



August 19, 2016

Mr. Tim Gehring  
Director of Facilities Management  
Worthington City School District  
250 East Wilson Bridge Road  
Worthington, Ohio 43085

**Re: Lead in Water Testing at Linworth Alternative High School**  
**2075 West Dublin Granville Road, Columbus, OH 43085**  
**Sample Date: June 23, 2016**  
**L&A Project No: 16-0311**

Dear Mr. Gehring,

Lawhon & Associates, Inc. (L&A) performed water sampling to document concentrations of lead in the potable water system. There is no federal law requiring testing of drinking water in schools, except for schools that have their own water supply and are thus regulated under the Safe Drinking Water Act (SDWA). This testing was performed as a proactive measure to ensure lead in drinking water concentrations remain at acceptable levels. L&A's conclusions and recommendations relevant to the sampling performed are presented in this document.

## METHODOLOGY

L&A performed environmental sampling for lead in water at Linworth Alternative High School on June 23, 2016. The sampling was conducted in accordance with the United States Environmental Protection Agency's (US EPA) guidance document "3Ts (Training, Testing, and Telling) for Reducing Lead in Drinking Water in Schools" (3Ts Guidance); however, a larger sample volume was collected due to laboratory requirements for Ohio EPA certified methods. A sampling plan was developed for the facility, which prioritized drinking water sources based on potential use and risk. Field activities included the collection of one (1) liter water samples from the water main service connection, drinking fountains, kitchen sinks, and approximately 10% of classroom sinks or other potential drinking water sources. Both first draw and flush samples were collected at each location. Prior to sample collection, the potable water system was not used for a minimum of 8 hours. Samples were collected by Mr. Shawen Jenkins, Ohio Department of Health (ODH) certified Lead Risk Assessor (LRA) #LA9297. First draw samples were submitted to MASI Environmental Laboratories located in Plain City, Ohio for analysis using the EPA method SM3113B. MASI is certified by the Ohio EPA for lead in drinking water analysis. Flushed samples were held at the L&A office and submitted for analysis only if the first draw sample from the same fixture exceeded the US EPA Action Level.

## REGULATORY ACTION LEVELS

US EPA's 3T's Guidance recommends an action level of 20 parts per billion (ppb) for lead; however, Ohio Facilities Construction Commission (OFCC) Lead Plumbing Fixture Replacement Assistance Grants Program has set an action level of 15 ppb for lead which is consistent with

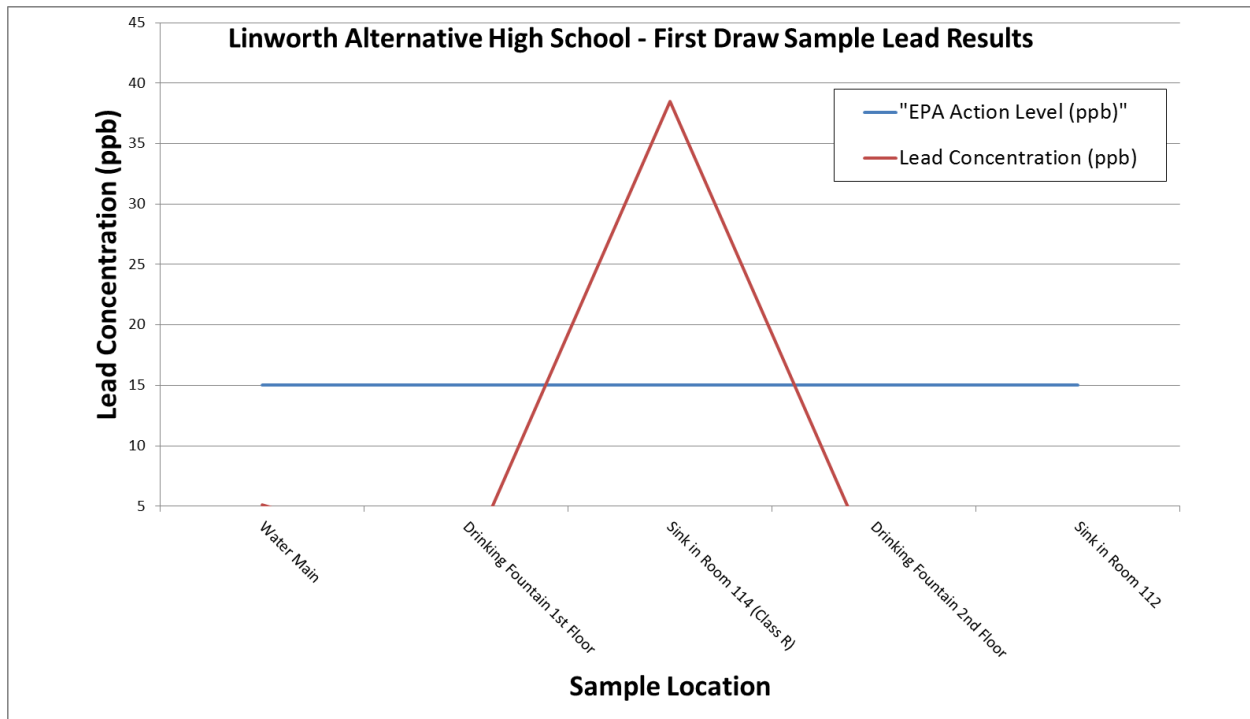
the action level for lead set by EPA's Lead and Copper Rule, under the National Primary Drinking Water Regulations (NPDWR).

For the purposes of this assessment, L&A has utilized an action level of 15 ppb lead for comparison with the laboratory analytical results.

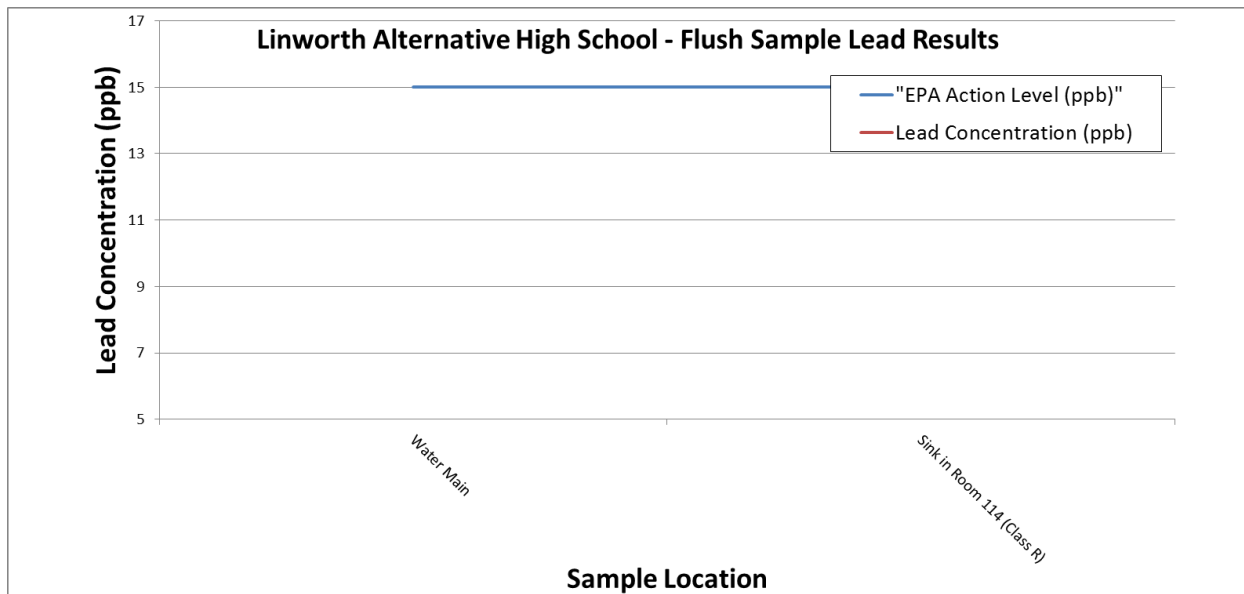
## FINDINGS

L&A collected 10 water samples at Linworth Alternative High School; of which, 5 first draw samples were submitted for laboratory analysis. A diagram of the sampling locations is presented in Appendix A. As illustrated in the following graph, lead was detected above the action limit in one sample.

- Classroom 114 Sink (38.5 µg/L)



L&A submitted the flush sample for the Classroom 114 Sink. As illustrated on the following graph, the lead concentrations in the flush sample collected were reported below the action level and the detection limit.



A comprehensive data table is included as Appendix B. A copy of the laboratory report is included in Appendix C.

## CONCLUSIONS

The results of L&A's sampling indicate that the following location had lead concentrations found in excess of the action level in the first draw sample but below the action level in the following flush sample, indicating that the source of lead is likely in the faucet itself or the plumbing connecting the faucet to the lateral, and very little lead is likely coming from the plumbing upstream of the faucet:

- Classroom 114 Sink

Based on the results, L&A recommends cleaning out the aerator screen, replacing any lead containing components, or replacing the entire faucet and plumbing connecting the faucet to the lateral, and retesting to confirm that the lead in water concentration no longer exceeds the action level.

## CLOSURE

L&A has prepared this report for your use in accordance with generally accepted inspection and testing practices. The information obtained in this report is site and time specific and pertains to this project only. This inspection evaluated the conditions that were readily accessible at the time of the investigation of the subject property and does not warrant against hidden conditions or future alteration of conditions at the site, as well as subsequent changes in regulations. This report should not be construed as a full Lead Risk Assessment.

This report was prepared for the exclusive use of the Worthington City School District. No other party may rely on this report unless expressly designated by the Client in writing. The use of the report is subject to the limitations and exceptions set forth in this report, as well as the terms and conditions contained in the original contract documents. L&A will not distribute or publish this report without the Client's consent, except as required by law or court order.

Thank you for the opportunity to assist you in this important matter. If you have any questions concerning this report, please contact Shawen Jenkins or Tim Price at (614) 481-8600.

Sincerely,

A handwritten signature in blue ink, appearing to read "Shawen Jenkins".

Shawen Jenkins, Lead Risk Assessor  
Environmental Scientist

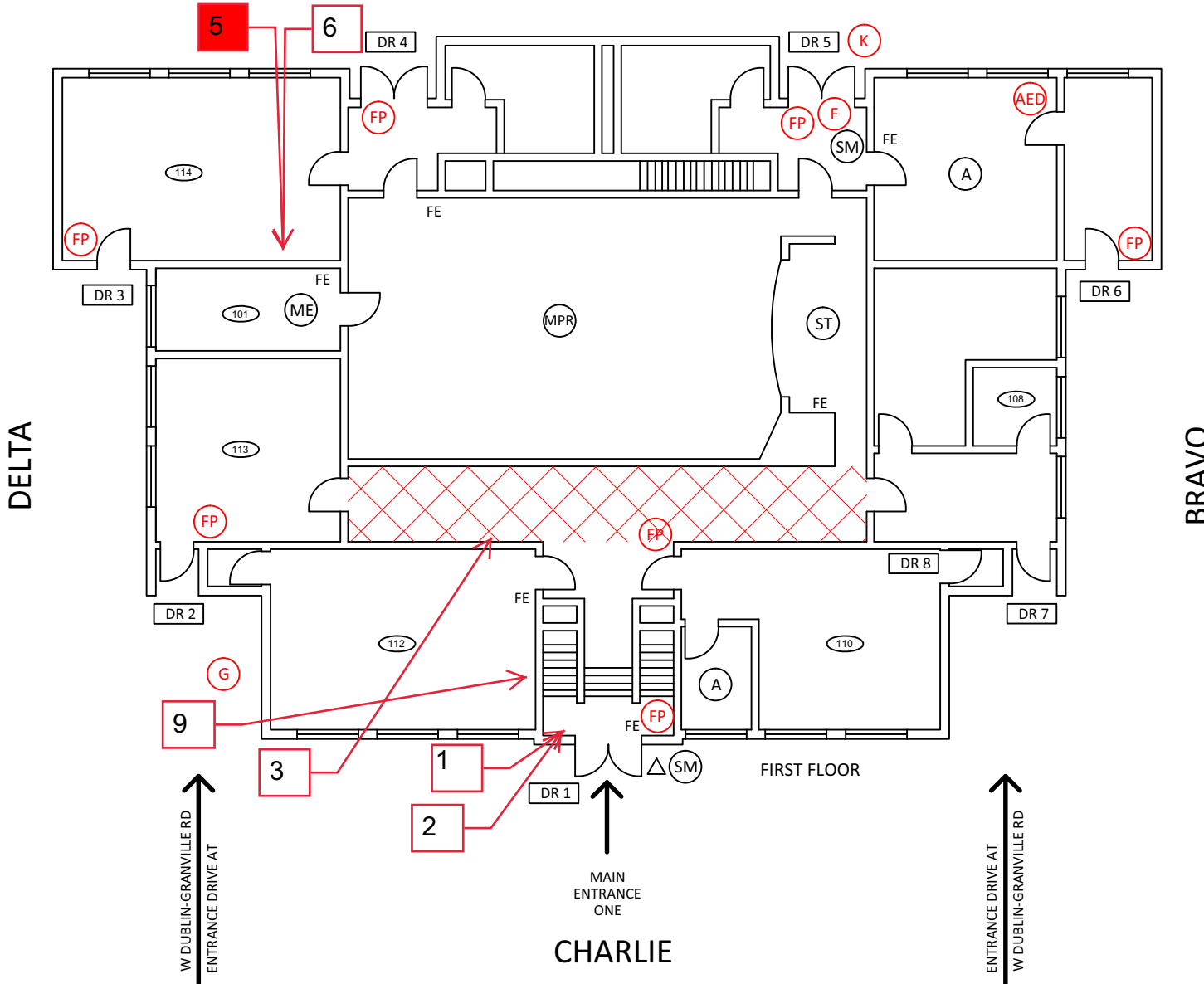
A handwritten signature in black ink, appearing to read "Tim Price".

Tim Price  
Senior Project Manager

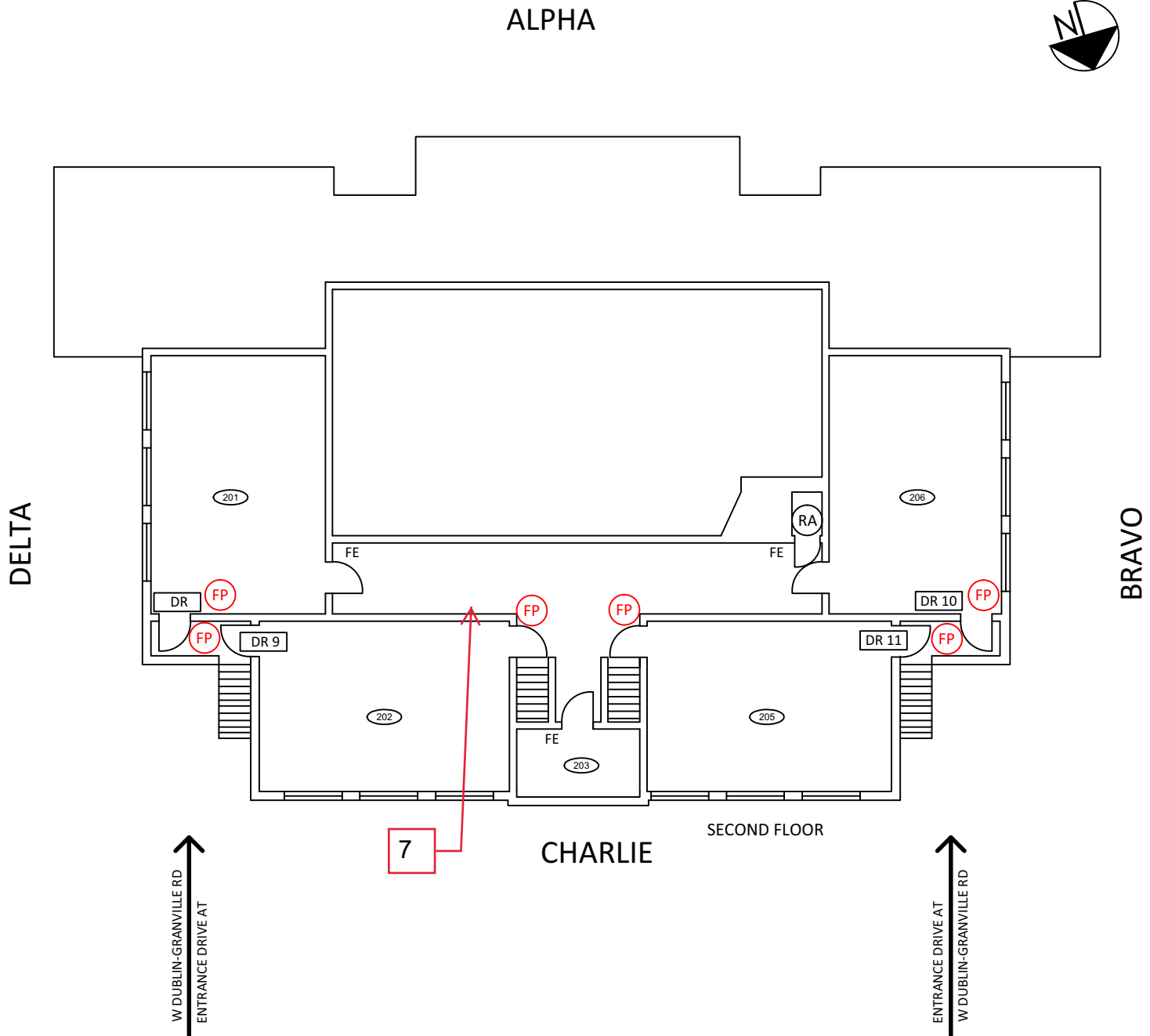
**APPENDIX A**  
**Sample Location Diagram**

# ALPHA

\*\*\* Electric, water, and sprinkler controls are located in the basement.



<b>CRITICAL</b>		TORNADO EVAC. SITE	
		FIRE PULL STATIONS	
		LOCATION OF EXISTING AED	
		ELECTRICAL SHUTOFF	
		FIRE ALARM PANEL	
		GAS SHUTOFF	
		KNOX BOX	
		SPRINKLER SHUTOFF	
		WATER SHUTOFF	
	<b>NON-CRITICAL</b>		ADMINISTRATIVE SUITE
		AREA OF REFUGE	
		CAMERA	
		CORRIDOR	
		ELEVATOR	
		EXTERIOR DOORS	
		FIRE EXTINGUISHER	
		LOCATION OF BLUEPRINTS	
		ROOF ACCESS POINT	
		ROOM NUMBER	
<b>COMMON AREAS</b>		SECURITY MONITORING AND ACCESS CONTROL	
		SERVICE ENTRANCE	
		MULTIPURPOSE ROOM	
		LIBRARY	
		DINING	
		GYMNASIUM	
		MEDIA	
		STAGE	
	WORTHINGTON SCHOOLS LINWORTH ALTERNATIVE HIGH SCHOOL (614) 450-4300 WORTHINGTON FACILITY SAFETY PLAN OHIO FACILITIES CONSTRUCTION COMMISSION		
	IRN:	042283	
BUILDING TELEPHONE NUMBER:	(614) 450-4300		
EMERGENCY TELEPHONE NUMBER:	(614) 560-4147		



<b>CRITICAL</b>		TORNADO EVAC. SITE
		FIRE PULL STATIONS
		LOCATION OF EXISTING AED
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	<b>NON-CRITICAL</b>	
		AREA OF REFUGE
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WORTHINGTON SCHOOLS <b>LINWORTH ALTERNATIVE HIGH SCHOOL</b> (614) 450-4300 WORTHINGTON <b>FACILITY SAFETY PLAN</b> OHIO FACILITIES CONSTRUCTION COMMISSION		
IRN:	042283	
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**APPENDIX B**  
**Comprehensive Data Table**



**Table 1: Potable Water Sampling Results**

Sample ID	Sampling Site	Sample Type	Meets Non-Use Period	Recalled Fixture	Analytical Results (ppb)
<b>LH-1</b>	<b>Water Main</b>	<b>First Draw</b>	<b>Yes</b>	<b>No</b>	<b>5.1</b>
LH-2	Water Main	Flush	Yes	No	<5
LH-3	Drinking Fountain 1st Floor	First Draw	Yes	No	<5
<b>LH-5</b>	<b>Classroom 114 Sink</b>	<b>First Draw</b>	<b>Yes</b>	<b>No</b>	<b>38.5</b>
LH-6	Classroom 114 Sink	Flush	Yes	No	<5
LH-7	Drinking Fountain 2nd Floor	First Draw	Yes	No	<5
LH-9	Sink in Room 112	First Draw	Yes	No	<5

1. Detection limit is 5.0 ppbl.  
 2. Bold indicates lead present above detection limits.  
 3. Highlighting indicates lead concentrations exceed the EPA Action Level.

**APPENDIX C**  
**Laboratory Analytical Reports**

## Certificate of Analysis - Fax Copy

## MASI ENVIRONMENTAL SERVICES

P. O. Box 1440  
 Dublin, Ohio 43017  
 (614) 873-4654

Page: 1  
 Date: 06/30/16

LAWHON & ASSOCIATES, INC.  
 CHUCK WILSON  
 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0415548-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.	Private
Sampler Name: SHAWEN JENKINS	County: FRANKLIN
Sample Date: 06/23/16	Chlorinated:
Sample Time: 09:30	Repeat No:
Sample Matrix: POTABLE	C12 Total:
Sample Monitoring Point: LH 1	C12 Free:
Sample Tap: MAIN	C12 Combined:
Sample Type:	
Sample Address: 2075 W DUBLIN GRANVILLE RD COLUMBUS OH 43085	
Sample ID:	

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD	48137	3113B	4792	06/29/16
5.1 ug/l				

Public Drinking Water Analysis Results, as Required by OEPA,  
 are Reported Following Final QA/QC

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 CHUCK WILSON  
 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0415549-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.  
 Sampler Name: SHAWEN JENKINS  
 Sample Date: 06/23/16  
 Sample Time: 09:34  
 Sample Matrix: POTABLE  
 Sample Monitoring Point: LH 3  
 Sample Tap: DF 1ST FLOOR  
 Sample Type:  
 Sample Address: 2075 W DUBLIN GRANVILLE RD  
 Sample ID:

Private  
 County: FRANKLIN  
 Chlorinated:  
 Repeat No:  
 C12 Total:  
 C12 Free:  
 C12 Combined:

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD <5.0 ug/l	48135	3113B	4792	06/29/16

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 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0415550-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.  
 Sampler Name: SHAWEN JENKINS  
 Sample Date: 06/23/16  
 Sample Time: 09:38  
 Sample Matrix: POTABLE  
 Sample Monitoring Point: LH 5  
 Sample Tap: RM 114 CLASS R SINK  
 Sample Type:  
 Sample Address: 2075 W DUBLIN GRANVILLE RD  
 Sample ID:

Private  
 County: FRANKLIN  
 Chlorinated:  
 Repeat No:  
 C12 Total:  
 C12 Free:  
 C12 Combined:

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD 38.5 ug/l	48133	3113B	3710	06/29/16

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 CHUCK WILSON  
 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0415551-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.  
 Sampler Name: SHAWEN JENKINS  
 Sample Date: 06/23/16  
 Sample Time: 09:42  
 Sample Matrix: POTABLE  
 Sample Monitoring Point: LH 7  
 Sample Tap: 2ND FLOOR DF  
 Sample Type:  
 Sample Address: 2075 W DUBLIN GRANVILLE RD  
 Sample ID:

Private  
 County: FRANKLIN  
 Chlorinated:  
 Repeat No:  
 C12 Total:  
 C12 Free:  
 C12 Combined:

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD <5.0 ug/l	48131	3113B	4792	06/29/16

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 Date: 06/30/16

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 CHUCK WILSON  
 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0415552-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.  
 Sampler Name: SHAWEN JENKINS  
 Sample Date: 06/23/16  
 Sample Time: 09:46  
 Sample Matrix: POTABLE  
 Sample Monitoring Point: LH 9  
 Sample Tap: RM 112 SINK WALL  
 Sample Type:  
 Sample Address: 2075 W DUBLIN GRANVILLE RD  
 Sample ID:

Private  
 County: FRANKLIN  
 Chlorinated:  
 Repeat No:  
 C12 Total:  
 C12 Free:  
 C12 Combined:

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD <5.0 ug/l	48129	3113B	4792	06/29/16

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 CHUCK WILSON  
 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0409396-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.  
 Sampler Name: SHAWEN JENKINS  
 Sample Date: 06/23/16  
 Sample Time: 09:31  
 Sample Matrix: POTABLE  
 Sample Monitoring Point: LH 2  
 Sample Tap: MAIN  
 Sample Type:  
 Sample Address: 2075 W DUBLIN GRANVILLE RD  
 Sample ID:

Private  
 County: FRANKLIN  
 Chlorinated:  
 Repeat No:  
 C12 Total:  
 C12 Free:  
 C12 Combined:

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD <5.0 ug/l	60794	3113B	3710	07/20/16

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Page: 1  
 Date: 07/21/16

LAWHON & ASSOCIATES, INC.  
 CHUCK WILSON  
 1441 KING AVENUE  
  
 COLUMBUS OH 43212

Client No: 0000005911  
 AR Sheet No: 0409397-AR  
 MASI Dublin Laboratory: 877  
 MASI Cincinnati Laboratory: 4100  
 PWS ID No:  
 STU ID No:  
 PO No:

Dear Client:

Along with your results listed below we would like to thank you for allowing MASI to assist you with your environmental testing requirements.

Account Name: LAWHON & ASSOCIATES, INC.  
 Sampler Name: SHAWEN JENKINS  
 Sample Date: 06/23/16  
 Sample Time: 09:39  
 Sample Matrix: POTABLE  
 Sample Monitoring Point: LH 6  
 Sample Tap: RM 114 CLASS SINK  
 Sample Type:  
 Sample Address: 2075 W DUBLIN GRANVILLE RD  
 Sample ID:

Private  
 County: FRANKLIN  
 Chlorinated:  
 Repeat No:  
 C12 Total:  
 C12 Free:  
 C12 Combined:

Test Requested	Lab Number	Method Number	Analyst Number	Date Analyzed
LEAD <5.0 ug/l	60793	3113B	3710	07/20/16

Public Drinking Water Analysis Results, as Required by OEPA,  
 are Reported Following Final QA/QC