

May 17, 2016

Timbuktu Academy
Zen Braswell
10800 E. Canfield Street
Detroit, MI 48214

RE: Water Collection and Testing for Lead and Copper in Potable Drinking Water in the Timbuktu Academy of Science and Technology Building, 10800 E. Canfield Street, Detroit, MI 48214. ETC Job #: 179906

Dear Zen Braswell,

Environmental Testing and Consulting (ETC) has been providing water quality testing for its clients for many years. The testing protocol developed by ETC is aimed at identifying lead and copper water quality problems at individual sources of consumption while being cost effective.

ETC has completed the water collection and testing for lead and copper in potable drinking water in the Timbuktu Academy of Science and Technology building located at 10800 E. Canfield Street, Detroit, MI 48214. As per our contract, the purpose of this testing was to determine whether potable water samples obtained from taps *selected by district personnel* have lead and/or copper results that exceed the U.S. EPA Lead and Copper Rule Action Level for lead of 0.015 milligrams per liter (mg/L) / 15 parts per billion (ppb) and/or the Action Level for copper of 1.3 mg/L / 1,300 ppb. Exceeding an action level is not a violation, but triggers other requirements to minimize exposure to lead and copper in drinking water.

POTABLE WATER SAMPLES

Children may be at risk from elevated levels of lead and copper in drinking water due to the pipes, plumbing fixtures, and plumbing materials/components found in their school and child care facilities. Because children spend a significant amount of time in these settings, it is important to determine whether their drinking water sources contain elevated lead levels that can impact their health. Elevated levels of lead can cause damage to the brain, red blood cells, and kidneys especially for young children, and copper can cause stomach and intestinal distress and liver or kidney damage.

Best management practices for schools served by municipal water systems recommend that the water quality is verified by testing and then corrective actions are implemented when necessary to ensure that the school is providing safe drinking water to students and staff. No uniform sampling guidance for lead and copper has been developed by the U.S. EPA and MDEQ for schools and child care facilities that receive their water from municipal water sources. ***It must be noted that potable water testing for schools and daycares using water provided by public water systems is voluntary.***

The U.S. EPA Lead and Copper Rule provides guidance for schools and child care facilities that have their own water supply instead of a connection to a municipal water source. It provides sampling guidance for monitoring lead and copper in water from taps and lists the number of tap sample sites that should be obtained based upon the school's daily population (e.g. 501-3,300 = 20 sample sites). The sampling requirements indicate that the drinking water samples must be collected after the water has had time to sit in the pipes for at least 6 hours, and "First Draw" samples must be collected.

The Michigan Department of Environmental Quality (MDEQ) published the *Lead Sampling for School and Daycares and Other Buildings on Community Water Supplies* on February 11, 2016 for public building administrators to use in determining if a lead and/or copper risk is present in the drinking water at their facility. This guide describes a comprehensive water sampling approach; however, if a school is unable to undertake a comprehensive sampling of all drinking water fixtures, the MDEQ document states that fixtures should be prioritized for testing, e.g. drinking fountains, nurse's sink, early childhood classrooms, and sinks used for food preparation. Using this document's sampling guidance for "First Draw" and "Flush" Small Volume samples and Large Volume samples, and the MDEQ estimate of 45 potable drinking water fixtures per building, would result in 210 samples per building.

ETC Collection Protocol

The testing protocol developed and implemented by ETC is aimed at identifying lead and copper water quality problems within a school while being cost effective. It is more comprehensive than the EPA Lead and Copper rule while being less intrusive and expensive than the MDEQ protocol.

Timbuktu Academy personnel selected potable water taps for testing the drinking water in Timbuktu Academy of Science and Technology building. ETC collected "First Draw" and "Flush" drinking water samples from these taps on May 7, 2016. A "First Draw" sample is the water that is the first to come out of a tap after a period of inactivity. A "Flush Sample" is a sample that is taken after a 30 second flush from the water fixture, which should determine whether the plumbing fixture is responsible for the contamination. Samples were analyzed for lead and copper inorganic parameters to determine whether results exceeded the U.S. EPA Lead and Copper Rule Action Levels.

As per your request, ETC Environmental Services (ETC) collected potable water samples from taps that had been selected and identified by Timbuktu Academy personnel in order to determine lead and copper content. These samples were collected from Timbuktu Academy of Science and Technology Building in Detroit, MI 48214 on May 7, 2016.

The collection protocol was designed to provide an accurate measurement of the lead and copper in the drinking water from the taps that were selected by Timbuktu Academy personnel for testing. The sampling methods were adapted from U.S. EPA and MDEQ guidelines to provide cost effective and representative procedures.

- Water was collected after it was idle in the pipes for at least 6 hours before sampling.
- The sample bottle was labeled to identify its collection point and type of sample.

- The sample bottle was opened below the faucet, and the cold water tap was opened. Water filled the sample bottle to the neck with the "First Draw" of cold water, the tap was turned off, and the bottle was capped.
- The cold water tap was turned on, and the water was run for 30 seconds to "Flush" the water from the water fixture. A sample bottle was placed below the faucet. Water filled the sample bottle to the neck with the "Flush" sample of cold water, the tap was turned off, and the bottle was capped.
- "First Draw" and "Flush" samples were obtained from all taps that had been selected by district personnel.
- All drinking water samples were delivered to a laboratory certified by the MDEQ for analysis of inorganic parameters in drinking water.

Summary of Results

During the course of the survey, ETC collected eighteen (18) drinking water samples from Timbuktu Academy of Science and Technology building. The results of this sampling are compiled on the enclosed table and are summarized by color code. All results below the suggested EPA drinking water level are found in "black" and lead or copper results that exceeded the suggested level are found in "red".

In the case of Timbuktu Academy of Science and Technology building, all sampling showed results below the corresponding EPA suggested drinking water levels. Therefore, there does not appear to be any reason for concern at the sampling sites within Timbuktu Academy of Science and Technology building.

Thank you for selecting ETC. It has been a pleasure working with you. Further environmental services are available upon request. If you have any questions regarding this report, please feel free to contact me at (734) 955-6600.

Sincerely,

Environmental Testing & Consulting, Inc.



Jeremy Westcott

Vice President

JFW/pg

Enclosures

Appendix A

Lead and Copper Water Sampling Results

Water Sampling Results
Timbuktu Academy of Science and Technology

Date Taken	Sample ID	Sample Location	Results Lead (ppb)	EPA Lead Limit (ppb)	Results copper (ppb)	EPA copper Limit (ppb)
5/7/2016	TA-01-FD	Maintenance Closet	4.1	15	77	1300
5/7/2016	TA-01-FL	Maintenance Closet	2.2	15	140	1300
5/7/2016	TA-02-FD	Across from Room 105, short fountain	1.6	15	37	1300
5/7/2016	TA-02-FL	Across from Room 105, short fountain	0.49	15	24	1300
5/7/2016	TA-03-FD	Across from Gym, tall fountain	1.1	15	21	1300
5/7/2016	TA-03-FL	Across from Gym, tall fountain	0.38	15	12	1300
5/7/2016	TA-04-FD	Across from Gym, short fountain	0.7	15	11	1300
5/7/2016	TA-04-FL	Across from Gym, short fountain	ND	15	9.3	1300
5/7/2016	TA-05-FD	Across from 118, tall fountain	0.95	15	28	1300
5/7/2016	TA-05-FL	Across from 118, tall fountain	0.63	15	29	1300
5/7/2016	TA-06-FD	Across from 118, short fountain	1.1	15	52	1300
5/7/2016	TA-06-FL	Across from 118, short fountain	ND	15	31	1300
5/7/2016	TA-07-FD	Right of Room 200, upstairs fountain	1.4	15	60	1300
5/7/2016	TA-07-FL	Right of Room 200, upstairs fountain	0.78	15	30	1300
5/7/2016	TA-08-FD	Kitchen sink, sink on the right	0.46	15	200	1300
5/7/2016	TA-08-FL	Kitchen sink, sink on the right	0.44	15	180	1300
5/7/2016	TA-09-FD	Kitchen sink, sink on the left	1.8	15	180	1300
5/7/2016	TA-09-FL	Kitchen sink, sink on the left	0.7	15	130	1300



RTI Laboratories
31628 Glendale St.
Livonia, MI 48150
TEL: (734) 422-8000
Website: www.rtilab.com

Tuesday, May 17, 2016

Carol Wolff
Environmental Testing & Consulting, Inc.
38900 Huron River Dr
Romulus, MI 48174
TEL:
FAX:

RE: Timbuktu Academy - 179906

Work Order #: 1605287

Dear Carol Wolff:

Except as noted in the Case Narrative, all Primary drinking water standards that were tested, were acceptable. Please review the enclosed Primary and Secondary drinking water standards summary that follows this page.

Associated quality control data was within laboratory defined or method specified acceptance limits except as noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink that reads "Katherine Griffin". The signature is written in a cursive style.

Katherine Griffin
Project Manager

Client: Environmental Testing & Consulting, Inc.

Project: Timbuktu Academy - 179906

This report in its entirety consists of the documents listed below. All documents contain the RTI Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.
2. A Cover Letter that immediately precedes the Paginated Report.
3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Commonly referenced Current Primary and Secondary Drinking Water MCL or MCLGs are indicated in this narrative. Arsenic information may be found at <http://www.epa.gov/safewater/arsenic/index.html>

Primary Contaminant	MCL/MCLG, mg/L
Antimony	0.006
Arsenic	0.010
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium	0.1
Copper	1.3 as corrosion product
Cyanide (as free Cyanide)	0.2
Fluoride	4.0
Lead	0.015 as corrosion product
Mercury	0.002
Nitrate	10 (as Nitrogen)
Nitrite	1 (as Nitrogen)
Nitrate and Nitrite, total	10 (as Nitrogen)
Selenium	0.05
Thallium	0.002
Total Trihalomethanes	0.10
Turbidity	5 NTU

Secondary Contaminant	MCL, mg/L
Aluminum	0.05 to 0.2
Chloride	250
Color	15 APCU
Copper	1.0
Corrosivity	Non-corrosive.
Fluoride	2.0
Foaming agents	0.5
Iron	0.3
Manganese	0.05
Odor	3 TON
pH	6.5-8.5 SU
Silver	0.1
Sulfate	250
Total dissolved solids (TDS)	500
Zinc	5

RTI Laboratories, Inc. MDEQ laboratory number - 9962

Any comments or problems with the analytical events associated with this report are noted below.

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:10:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-001	Matrix:	Drinking Water
Client Sample ID:	TA-01-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.077	0.0050		mg/L	5	5/13/2016 11:37 AM
Lead	0.0041	0.0010		mg/L	5	5/13/2016 11:37 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:11:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-002	Matrix:	Drinking Water
Client Sample ID:	TA-01-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.14	0.0050		mg/L	5	5/13/2016 11:38 AM
Lead	0.0022	0.0010		mg/L	5	5/13/2016 11:38 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:25:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-003	Matrix:	Drinking Water
Client Sample ID:	TA-02-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.037	0.0050		mg/L	5	5/13/2016 11:39 AM
Lead	0.0016	0.0010		mg/L	5	5/13/2016 11:39 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:25:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-004	Matrix:	Drinking Water
Client Sample ID:	TA-02-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.024	0.0050		mg/L	5	5/13/2016 11:40 AM
Lead	0.00049	0.0010	J	mg/L	5	5/13/2016 11:40 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:26:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-005	Matrix:	Drinking Water
Client Sample ID:	TA-03-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
		Method: EPA200.8				Analyst: BK
Copper	0.021	0.0050		mg/L	5	5/13/2016 11:40 AM
Lead	0.0011	0.0010		mg/L	5	5/13/2016 11:40 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:27:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-006	Matrix:	Drinking Water
Client Sample ID:	TA-03-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.012	0.0050		mg/L	5	5/13/2016 11:41 AM
Lead	0.00038	0.0010	J	mg/L	5	5/13/2016 11:41 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:28:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-007	Matrix:	Drinking Water
Client Sample ID:	TA-04-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.011	0.0050		mg/L	5	5/13/2016 11:42 AM
Lead	0.00070	0.0010	J	mg/L	5	5/13/2016 11:42 AM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:28:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-008	Matrix:	Drinking Water
Client Sample ID:	TA-04-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
		Method: EPA200.8				Analyst: BK
Copper	0.0093	0.0050		mg/L	5	5/13/2016 12:59 PM
Lead	ND	0.0010		mg/L	5	5/13/2016 12:59 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:30:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-009	Matrix:	Drinking Water
Client Sample ID:	TA-05-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.028	0.0050		mg/L	5	5/13/2016 1:10 PM
Lead	0.00095	0.0010	J	mg/L	5	5/13/2016 1:10 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:30:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-010	Matrix:	Drinking Water
Client Sample ID:	TA-05-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.029	0.0050		mg/L	5	5/13/2016 1:11 PM
Lead	0.00063	0.0010	J	mg/L	5	5/13/2016 1:11 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:31:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-011	Matrix:	Drinking Water
Client Sample ID:	TA-06-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
		Method: EPA200.8				Analyst: BK
Copper	0.052	0.0050		mg/L	5	5/13/2016 1:12 PM
Lead	0.0011	0.0010		mg/L	5	5/13/2016 1:12 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:32:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-012	Matrix:	Drinking Water
Client Sample ID:	TA-06-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
		Method: EPA200.8				Analyst: BK
Copper	0.031	0.0050		mg/L	5	5/13/2016 1:12 PM
Lead	ND	0.0010		mg/L	5	5/13/2016 1:12 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:35:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-013	Matrix:	Drinking Water
Client Sample ID:	TA-07-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.060	0.0050		mg/L	5	5/13/2016 1:13 PM
Lead	0.0014	0.0010		mg/L	5	5/13/2016 1:13 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:36:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-014	Matrix:	Drinking Water
Client Sample ID:	TA-07-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.030	0.0050		mg/L	5	5/13/2016 1:14 PM
Lead	0.00078	0.0010	J	mg/L	5	5/13/2016 1:14 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:38:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-015	Matrix:	Drinking Water
Client Sample ID:	TA-08-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.20	0.0050		mg/L	5	5/13/2016 1:15 PM
Lead	0.00046	0.0010	J	mg/L	5	5/13/2016 1:15 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:38:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-016	Matrix:	Drinking Water
Client Sample ID:	TA-08-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.18	0.0050		mg/L	5	5/13/2016 1:16 PM
Lead	0.00044	0.0010	J	mg/L	5	5/13/2016 1:16 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:39:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-017	Matrix:	Drinking Water
Client Sample ID:	TA-09-FD		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
		Method: EPA200.8				Analyst: BK
Copper	0.18	0.0050		mg/L	5	5/13/2016 1:16 PM
Lead	0.0018	0.0010		mg/L	5	5/13/2016 1:16 PM

RTI Laboratories - Analytical Report

WO#: 1605287

Date Reported: 5/17/2016
Original

Client:	Environmental Testing & Consulting, Inc.	Collection Date:	5/7/2016 10:40:00 AM
Project:	Timbuktu Academy - 179906		
Lab ID:	1605287-018	Matrix:	Drinking Water
Client Sample ID:	TA-09-FL		

Analysis	Result	PQL	Qual	Units	DF	Date Analyzed
Metals ICP/MS						
						Method: EPA200.8
						Analyst: BK
Copper	0.13	0.0050		mg/L	5	5/13/2016 1:25 PM
Lead	0.00070	0.0010	J	mg/L	5	5/13/2016 1:25 PM

RTI Laboratories - QC SUMMARY REPORT

WO#: 1605287

Date Reported: 5/17/2016
Original

Client: Environmental Testing & Consulting, Inc.

Project: Timbuktu Academy - 179906

Test Code: EPA_200.8

Sample ID:	MB-39906	Samp Type:	MBLK	Test Code:	EPA_200.8	Units:	mg/L	Prep Date:	5/12/2016	RunNo:	85911
Client ID:	PBW	Batch ID:	39906	TestNo:	E200.8			Analysis Date:	5/13/2016	SeqNo:	1667190
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual
Copper	0.00058	0.0050									J
Lead	ND	0.0010									

Sample ID:	LCS-39906	Samp Type:	LCS	Test Code:	EPA_200.8	Units:	mg/L	Prep Date:	5/12/2016	RunNo:	85911
Client ID:	LCSW	Batch ID:	39906	TestNo:	E200.8			Analysis Date:	5/13/2016	SeqNo:	1667191
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual
Copper	0.20	0.0050	0.20	0	98.4	85	115				
Lead	0.19	0.0010	0.20	0	96.9	85	115				

Sample ID:	1605286-001AMS	Samp Type:	MS	Test Code:	EPA_200.8	Units:	mg/L	Prep Date:	5/12/2016	RunNo:	85911
Client ID:	ZZZZZ	Batch ID:	39906	TestNo:	E200.8			Analysis Date:	5/13/2016	SeqNo:	1667193
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual
Copper	0.31	0.0050	0.20	0.10	106	80	120				
Lead	0.20	0.0010	0.20	0.0010	102	80	120				

Sample ID:	1605286-001AMSD	Samp Type:	MSD	Test Code:	EPA_200.8	Units:	mg/L	Prep Date:	5/12/2016	RunNo:	85911
Client ID:	ZZZZZ	Batch ID:	39906	TestNo:	E200.8			Analysis Date:	5/13/2016	SeqNo:	1667194
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual
Copper	0.29	0.0050	0.20	0.10	95.1	80	120	0.31	7.39	20	
Lead	0.20	0.0010	0.20	0.0010	98.9	80	120	0.20	2.79	20	

Sample ID:	1605287-007A MS	Samp Type:	MS	Test Code:	EPA_200.8	Units:	mg/L	Prep Date:	5/12/2016	RunNo:	85911
Client ID:	TA-04-FDMS1	Batch ID:	39906	TestNo:	E200.8			Analysis Date:	5/13/2016	SeqNo:	1667222
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual
Copper	0.20	0.0050	0.20	0.011	96.2	80	120				
Lead	0.19	0.0010	0.20	0.00070	96.0	80	120				

RTI Laboratories - QC SUMMARY REPORT

WO#: 1605287

Date Reported: 5/17/2016
Original

Client: Environmental Testing & Consulting, Inc.

Project: Timbuktu Academy - 179906

Test Code: EPA_200.8

Sample ID: MB-39907	Samp Type: MBLK	Test Code: EPA_200.8	Units: mg/L	Prep Date: 5/12/2016	RunNo: 85911						
Client ID: PBW	Batch ID: 39907	TestNo: E200.8	Analysis Date: 5/13/2016	SeqNo: 1667429							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual

Copper	ND	0.0050									
Lead	ND	0.0010									

Sample ID: LCS-39907	Samp Type: LCS	Test Code: EPA_200.8	Units: mg/L	Prep Date: 5/12/2016	RunNo: 85911						
Client ID: LCSW	Batch ID: 39907	TestNo: E200.8	Analysis Date: 5/13/2016	SeqNo: 1667438							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual

Copper	0.22	0.0050	0.20	0	111	85	115				
Lead	0.20	0.0010	0.20	0	100	85	115				

Sample ID: 1605287-008AMS	Samp Type: MS	Test Code: EPA_200.8	Units: mg/L	Prep Date: 5/12/2016	RunNo: 85911						
Client ID: TA-04-FLMS1	Batch ID: 39907	TestNo: E200.8	Analysis Date: 5/13/2016	SeqNo: 1667447							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual

Copper	0.22	0.0050	0.20	0.0093	108	80	120				
Lead	0.20	0.0010	0.20	0	98.5	80	120				

Sample ID: 1605287-008AMSD	Samp Type: MSD	Test Code: EPA_200.8	Units: mg/L	Prep Date: 5/12/2016	RunNo: 85911						
Client ID: TA-04-FLSD1	Batch ID: 39907	TestNo: E200.8	Analysis Date: 5/13/2016	SeqNo: 1667448							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual

Copper	0.22	0.0050	0.20	0.0093	107	80	120	0.22	0.983	20	
Lead	0.19	0.0010	0.20	0	96.8	80	120	0.20	1.74	20	

Sample ID: 1605319-002D MS	Samp Type: MS	Test Code: EPA_200.8	Units: mg/L	Prep Date: 5/12/2016	RunNo: 85911						
Client ID: ZZZZZ	Batch ID: 39907	TestNo: E200.8	Analysis Date: 5/13/2016	SeqNo: 1667527							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Value	%RPD	RPDLimit	Qual

Copper	0.21	0.0050	0.20	0.010	98.9	80	120				
Lead	0.19	0.0010	0.20	0.00052	95.9	80	120				

DEFINITIONS:

DF: Dilution factor; the dilution factor applied to the prepared sample.

DUP: Duplicate; aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently, used to calculate Precision (%RPD).

LCS: Laboratory Control Sample; prepared by adding a known amount of target analytes to a specified amount of clean matrix and prepared with the batch of samples, used to calculate Accuracy (%REC).

LCSD: A duplicate LCS sample, used to calculate both Accuracy (%REC) and Precision (%RPD)

MBLK: Method Blank; a sample of similar matrix that does not contain target analytes or interference that may impact the analytical results and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedure, used to assess and verify that the analytical process is free of contamination.

MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.

Mg/Kg or mg/L: Units of part per million (PPM) – milligram per Kilogram (W/W) or milligram per Liter (W/V).

MS: Matrix Spike; prepared by adding a known amount of target analytes to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available, used to calculate Accuracy (%REC)

MSD: A duplicate MS sample, used to calculate both Accuracy (%REC) and Precision (%RPD)

% REC: Percent Recovery of a known spike (SPK); a measure of accuracy expressed as a percentage of a measured (recovered) concentration compared to the known concentration (SPK) added to the sample. This is compared to the Low Limit and High Limit.

% RPD: Relative Percent Difference; a measure of precision expressed as a percentage of the difference between two duplicates relative to the average concentration. This is compared to the RPD Limit.

PL: Permit limit;; Not included on all reports. Used primarily for wastewater discharge permits.

PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.

Qual: Qualifier that applies to the analyte reported

RL: Reporting Limit: See PQL

SPK: Spike; used in the QC section for both SPK Value and SPK Ref Val

Ug/Kg or ug/L: Units of part per billion (PPB) – microgram per Kilogram (W/W) or microgram per Liter (W/V).

QUALIFIERS:

*X: Reported value exceeds the maximum allowed concentration by regulation or permit

B: Analyte detected in the associated Method Blank at a concentration > RL.

E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.

H: Holding time for preparation or analysis has been exceeded

J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the established MDL. Greater uncertainty is associated with this result and data reported is estimated. These analytes are not routinely reviewed nor narrated as to their potential for being laboratory artifacts.

M: Manual Integration used to determine area response

ND: Analyte concentration is less than the Reporting Limit.

P: Second column RPD exceeds 40%

R: % RPD exceeds control limits

S: % REC exceeds control limits

T: MBLK result is greater than 1/2 of the LOQ

U: The analyte concentration is less than the DL.



CHAIN OF CUSTODY

RTI LABORATORIES

Environmental Sciences Division

31628 Glendale Street
Livonia MI, 48150

Materials Testing Division

33080 Industrial Road
Livonia, MI 48150

PAGE: 1	OF: 1
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PHONE: (734) 422-8000
FAX: (734) 422-5342
www.rtilab.com

RTI WORK ORDER NO: **1605287**

Please Include Email Address of Report Recipient !!!

SUBMITTING COMPANY: ETC			REPORT TO (Name): Jeremy Westcott			BILL TO: ETC								
PROJECT NAME: Timbuktu Academy		PROJECT #: 179906	QUOTE #:	COMPANY: Environmental Testing & Consulting			COMPANY: ETC							
SAMPLING LOCATION (STATE or COUNTRY): Michigan				ADDRESS: 38900 W. Huron River Drive →			ADDRESS:							
SPECIAL INSTRUCTIONS / COMMENTS:				CITY, STATE, ZIP: Romulus, MI, 48174 →			CITY, STATE, ZIP:							
SAMPLER'S PRINTED NAME: Forrest Westcott			SAMPLER'S SIGNATURE: <i>Forrest Westcott</i>			TESTS REQUESTED			P.O NUMBER:					
ITEM NUMBER	SAMPLE I.D.	DATE SAMPLED	TIME SAMPLED (24-hour format)	MATRIX CODE (see codes below)	NBR OF BOTTLES	NBR OF CONTAINERS AND PRESERVATIVES							pH Acceptable? Y N n/a (Lab only)	COMMENTS Methanol Preserved Weights HOT Sample Notation Additional Sample Description, Air Volume, etc.
						NONE	HCL	HNO ₃	H ₂ SO ₄	NaOH	Methanol	OTHER		
1	<i>See Attached</i>			<i>DW</i>										<i>Added HNO₃ (#2812) to all samples 5-10-16 17:30 #</i>
2														
3														
4														
5														
6														
7														
8														
9														
10														
Relinquished By: <i>[Signature]</i>		Date: 5-10-16	Time: 13:10	Received By: <i>[Signature]</i>		Date: 5-10-16	Time: 13:10	REPORT TRANSMITTAL DESIRED:						
Relinquished By:		Date:	Time:	Received By:		Date:	Time:	<input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE ALL REPORTING IS VIA THE RTI "FLASHPOINT" ONLINE SYSTEM UNLESS OTHERWISE SPECIFIED						
Relinquished By:		Date:	Time:	Received By:		Date:	Time:	Temp of samples 20-21 °C On Wet Ice? N Comments: _____						
TURNAROUND DESIRED: Standard <input checked="" type="checkbox"/>				RUSH: Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>				Note: RUSH requests will incur surcharges!						
Distribution: White - Lab; Pink - Field												See reverse side for Laboratory Terms and Conditions of Service		
MATRIX CODES: A = AIR DW = DRINKING WATER GW = GROUNDWATER L = LIQUID O = OIL WW = WASTE WATER S = SOIL SD = SOLID SL = SLUDGE SV = SOLVENT WASTE W = WATER WP = WIPE SW = SURFACE WATER														

Client Name: *Timbuktu Academy*
 Building Name:
 Building Address:

1605287

Job #:
 Sample Date:
 Sampler(s):

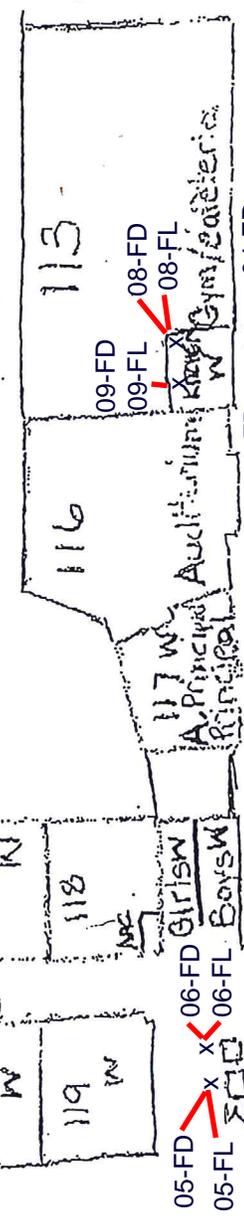
Sample #	Sample Location	Drinking Fountain Brand/ Model#	Device						Aerator/Screen	Other					Notes	Sample type			Sample size			Sampling time							
			Drinking Fountain	Sink	Refrigerator	Bath tub	Ice maker	Other:		Underneath inaccessible	Leaking/Dripping	Wear/discoloration	Cold runs hot	Not working		1st draw	Flush	Consecutive	125 mL	250 mL	1 liter								
TA-06-FD	ACROSS FROM 118		✓													Short Fountain		✓										10:32	
TA-07-FD	Right of RM 200		✓													upstairs Fountain	✓											10:35	
TA-07-FL	↓		✓															✓										10:36	
TA-08-FD	Kitchen Sink			✓												Sink on the right	✓											10:38	
TA-08-FL	↓			✓												↓		✓										10:38	
TA-09-FD	Kitchen Sink			✓												Sink on the Left	✓											10:39	
TA-09-FL				✓												↓		✓										10:40	

Appendix B

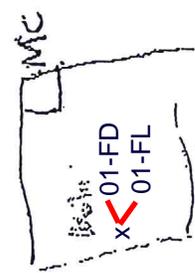
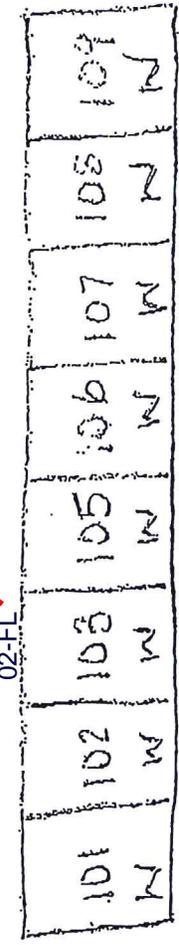
Maps



07-FD
07-FL
MC



05-FD
05-FL
MC



MC MAINTENANCE CLOSET

WATER FOUNTAIN

SINKS IN ROOMS