Columbus

Cleveland

Dayton

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 Liberty Elementary School

8081 Saddle Run, Powell, OH 43065

Sample Date: June 16, 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 Liberty Elementary School on June 16, 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).

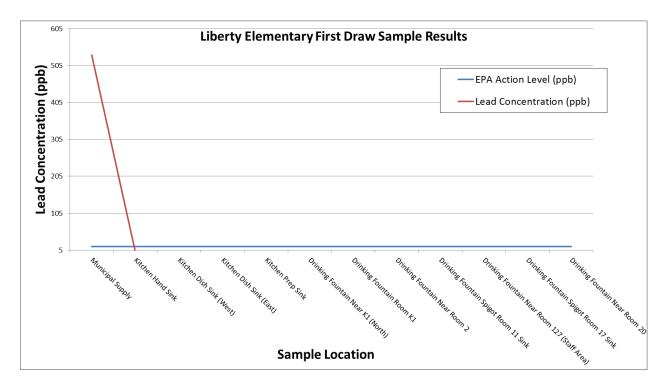
1441 King Avenue | Columbus, Ohio 43212 | P:614.481.8600 | F:614.481.8610 | www.lawhon-assoc.com

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

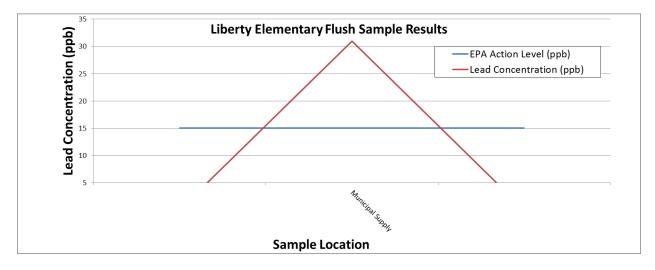
FINDINGS

L&A collected fourteen (14) first draw water samples at Liberty Elementary School. A diagram of the sampling locations is presented in Appendix A. As illustrated in Figure I, lead was detected above the action limit in one sample:

Municipal Supply Service Connection (533 µg/L)



L&A submitted the flush sample from this location. As illustrated on the following graph, the lead concentration in the flush sample also exceeded the action level, but was significantly lower than the first draw sample.



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

CONCLUSIONS

No primary drinking water outlets within the building were found to have lead concentrations in excess of the federal action level; however, lead in water concentrations exceeded the action level in both the first draw and flushed samples from the municipal water supply service connection. This indicates that the water service connection and/or service line between the building and the water main in the road is the likely source(s) of lead. Considering that the lead concentration in the flushed sample from this outlet was significantly lower than the first draw sample, and that lead concentrations at the other outlets throughout the building were not significantly elevated, further investigation may be warranted to attempt to pinpoint the source of lead.

In lieu of further investigation, L&A recommends that any lead containing components on the water service connection and service line between the building and the water main in the road be replaced with lead-free materials. The water service line is potentially the jurisdiction of the local water supplier. L&A recommends coordinating with the local water supplier when evaluating replacement of the service line. Following replacement of the lead containing components, L&A recommends thoroughly flushing the plumbing and water fixtures within the building and resampling the municipal water supply service connection to confirm that the lead concentrations no longer exceed 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,

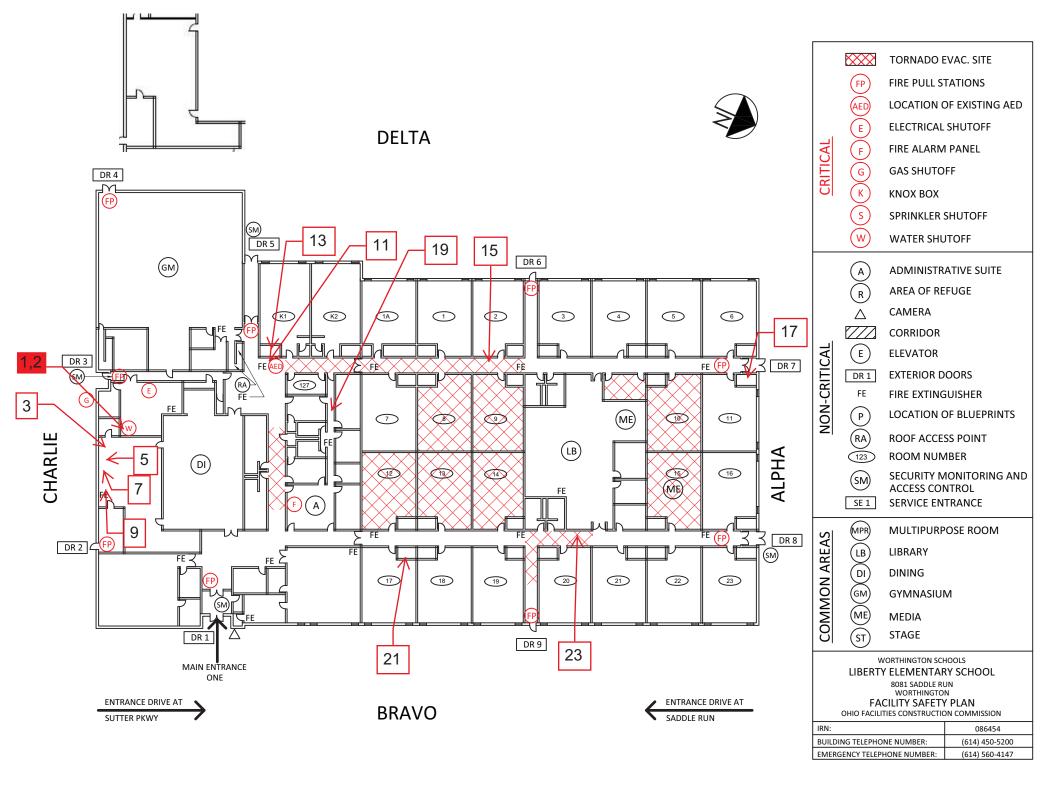
Shawen Jenkins, Lead Risk Assessor

Environmental Scientist

Tim Price Senior Project Manager

APPENDIX A

Sample Location Diagram



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)
LE-1	Municipal Supply	First Draw	Yes	No	533
LE-2	Municipal Supply	Flush	Yes	No	31.0
LE-3	Kitchen Hand Sink	First Draw	Yes	No	<5
LE-5	Kitchen Dish Sink (West)	First Draw	Yes	No	<5
LE-7	Kitchen Dish Sink (East)	First Draw	Yes	No	<5
LE-9	Kitchen Prep Sink	First Draw	Yes	No	<5
LE-11	Drinking Fountain Near K1 (North)	First Draw	Yes	No	<5
LE-13	Drinking Fountain Room K1	First Draw	Yes	No	<5
LE-15	Drinking Fountain Near Room 2	First Draw	Yes	No	<5
LE-17	Drinking Fountain Spigot Room 11 Sink	First Draw	Yes	No	<5
LE-19	Drinking Fountain Near Room 127 (Staff Area)	First Draw	Yes	No	<5
LE-21	Drinking Fountain Spigot Room 17 Sink	First Draw	Yes	No	<5
LE-23	Drinking Fountain Near Room 20	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

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415348-mm MASI Dublin Laboratory: 877

County: FRANKLIN

Chlorinated:

C12 Combined:

Repeat No:

C12 Total: C12 Free:

PWS ID No:

Private

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: 06/16/16 Sample Time: 07:00 Sample Matrix: POTABLE Sample Monitoring Point: Sample Tap: WATER MAIN

Sample Type:

Sample Address: 8081 SADDLE RN POWELL OHIO 43065 LE-1

Sample ID:

____ Lab Method Analyst Date Number Number Analyzed Test Requested

Test Result

LEAD 44507 3113B 4792 06/21/16

533 uq/1

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415350-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: 06/16/16 Chlorinated:
Sample Time: 07:04 Repeat No:
Sample Matrix: POTABLE C12 Total:
Sample Monitoring Point: C12 Free:
Sample Tap: KITCHEN HAND SINK C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-3

Sample ID:

Test Requested Lab Method Analyst Date
Test Result Number Number Number Analyzed

Test Result Number Number Number Analyze∎ -----

LEAD 44506 3113B 4792 06/20/16

<5.0 ug/1

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

> > 0000005911

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

STU ID No:

AR Sheet No: 0415352-mm MASI Dublin Laboratory: 877 PWS ID No:

PO No:

Private

County: FRANKLIN

Chlorinated:

C12 Combined:

Repeat No:

C12 Total: C12 Free:

Client 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: 06/16/16 Sample Time: 07:08 Sample Matrix: POTABLE Sample Monitoring Point:

Sample Tap: W KITCHEN DISH SINK

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-5

Sample ID:

____ Lab Method Analyst Date Number Number Number Analyzed Test Requested

Test Result

LEAD 44505 3113B 4792 06/20/16

<5.0 uq/l

MASI ENVIRONMENTAL SERVICES

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

> Page: Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415354-AR
MASI Dublin Laboratory: 877

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: 06/16/16 Chlorinated: Sample Time: 07:12 Repeat No: Sample Matrix: POTABLE C12 Total: C12 Free: Sample Monitoring Point: Sample Tap: É KITCHEN DISH SINK C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-7

Sample ID:

Lab Metho**d** Analyst Date Number Number Number Analyze**d** Test Requested

Test Result

LEAD 44504 3113B 4792 06/20/16 <5.0 u**g**/1

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415356-AR MASI Dublin Laboratory: 877

County: FRANKLIN

MASI Cincinnati Laboratory: 4100 PWS ID No:

> STU ID No: PO No:

> > Private

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: 06/16/16 Chlorinated:
Sample Time: 07:16 Repeat No:
Sample Matrix: POTABLE C12 Total:
Sample Monitoring Point: C12 Free:
Sample Tap: KITCHEN PREP SINK C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-9

Sample ID:

Test Requested Lab Method Analyst Date
Test Result Number Number Number Analyzed

LEAD 44501 3113B 4792 06/20/16 <5.0 uq/l

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

> > 0000005911

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

AR Sheet No: 0415358-mm MASI Dublin Laboratory: 877 PWS ID No:

Client No:

COLUMBUS OH 43212 STU ID No: Dear Client: PO No:

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: 06/16/16 Chlorinated: Sample Time: 07:20 Repeat No: Sample Matrix: POTABLE C12 Total: C12 Free: Sample Monitoring Point: Sample Tap: DF NEAR K1 NORTHERN C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-11

Sample ID:

____ Lab Method Analyst Date Number Number Analyzed Test Requested

Test Result

LEAD 44497 3113B 4792 06/20/16 <5.0 uq/l

MASI ENVIRONMENTAL SERVICES

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

> Page: Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415360-mm MASI Dublin Laboratory: 877

County: FRANKLIN

Chlorinated:

C12 Combined:

Repeat No:

C12 Total:

C12 Free:

PWS ID No:

Private

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: 06/16/16 Sample Time: 07:24 Sample Matrix: POTABLE Sample Monitoring Point: Sample Tap: K1 DF

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-12

Sample ID:

Lab Metho**d** Analyst Date Number Number Number Analyze**d** Test Requested Test Result

LEAD 44493 3113B 4792 06/20/16 <5.0 u¶/1

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415362-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: 06/16/16 Chlorinated:
Sample Time: 07:29 Repeat No:
Sample Matrix: POTABLE C12 Total:
Sample Monitoring Point: C12 Free:
Sample Tap: DF NEAR RM 2 C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-15

Sample ID:

Test Requested Lab Method Analyst Date
Test Result Number Number Number Analyzed

LEAD 44514 3113B 4792 06/20/16

<5.0 u¶/1

MASI ENVIRONMENTAL SERVICES

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

> Page: Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415364-Ak MASI Dublin Laboratory: 877

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: 06/16/16 Chlorinated: Sample Time: 07:32 Repeat No: Sample Matrix: POTABLE C12 Total: C12 Free: Sample Monitoring Point: Sample Tap: DF RM 11 C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-17

Sample ID:

Lab Metho**d** Analyst Date Number Number Number Analyze**d** Test Requested Test Result

LEAD 44511 3113B 4792 06/20/16 <5.0 u**g**/1

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415366-AR MASI Dublin Laboratory: 877

County: FRANKLIN

Chlorinated:

C12 Combined:

Repeat No:

C12 Total: C12 Free:

PWS ID No:

Private

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: 06/16/16
Sample Time: 07:36
Sample Matrix: POTABLE
Sample Monitoring Point:

Sample Tap: STAFF DF NEAR RM 127

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-19

Sample ID:

Test Requested Lab Method Analyst Date
Test Result Number Number Number Analyzed

LEAD 44510 3113B 4792 06/21/16

<5.0 u¶/1

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 0415368-mm MASI Dublin Laboratory: 877

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: 06/16/16 Chlorinated: Sample Time: 07:40 Repeat No: Sample Matrix: POTABLE C12 Total: C12 Free: Sample Monitoring Point: Sample Tap: DF RM 17 C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-21

Sample ID:

____ Lab Method Analyst Date Number Number Analyzed Test Requested

Test Result

LEAD 44509 3113B 4792 06/21/16

<5.0 uq/l

MASI ENVIRONMENTAL SERVICES

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

> Page: 1 Date: 06/23/16

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

COLUMBUS OH 43212

Client No: 0000005911 AR Sheet No: 04153/v-mm MASI Dublin Laboratory: 877

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: 06/16/16 Chlorinated: Sample Time: 07:14 Repeat No: Sample Matrix: POTABLE C12 Total: C12 Free: Sample Monitoring Point: Sample Tap: DF NEAR RM 20 C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RUN POWELL OH 43065 LE-23

Sample ID:

____ Lab Method Analyst Date Number Number Number Analyzed Test Requested Test Result

LEAD 44508 3113B 4792 06/21/16

<5.0 uq/l

MASI ENVIRONMENTAL SERVICES

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

> Page: Date: 07/22/16

> > 0000005911

LAWHON & ASSOCIATES, INC. CHUCK WILSON

1441 KING AVENUE

AR Sheet No: 0415349-mm MASI Dublin Laboratory: 877

PWS ID No:

COLUMBUS OH 43212

STU ID No: PO No:

Client 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: NO COUNTY

Sample Date: 06/16/16 Chlorinated: Sample Time: 07:06 Repeat No: Sample Matrix: POTABLE C12 Total: Sample Monitoring Point: LE 2 C12 Free: Sample Tap: WATER MAIN C12 Combined:

Sample Type:

Sample Address: 8081 SADDLE RN POWELL OH 43065

Sample ID:

31.0 uq/l

____ Lab Method Analyst Date Number Number Number Analyzed Test Requested

Test Result

LEAD 60786 3113B 3710 07/21/16