Columbiana Water Board
Lead and Copper Sampling Plan

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Columbiana Water Board Material List

The Columbiana Water Board System consists of approximately 247 miles of water main consisting of 37 miles of Cast/Ductile Iron with rubber gaskets, 210 miles of Class 200/160 PVC with rubber gaskets. The tapping saddles consist of brass and ductile iron. The service lines from the main to the meter consist of polyethylene tubing and type k copper with all brass mechanical compression type connectors and fittings. The meters contain brass, iron and or plastic parts with all brass shut off valves (curbstops). The system contains no lead materials.

Section 1

Public Water Supply Lead and Copper Sample Site Plan Selection Criteria for Community Systems

All public water supplies must complete a materials evaluation of their system to identify their pool of sample sites. Samples must be collected from Tier 1 sites unless there are not sufficient sites, then Tier 2 sites may be used. If there are not sufficient Tier 1 and 2 sites then Tier 3 sites may be used.

Tier definitions are as follows:

- Tier 1 – includes single family structures that;
    - Contain copper pipes with lead solder which was installed after 1982 or;
    - Contain lead pipes or;
    - Is served by a lead service line

- Tier 2 – includes multi-family structures and buildings that;
    - Contain copper pipes with lead solder which was installed after 1982 or;
    - Contain lead pipes or;
    - Is served by a lead service line

- Tier 3 - includes single family structures that contain copper pipes with lead solder which were installed prior to 1983

Tier Categories - Use the following to identify the Tier and category of each site:

Tier 1

- Single family – copper pipe with lead solder constructed after 1982
- Single family – lead pipes
- Single family – lead service
- Multi-family – copper pipe with lead solder constructed after 1982
- Multi-family – lead pipes
- Multi-family – lead service

Tier 2

- Building – copper pipe with lead solder constructed after 1982
- Building – lead pipes
- Building – lead service

Tier 3

- Single family – copper pipe with lead solder constructed before 1983

If not enough Tier 1, 2 or 3 sites are available, random sites may be chosen.

- Random location

Columbiana Water Board Lead and Copper Samples Sites

Community: _____

PWSID#: _____**AL00001151**_____ **Number of Samples Required:** ___**60**___

NO.	Address	Tier Level	Lead Service line	Primary or Alt.
01	100 Dogwood Dr	1	N	P
02	104 Dogwood Dr	1	N	P
03	104 Sonnywood Cir	1	N	P
04	205 Egg and Butter Rd	1	N	P
05	707 Egg and Butter Rd	1	N	P
06	945 Egg and Butter Rd	1	N	P
07	312 Mildred St	1	N	P
08	219 Briarwood Dr	1	N	P
09	109 Arlington St	1	N	P
10	104 Beacon Dr	1	N	P
11	106 Stinson Rd	1	N	P
12	944 Hwy 30	1	N	P
13	100 Palm St	1	N	P
14	102 Hickory St	1	N	P
15	313 Thompson St	1	N	P
16	310 East Sterrett St	1	N	P
17	4511 Chelsea Rd	1	N	P
18	126 Lakewood Dr	1	N	P
19	125 Bolton Ln	1	N	P
20	165 Nelson Walker Rd	1	N	P

NO.	Address	Tier Level	Lead Service Line	Primary or Alt.
21	584 Hwy 307	1	N	P
22	1624 Hwy 303	1	N	P
23	1720 Hwy 47 S	1	N	P
24	43 Anchor Way	1	N	P
25	524 North River Dr	1	N	P
26	1407 Hwy 99	1	N	P
27	9014 Hwy 47 S	1	N	P
28	186 Mulberry Ln	1	N	P
29	358 Ridge Dr	1	N	P
30	6575 Hwy 47 S	1	N	P

Columbiana Water Board Lead and Copper Samples Sites

Community: _____

PWSID#: _____**AL00001151**_____ **Number of Samples Required:** __**60**___

NO.	Address	Tier Level	Lead Service line	Primary or Alt.
31	103 Dogwood Dr	1	N	Alt.
32	1004 Egg and Butter Rd	1	N	Alt.
33	1990 Egg and Butter Rd	1	N	Alt.
34	111 Arlington St	1	N	Alt.
35	115 Highland Dr	1	N	Alt.
36	4584 Chelsea Rd	1	N	Alt.
37	88 Wood Ln	1	N	Alt.
38	1345 Hwy 303	1	N	Alt.
39	22 Hwy 99	1	N	Alt.
40	126 Anchor Way	1	N	Alt.
41	9071 Hwy 42 W	1	N	Alt.
42	4545 Hwy 37	1	N	Alt.
43	1214 Hwy 99	1	N	Alt.
44	8420 Hwy 42	1	N	Alt.
45	8425 Hwy 2	1	N	Alt.
46	5161 Hwy 86	1	N	Alt.
47	5145 Hwy 86	1	N	Alt.
48	1288 Hwy 99	1	N	Alt.
49	676 Hwy 47 S	1	N	Alt.
50	330 Hwy 61	1	N	Alt.

NO.	Address	Tier Level	Lead Service Line	Primary or Alt.
49	676 Hwy 47 S	1	N	Alt.
50	330 Hwy 61	1	N	Alt.
51	17660 Hwy 42 E	1	N	Alt.
52	85 Wallace Dr	1	N	Alt.
53	25 Bass Ln	1	N	Alt.
54	4795 Hwy 71	1	N	Alt.
55	576 Hwy 46	1	N	Alt.
56	18960 Hwy 145	1	N	Alt.
57	7660 Hwy 47 S	1	N	Alt.
58	224 Higgins Rd	1	N	Alt.
59	223 Briarwood Dr	1	N	Alt.
60	140 Hiawatha Rd	1	N	Alt.

Lead and Copper Sampling Procedures

All lead and copper samples must be first-draw samples and shall be 1 liter in volume. The water should have stood motionless in the plumbing system (not used) of each sample site for a minimum of six hours. While the water cannot be used for more than six hours, do not collect samples from sites which have not been used for an extended period of time; such as a site which has had no water use for several days, i.e. a weekend. Pre-stagnation flushing shall not be performed.

First-draw residential samples shall be collected from the cold water kitchen or bathroom sink only. First-draw nonresidential samples shall be collected from an interior cold water tap from which water is typically drawn for consumption. Aerators shall not be removed from taps or cleaned prior to or during the collection of samples.

Sampling sites must not include faucets which have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants. This includes such devices as filters, softeners, RO systems, etc.

First-draw samples may be collected by the system or the system may allow residents to collect samples after receiving instruction on the proper sampling procedures. Wide-mouth bottles shall be used to collect samples to allow for a higher flow rate during sample collection which is more representative of the flow that a consumer may use to fill a glass of water.

A water supply system shall collect each first-draw tap sample from the same sampling sites used in the previous round of sampling unless a change of sampling site is documented and submitted to the ADEM.

Sites and Situations to Avoid

Do not use

- A mop sink, outside faucet or a tap that is not generally used or intended for human consumption
- A site which is vacant *(don't make special arrangements to get access to site)*
- A site which has undergone recent (within the last 6 months) plumbing improvements or changes including faucets at the specific sample location
- A tap that has any type of treatment
- A site where the owner or resident is uncooperative

Suggested Directions for Homeowner Tap Sample Collection Procedures

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your state, and is being accomplished through the cooperation of homeowners and residents. Suggested Directions for Homeowner Tap Sample Collection Procedures Revised Version: February 2016

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your State under the Lead and Copper Rule, and is being accomplished through a collaboration between the public water system and their consumers (e.g. residents).

Collect samples from a tap that has not been used for at least 6 hours. To ensure the water has not been used for at least 6 hours, the best time to collect samples is either early in the morning or in the evening upon returning from work. Be sure to use a kitchen or bathroom cold water tap that has been used for drinking water consumption in the past few weeks. The collection procedure is described below.

I. Prior arrangements will be made with you, the customer, to coordinate the sample collection. Dates will be set for sample kit delivery and pick-up by water system staff.

2. There must be a minimum of 6 hours during which there is no water used from the tap where the sample will be collected and any taps adjacent or close to that tap. Either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist. Do not intentionally flush the water line before the start of the 6-hour period.

3. Use a kitchen or bathroom cold-water faucet for sampling. If you have water softeners on your kitchen taps, collect your sample from the bathroom tap that is not attached to a water softener, or a point of use filter, if possible. Do not remove the aerator prior to sampling. Place the opened sample bottle below the faucet and open the cold water tap as you would do to fill a glass of water. Fill the sample bottle to the line marked "1000-mL" and turn off the water.

4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.

5. If any plumbing repairs or replacement has been done in the home since the previous sampling event, note this information on the label as provided. Also if your sample was collected from a tap with a water softener, note this as well.

6. Place the sample kit in the same location the kit was delivered to so that water system staff may pick up the sample kit.

7. Results from this monitoring effort and information about lead will be provided to you as soon as practical but no later than 30 days after the system learns of the tap monitoring results. However, if excessive lead and/or copper levels are found, immediate notification will be provided (usually 1-2 working days after the system learns of the tap monitoring results).

Call Columbiana Water Board at (205) 669-5805 if you have any questions regarding these instructions

TO BE COMPLETED BY THE RESIDENT

Water was last used: Time _____ Date _____

Sample was collected: Time _____ Date _____

I have read the above directions and have taken a tap sample in accordance with these instructions.

_____ Date _____
Signature

Thank you for your help!

Section 2

Calculating the 90th Percentile During Initial, Follow-up, Routine and Reduced Monitoring

If you collect 5 samples, calculate your 90th percentile as follows:

- Rank your samples in order of concentration (mg/L) from lowest to highest.
- Find the average of the two highest results by adding the results together and dividing by two.
- The resulting number (average) is the 90th percentile

EXAMPLE

Sample Site #	Sample Results
1	0.001
2	0.001
3	0.006
4	0.008
5	0.014

0.008 + 0.014 = 0.022 0.022/2 = 0.011

90th percentile = 0.011 mg/l

This is the number to record on Form 141A and reported to the IDNR

If you collect 6 or more samples, calculate your 90th percentile as follows:

- Rank your samples in order of concentration (mg/L) from lowest to highest.
- Take the total number of samples collected and multiply by 0.90. The result will tell you which sample to record.
- If the number is not a whole number, round to the nearest whole number.
  - 12.7 would be rounded to 13.0 – 12.2 would be rounded to 12.0
- If the number is exactly in the middle of two whole numbers, round to the nearest even number.
  - 12.5 would be rounded to 12.0 – 13.5 would be rounded to 14.0

EXAMPLE IF YOU COLLECTED 10 SAMPLES

10 X 0.9 = 9

Sample #9 is the 90th percentile and should be recorded on Form 141A

Sample Site #	Sample Results
1	0.001
2	0.001
3	0.001
4	0.001
5	0.001
6	0.004
7	0.005
8	0.006
9	**0.008**
10	0.010

The 90th percentile is 0.008 mg/l and should be recorded on Form 141A.

Please note these are examples only, you will have to insert your own results to determine your 90th percentile.

90th Percentile Summary Form

(use this format if your lab does not provide a 90th percentile summary for you)

PWSID#: _____ **Public Water Supply Name:** _____

Results of lead monitoring:

	Date Collected	Sample Location	Lead Result	Tier ID
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

90th percentile for lead: _____

Results of copper monitoring:

	Date Collected	Sample Location	Lead Result	Tier ID
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

90th percentile for copper: _____

Keep this form for your records.

Section 3
Making Changes to Sampling Site Locations

Make an assessment of your ability to sample a sufficient number of appropriate sites from your lead and copper plan well in advance of the monitoring period. Making contact with the resident early and determining whether their home still meets the selection criteria as a sample location will eliminate this variable. Furthermore, lead and copper samples should be collected early in the monitoring period to ensure samples arrive at the lab in a timely fashion and are analyzed well before the end of the monitoring period.

Changes to sampling sites are allowed when water systems can no longer gain access to the site or if the original site location no longer meets the Tier selection criteria. For example, if a home is vacant or demolished, if a softener is added or plumbing upgrades have been made - the structure no longer meets the Tier criteria.

Changes in locations must be submitted to the Department prior to sampling. Your lead and copper plan must be updated whenever there is an addition or deletion of a site and you are also encouraged to update the plan to identify sites that meet the requirements of proper sampling locations that can be readily substituted if needed during future monitoring events.

Lead & Copper Rule
Reduced Monitoring Site Selection

Reduced sampling sites shall be selected using the following procedure:

1. From the two most recent six-month rounds of testing, select the round of testing that had the OVERALL HIGHEST lead result.

2. Using the selected round, arrange the sampling sites in order, based on the lead test result, from highest to lowest.

3. Beginning with and including the site with the highest lead result, select and include every other site for reduced monitoring (i.e. highest result, 3rd highest, 5th highest, 7th highest, etc.).

4. After selecting every other site (see #3 above), if it is determined that a specific selected site can no longer be included in the sampling pool, replace the site with the next site on the original list (i.e. replace the 7th highest site with the 6th highest site).

5. This reduced sampling plan must be kept in your file for future reference. You must return to these same sites for each reduced sampling period.

If either the lead or copper action level IS EXCEEDED at the 90th percentile during any reduced monitoring period, you are required to conduct water quality parameter monitoring in accordance with ADEM Admin. Code r. 335-7-11-.11 during the monitoring period in which the action level was exceeded, and resume standard or base monitoring for at least two consecutive six-month monitoring periods.

Section 4
Lead and Copper Consumer Notice and Certification Forms

PWS Name: _____ PWSID#: _____ Date: _____

LEAD & COPPER CONSUMER NOTICE
ANALYTICAL RESULTS FOR LEAD & COPPER TAP WATER MONITORING

Our public water supply system is required to periodically collect tap water samples to determine the lead and copper levels in our system. Your residence was selected for this monitoring as part of our system's sampling plan. This notice is provided to you with the analytical results of the tap water sample collected at your home.

Sample address: _____ Sample collection date: _____

Analytical Lead result, in mg/L (milligrams per liter): _____

Analytical Copper result, in mg/L (milligrams per liter): _____

Definitions

Action Level (AL): The action level is a concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a public water supply system must follow. The lead action level is 0.015 mg/L. The copper action level is 1.3 mg/L.

Maximum Contaminant Level Goal (MCLG): The maximum contaminant level goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. The MCLG allows for a margin of safety. The lead MCLG is zero. The copper MCLG is 1.3 mg/L.

What are the health effects of lead and how can I reduce my exposure?

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Columbiana Water Board is responsible for providing drinking water that meets all federal and state standards, but cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water and using only cold water for drinking or cooking. Information on lead in drinking water and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead*.

When replacing your bathroom or kitchen faucet, consider a "lead-free" faucet that meets NSF/ANSI Standard 61 Annex G (California), which is less than 0.25% lead by weight.

What are the health effects of copper and how can I reduce my exposure?

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Flushing your tap before using the water as previously described will also reduce copper levels.

Who can I contact at my water system for more information?
Phone number at our public water supply system: (205) 669-5805
E-mail address at our public water supply system: *marcia@cityofcolumbiana.com*

Consumer Notice Instructions: Community PWS

Per the Lead & Copper Rule consumer notice requirements, you must complete the lead consumer notice, distribute the notice to each home or building that was tested with its specific lead result, and submit a certification of your activities and a copy of the notice to ADEM.

Consumer Notice Content
You are required to provide the consumer notice to consumers who occupy homes or buildings that are part of your system's lead & copper monitoring program with the analytical results when their drinking water is tested for lead, including those who do not receive water bills. The Consumer Notice must include the mandatory language in the example provided with these instructions. It must be multilingual, where appropriate.

Distribution of the Consumer Notice
Within 30 days of receiving the analytical results from the laboratory, you must provide the required notice to the people served at each residence or building that was a part of the sampling plan. This can be accomplished through direct mail, including it with the water utility bill, or by hand delivery.

Multi-family dwellings: Where testing occurs in buildings with many units, such as an apartment building, the notice must be provided to each individual unit that was tested. The notice does not have to extend to the entire building.

If you wish to use an alternate method that would still meet the requirements, contact the ADEM to discuss the method, prior to conducting the notice.

Date completed:_____*(enclose a copy of notice)*

Delivery Certification

I certify under penalty of law that I am familiar with the information submitted in this document and that it is true, accurate, and complete.

Name (print or type)_____**Title** _____

Signature_____**Date**_____