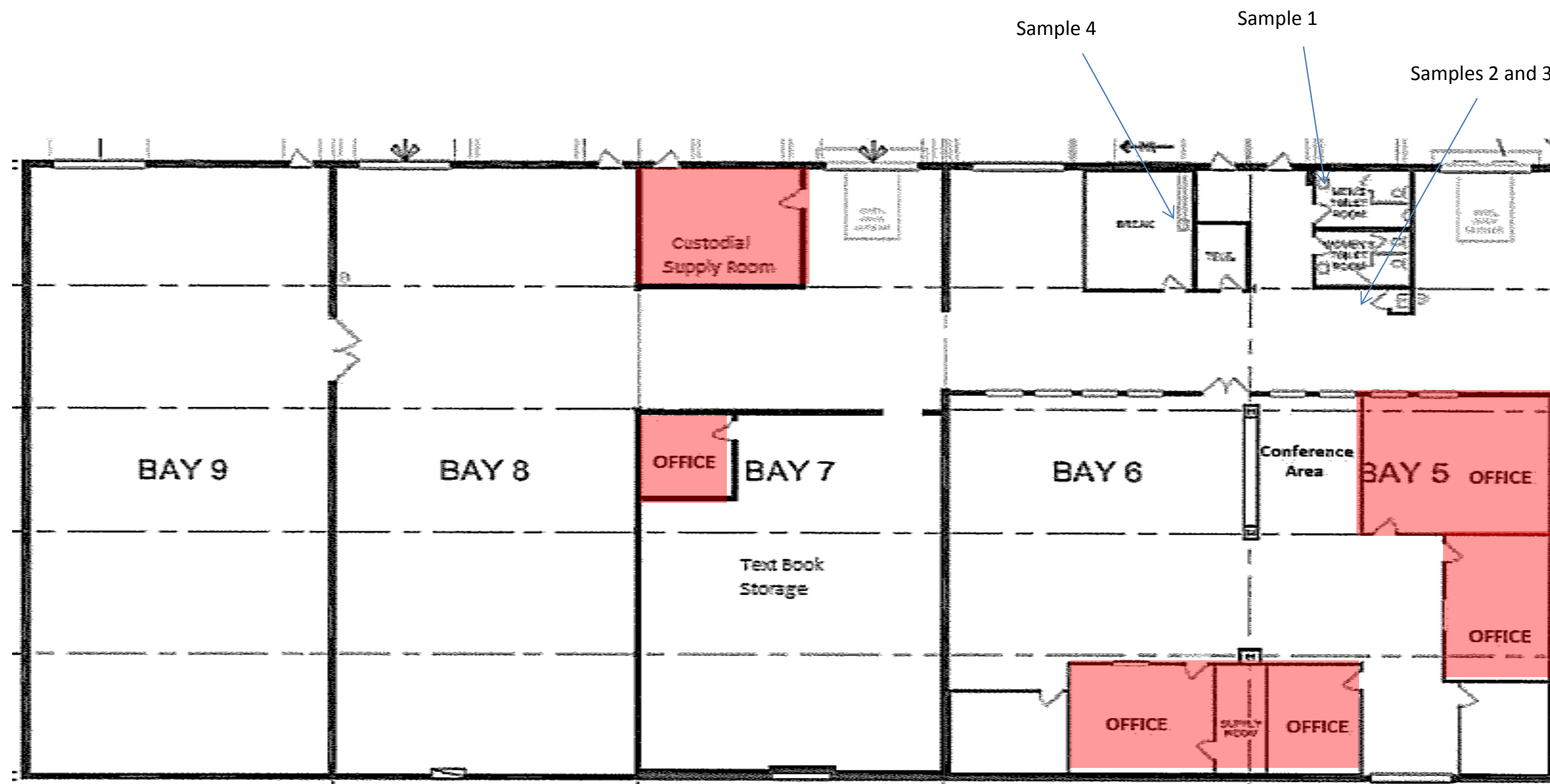


**Sample Location
Sketch
Ground Floor**

Scale: NTS

Project No.
47:1519-K

Site Visit:
12/19/19



- Inaccessible Area
- Elevated Lead
- Elevated Copper
- Elevated Lead & Copper

Appendix II: Lead and Copper Drinking Water Sample Results



Maintenance Shop Copper and Lead Drinking Water Results Table		
Sample Number	Copper Result (mg/L)	Lead Result (mg/L)
MS-1-MRS	0.072	0.002
MS-2-HALL W	0.246	<0.001
MS-3-HALL J	0.253	<0.001
MS-4- CON S	0.098	<0.001

The EPA's Lead and Copper Rule set an action level of 0.015 mg/L for lead and an action level of 1.3 mg/L for copper. Note these levels are related to public water systems (PWSs).

Table Notes:

Red = Above Action Level

Appendix III: Laboratory Report(s)

24 December 2019

Michael Hamill
ECS-Chantilly
14026 Thunderbolt Place, Suite 100
Chantilly, VA 20151
RE: ACPS-MS

Enclosed are the results of analyses for samples received by the laboratory on 12/19/19 17:50.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Will Brewington
President

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: ACPS-MS

Project Number: 47:1519-K
Project Manager: Michael Hamill

Reported:
12/24/19 13:40

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MS-1-MRS		9121920-01	Drinking Water	12/19/19 00:00	12/19/19 17:50
MS-2-HALL W		9121920-02	Drinking Water	12/19/19 00:00	12/19/19 17:50
MS-3-HALL J		9121920-03	Drinking Water	12/19/19 00:00	12/19/19 17:50
MS-4- CON S		9121920-04	Drinking Water	12/19/19 00:00	12/19/19 17:50



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.

Will Brewington, President

1500 Caton Center Dr Suite G
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 410-247-7600
 www.mdspectral.com
 MD DW LabID 153

Project: ACPS-MS

Project Number: 47:1519-K
 Project Manager: Michael Hamill

Reported:
 12/24/19 13:40

MS-1-MRS

9121920-01 (Drinking Water)
Sample Date: 12/19/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
TOTAL METALS ANALYSIS BY EPA 200.8 Prepared by 200.8-No Digestion Metals									
Copper	72.3		ug/L	1.00	1.00	1	12/21/19	12/21/19 22:51	VVD
Lead	1.73		ug/L	1.00	1.00	1	12/21/19	12/21/19 22:51	VVD



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Project: ACPS-MS

Project Number: 47:1519-K
 Project Manager: Michael Hamill

Reported:
 12/24/19 13:40

MS-2-HALL W

9121920-02 (Drinking Water)
Sample Date: 12/19/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
TOTAL METALS ANALYSIS BY EPA 200.8 Prepared by 200.8-No Digestion Metals									
Copper	246		ug/L	1.00	1.00	1	12/21/19	12/21/19 23:00	VVD
Lead	ND		ug/L	1.00	1.00	1	12/21/19	12/21/19 23:00	VVD



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 MD DW LabID 153

Project: ACPS-MS

Project Number: 47:1519-K
 Project Manager: Michael Hamill

Reported:
 12/24/19 13:40

MS-3-HALL J

9121920-03 (Drinking Water)
Sample Date: 12/19/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
TOTAL METALS ANALYSIS BY EPA 200.8 Prepared by 200.8-No Digestion Metals									
Copper	253		ug/L	1.00	1.00	1	12/21/19	12/21/19 23:01	VVD
Lead	ND		ug/L	1.00	1.00	1	12/21/19	12/21/19 23:01	VVD



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 MD DW LabID 153

Project: ACPS-MS

Project Number: 47:1519-K
 Project Manager: Michael Hamill

Reported:
 12/24/19 13:40

MS-4- CON S

9121920-04 (Drinking Water)
Sample Date: 12/19/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
TOTAL METALS ANALYSIS BY EPA 200.8 Prepared by 200.8-No Digestion Metals									
Copper	97.9		ug/L	1.00	1.00	1	12/21/19	12/21/19 23:06	VVD
Lead	ND		ug/L	1.00	1.00	1	12/21/19	12/21/19 23:06	VVD



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Will Brewington, President

Project: ACPS-MS

Project Number: 47:1519-K
Project Manager: Michael Hamill

Reported:
12/24/19 13:40

TOTAL METALS ANALYSIS BY EPA 200.8 - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B912372 - 200.8-No Digestion Metals										
Blank (B912372-BLK1)					Prepared & Analyzed: 12/21/19					
Copper	ND		1.00	ug/L						
Lead	ND		1.00	ug/L						
Blank (B912372-BLK2)					Prepared & Analyzed: 12/21/19					
Copper	ND		1.00	ug/L						
Lead	ND		1.00	ug/L						
Blank (B912372-BLK3)					Prepared & Analyzed: 12/21/19					
Copper	ND		1.00	ug/L						
Lead	ND		1.00	ug/L						
Blank (B912372-BLK4)					Prepared & Analyzed: 12/21/19					
Copper	ND		1.00	ug/L						
Lead	ND		1.00	ug/L						
LCS (B912372-BS1)					Prepared & Analyzed: 12/21/19					
Copper	12.2		1.00	ug/L	10.0		122	80-120		
Lead	11.9		1.00	ug/L	10.0		119	80-120		
LCS (B912372-BS2)					Prepared & Analyzed: 12/21/19					
Copper	9.53		1.00	ug/L	10.0		95	80-120		
Lead	9.08		1.00	ug/L	10.0		91	80-120		
LCS (B912372-BS3)					Prepared & Analyzed: 12/21/19					
Copper	9.44		1.00	ug/L	10.0		94	80-120		
Lead	9.12		1.00	ug/L	10.0		91	80-120		
LCS (B912372-BS4)					Prepared & Analyzed: 12/21/19					
Copper	9.82		1.00	ug/L	10.0		98	80-120		
Lead	9.18		1.00	ug/L	10.0		92	80-120		

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Project: ACPS-MS

Project Number: 47:1519-K
Project Manager: Michael Hamill

Reported:
12/24/19 13:40

TOTAL METALS ANALYSIS BY EPA 200.8 - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B912372 - 200.8-No Digestion Metals										
Duplicate (B912372-DUP1)			Source: 9121909-01			Prepared & Analyzed: 12/21/19				
Copper	391		1.00	ug/L		387			1	20
Lead	ND		1.00	ug/L		ND				20
Duplicate (B912372-DUP2)			Source: 9121909-11			Prepared & Analyzed: 12/21/19				
Copper	368		1.00	ug/L		370			0.6	20
Lead	ND		1.00	ug/L		ND				20
Duplicate (B912372-DUP3)			Source: 9121909-21			Prepared & Analyzed: 12/21/19				
Copper	181		1.00	ug/L		179			0.9	20
Lead	ND		1.00	ug/L		ND				20
Duplicate (B912372-DUP4)			Source: 9121909-29			Prepared & Analyzed: 12/21/19				
Copper	178		1.00	ug/L		180			0.7	20
Lead	ND		1.00	ug/L		ND				20
Matrix Spike (B912372-MS1)			Source: 9121909-01			Prepared & Analyzed: 12/21/19				
Copper	390	QM-4X	1.00	ug/L	10.0	387	29	80-120		
Lead	9.10		1.00	ug/L	10.0	ND	91	80-120		
Matrix Spike (B912372-MS2)			Source: 9121909-11			Prepared & Analyzed: 12/21/19				
Copper	375	QM-4X	1.00	ug/L	10.0	370	47	80-120		
Lead	9.30		1.00	ug/L	10.0	ND	93	80-120		
Matrix Spike (B912372-MS3)			Source: 9121909-21			Prepared & Analyzed: 12/21/19				
Copper	185	QM-4X	1.00	ug/L	10.0	179	56	80-120		
Lead	9.34		1.00	ug/L	10.0	ND	93	80-120		
Matrix Spike (B912372-MS4)			Source: 9121909-29			Prepared & Analyzed: 12/21/19				
Copper	185	QM-4X	1.00	ug/L	10.0	180	50	80-120		
Lead	9.09		1.00	ug/L	10.0	ND	91	80-120		

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Reported:
12/24/19 13:40

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- 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
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

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