

EAST ALABAMA  
WATER, SEWER, AND  
FIRE PROTECTION  
DISTRICT  
LEAD AND COPPER  
SAMPLING PLAN

March 25, 2019

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## SECTION ONE

# **East Alabama Water, Sewer, and Fire Protection District System Material List**

The East Alabama Water, Sewer, and Fire Protection District receives its drinking water from the Chattahoochee Valley Water Supply District which uses (Polyortho Phosphate) to optimize corrosion control in the distribution system. The East Alabama distribution system has approximately 229 miles of water mains in its distribution system serving approximately 6385 services. Of the 229 miles, the system contains approximately one hundred ninety (190) miles of PVC water main (manufactured after 1977 and free of lead plasticizers), thirty-four (34) miles of cast iron/ductile iron water main, and five (5) miles of (AC) asbestos cement pipe.

Also, a part of the distribution system is service lines consisting mostly of polyethylene tubing, some polybutylene tubing, and a small percentage of copper and galvanized services.

Also contained within the distribution system are small percentages of items that contain the following:

- Lead
  - Lead Piping
  - Lead Solder
  - Lead Caulking
  - Lead Alloys
  - Home Plumbing with Lead Components
  
- Copper
  - Copper Piping
  - Copper Alloys
  - Copper Service Lines
  - Home Plumbing with Copper Components

Locations of these items are as follows:

- Although these items are a part of the Distribution system, the location of these items is unknown, and when found they are removed and replaced.
- Of the approximate 6385 brass water meters currently in use, all conform to the low lead standards introduced in the “Reduction of Lead in Drinking Water Act”

enacted on January 4<sup>th</sup>, 2014, and carries the NSF/ANSI 61-G low-lead certification.

- We estimate that approximately 45% of the homes and other structures on our system contain some aspects of lead and copper plumbing. Of the 45%, we estimate that 80% of those were built on or before 1983. The above plumbing components are estimates and cannot be confirmed.

**East Alabama is required to collect a minimum of thirty (30) samples once every three (3) years between June 1 and September 30. Samples are analyzed by Environmental Resources Analysts, Inc. located at 2975 Brown Court, Auburn, AL 36830.**

The water treatment plant (Chattahoochee Water Supply District), that East Alabama purchases water from, treats the water with a corrosion inhibitor (orthophosphate) and did so prior to the Lead and Copper Rule of 1992.

For more information about how East Alabama Water, Sewer, and Fire Protection District conducted its Lead and Copper Materials inventory, please feel free to contact our office at 334-756-7150, or by e-mail at [customerservice@eawsfd.com](mailto:customerservice@eawsfd.com).

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

All public water systems must complete a materials evaluation of their system to identify their pool of sampling 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, the 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 serviced 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 serviced by a lead service line
- Tier 3 – includes single family structures that contain copper pipes with lead solder which was 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.

**East Alabama Water, Sewer, and Fire Protection District  
Sample Sites**

**PWSID#: AL0000174**

**Number of Samples Required: 30**

<b>NO.</b>	<b>Address</b>	<b>Tier Level</b>	<b>Lead Service</b>	<b>Primary or Alt.</b>
1	1428 Judge Brown Road	1	N	P
2	14 Laurel Drive	1	N	P
3	6103 26th Avenue	1	N	P
4	2404 10th Avenue	1	N	P
5	2600 19th Place	1	N	P
6	1906 26th Street	1	N	P
7	2307 14th Avenue	1	N	P
8	3282 Judge Brown Road	1	N	P
9	1490 County Road 500	1	N	P
10	3012 23rd Drive	1	N	P
11	4064 County Road 289	1	N	P
12	2312 10th Avenue	1	N	P
13	1002 24th Street	1	N	P
14	1821 27th Street	1	N	P
15	2400 10th Avenue	1	N	P
16	7203 20th Avenue	2	N	P
17	6930 20th Avenue	2	N	P
18	1304 26th Street	3	N	P
19	3407 35th Street	3	N	P
20	146 Cleveland Road	3	N	P
21	1467 County Road 271	3	N	P
22	109 Monarch Avenue	3	N	P
23	208 Melody Lane	3	N	P
24	1700 29th Street	3	N	P
25	6209 26th Avenue	3	N	P



## **Lead and Copper Sampling Procedures:**

All lead and copper samples must be first-draw samples and shall be One (1) liter in volume. The water should have stood motionless in the plumbing system (not used) of each site for a minimum of six (6) hours. While the water cannot be used for more than six (6) 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-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 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 Alabama Department of Environmental Management (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 six (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 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 six (6) hours.** To ensure the water has not been used for at least six (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:

1. 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 East Alabama staff.
2. There must be a minimum of six (6) hours during which there is no water used from the tap where 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 six (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 the 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 thirty (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 weeks after the system learns of the tap monitoring results).



## Section 2

### **Calculating the 90<sup>th</sup> Percentile During Initial, Follow-up, Routine and Reduced Monitoring**

If you collect 5 samples, calculate your 90<sup>th</sup> 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 divide by two.
- The resulting number (average) is the 90<sup>th</sup> percentile

#### **EXAMPLE**

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

$$0.008 + 0.014 = 0.022$$

$$0.022/2 = 0.011$$

$$90^{\text{th}} \text{ Percentile} = 0.011 \text{ mg/l}$$

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

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If you collect 6 or more samples, calculate your 90<sup>th</sup> 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

$$10 \times 0.9 = 9$$

Sample #9 is the 90<sup>th</sup> 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
<b>9</b>	<b>0.008</b>
10	0.010

The 90<sup>th</sup> 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 90<sup>th</sup> percentile.*

### 90<sup>th</sup> Percentile Summary Form

(use this format if your lab does not provide a 90<sup>th</sup> 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				

90<sup>th</sup> 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				

90<sup>th</sup> 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 site 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 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, 3<sup>rd</sup> highest, 5<sup>th</sup> highest, 7<sup>th</sup> highest, etc.)
4. After selecting every other site (see #3 above), 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 7<sup>th</sup> highest site with the 6<sup>th</sup> highest site).
5. The 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 90<sup>th</sup> 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: East Alabama

PWSID#: AL0000174

Date: 00/00/00

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

East Alabama Water, Sewer, and Fire Protection District 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. East Alabama Water, Sewer and Fire Protection District 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 East Alabama: (334) 756-7150

E-mail address at our public water supply system: [customerservice@eawsfd.com](mailto:customerservice@eawsfd.com)

**Consumer Notice Instructions: Community PWS**

Per the Lead & Copper Rule consumer notice requirements, we 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.

**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)** Tony Segrest

**Title** General Manager

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_