

January 27, 2019

Attn: Mr. Jeremy Harris

Safe Drinking Water Program

LDH-OPH Engineering Services

**Re: City of Patterson Water System (LA#1101006)
Improving Transparency and Public Information
Distribution System Materials Inventory**

Mr. Harris,

In an effort to comply with your request dated November 14, 2018, you will find enclosed information pertaining to our water system. This letter includes elements of our Lead and Copper program such as protocol used for identifying and selecting sample locations, a materials inventory, and a description of our sample collection procedure, our historical Lead and Copper results, and an explanation of action levels. We are confident that this information complies with your requests.

If you have any questions or need further information, feel free to contact myself at 985-395-8310.

Sincerely,

Sharon Gillum

Sharon Gillum

City of Patterson Water Plant

CITY OF PATTERSON WATER SYSTEM

P.O. BOX 367

1308 MAIN STREET

PATTERSON, LOUISIANA 70392

(985) 395-8310

WATER SUPPLY LEAD AND COPPER DISTRIBUTION INVENTORY AND SAMPLING PLAN

PWS-ID: LA1101006

DATE

DECEMBER 31, 2018

CITY OF PATTERSON

LEAD AND COPPER MATERIAL SURVEY

Lead and Copper Monitoring Program

City of Patterson

PWS# 1101006

January 27, 2019

1. Purpose

The City of Patterson lead and copper monitoring program was implemented in 1992 in order to comply with the requirements established for the EPA's Lead and Copper Rule of 1991. The primary objective of this rule was for water systems to identify high risk areas within their distribution systems and to determine the Lead and Copper concentrations in those locations. This requires monitoring at consumer taps to identify levels of lead in drinking water that may result from corrosion of lead-bearing components in the public water system's distribution system or in household plumbing. These samples help Patterson water system assess the need for, or the effectiveness of, corrosion control treatment. Based on the concentrations found EPA would notify the system if any corrective actions were needed and would assign a frequency for future monitoring. Systems with higher lead and copper concentrations would be required to sample more frequently than those with lower concentrations.

2. Identifying Sample Locations

The LCR indicates that water systems monitor lead and copper concentrations at Tier I (high risk) locations throughout their water systems. In order to identify those Tier I sample sites, each system had to perform a materials inventory evaluation of its distribution system. Once the materials inventory evaluation was complete, the system would identify numerous sites that met Tier I selection criteria. From those locations, 20 sample sites were selected to create the initial Tier 1 sampling pool. Participants from the pool would be used for the initial round of Lead and Copper monitoring and for all subsequent monitoring. Currently the City is required to be sampled on a three year reduced monitoring plan. The City pulls samples every 3 years because our lead and copper results fell below the action levels set by the EPA.

A. Distribution Materials Inventory

Materials inventory information was gathered from various resources including distribution maps, meter applications records, meter inventory reports, old paperwork on file and conversations with senior personnel and retirees. In some cases the figures provided below are estimates due to the limited availability of specific records. However, collectively, the resources used support the accuracy of this information to the best of our knowledge. The City of Patterson water system updated materials inventory evaluation revealed the following:

i. Distribution System Piping:

As of January 15, 2018, PWS has a estimated 200 miles of water lines in its distribution system. Most of those lines are cast iron or polyvinyl chloride (PVC). Together these two pipes materials account for approximately 70% of the total piping in our system. The remaining 30% consist of various type of pipe materials. We have the following amounts of each pipe material in use: 40 miles of polyvinyl chloride (PVC); 110 miles of cast iron; 40 miles of asbestos cement; 10 miles of high density Polyethylene (HDPE).

ii. Service Lines:

The City of Patterson has Polyethylene (plastic) and Copper service lines throughout its distribution system. Although our distribution maps do not provide specific information regarding service lines, we were able to estimate the percentage of each based on the quantities of those materials purchased. Additional resources such as past meter applications, materials, conversations with senior personnel and retirees were used to confirm the following:

- a. Polyethylene (Plastic) Service Lines- From past materials and supplies documents, we've established that approximately 95.0% of the service tubing material purchased from 1978 through 2000 was polyethylene (plastic). Since 2001, plastic has been used exclusively for all new and replaced services.
- b. Copper Service Lines- Again, using our historical materials and supplies documents, we've established that the remaining 5% of service tubing material purchased from 1978 through 2000 consisted of Type K Copper. Senior personnel and retirees reported that these copper services were primarily used along main highways. In addition, our research indicated that the use of copper service was discontinued in 2001.
- c. Lead Service Lines- There are ZERO LEAD SERVICE LINES in the distribution system as confirmed by past meter application records and verified by senior personnel, retirees and engineers for the city.

iii. Water Meters:

As of January 2019, the City of Patterson had approximately 2,558 water meters in its distribution system constructed of either Plastic or Brass. Information found in meter inventory reports revealed the following:

- a. Plastic Meters- Our meter inventory records indicate that the majority of our meters are plastic. We estimate that there are 2,302 plastic water meters in our distribution system and they account for roughly 90% of our total inventory.
- b. Brass Meters- Meters purchased after January 1, 2013, comply with the standards of House Bill 471 of the State of Louisiana regarding Lead Free

materials used in drinking water systems. All new or replaced brass meters installed after January 1, 2013 carry this low lead certification.

iv. Private Plumbing Material:

Patterson Water System has no jurisdiction over private plumbing materials in its distribution system. Piping and fixtures inside the home are the responsibility of the homeowner. If you are concerned that your home is plumbed with lead materials, the following precautions can be taken:

- a. Use only cold water for cooking and drinking.
- b. Flush your taps by running the cold water for 30-60 seconds or until the water reaches a steady temperature to flush potential lead-containing water from your plumbing.
- c. Remove and clean the strainer/aerator screen on your faucet on a regular basis.

b. Selecting Sample Locations

Since Patterson Water System does not have Lead Service Lines (LSLs) in its system, the LCR requires that the next highest risk Tier I locations are used to establish Lead and Copper monitoring sites (See Tier I description below). After identifying a number of Tier I locations in 1992, the City contacted the owners of those residences and requested their participation in our Lead and Copper monitoring program. Once participants were secured, the ones that provided the best geographical coverage were included in our initial pool of 20 sample sites. Again, all of the sample locations selected met the criteria for Tier I sites as described below.

i. Tier Site Descriptions

Tier I sites are sites that are considered single family structures and contain either lead plumbing, serviced by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.

Tier II sites are sites that include building and multiple family residences containing lead plumbing, serviced by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.

Tier III sites are sites that are considered single family structures containing copper pipes with lead solder and were constructed prior to 1983.

3. Sample Collection Procedure

Lead and Copper tap sampling is performed in accordance with procedures established by the EPA and LDH. Sample locations are selected from the initial Pool

of 20 Sample Sites and samples are collected by either water system personnel or by residents who are given collection instructions. Typically Patterson Water System request that the owner collect the L&C sample. If they agree, each participant is provided a packet of instructions describing how to collect the sample, a 1 liter sample bottle, and a form to be completed once the sample has been collected. They are then asked to collect the sample from either a cold water kitchen tap or bathroom sink tap after tap after the water has stood motionless in their plumbing system for at least six hours. They are also encouraged to collect the sample either upon waking up in the morning or after returning home from work. Once the samples are collected, Patterson personnel delivers them to LDH laboratory for analysis.

4. Initial L & C Monitoring

Patterson Water System performed Lead and Copper sampling in 2008, 2011, 2014, 2017. The monitoring involved collecting Lead and Copper samples from 20 Tier 1 sample sites throughout the distribution system (as described above). Louisiana Department of Health evaluated the results and they were all below the action levels of Lead and Copper. Patterson Water System has been granted the "Reduced Monitoring Status" for Lead and Copper testing. The City now pulls samples every 3 years because our lead and copper results fell below the action levels set by the EPA.

Action levels are based on the total number of samples pulled. The action level for lead cannot exceed the 90th percentile of 0.015 mg/l. The action level for copper cannot exceed the 90th percentile of 1.3 mg/l.

The City of Patterson results for the last four surveys:

<u>Year</u>	<u>Lead</u>	<u>Copper</u>
2017	0.001 mg/l	0.01 mg/l
2014	0.004 mg/l	0.5 mg/l
2011	0.002 mg/l	0.0 mg/l
2008	0.001 mg/l	0.3 mg/l

In 2017, the City used a sampling pool of 20 sites. 14 of these sites were Tier 1, 4 were Tier 2 and 2 fell into Tier 3 classification.

Corrosion Control

The City uses a phosphate base corrosion inhibitor for corrosion control. The chemical (TMB-439) is added to the clear well. Corrosion coupons are used to determine the effectiveness of the inhibitor. Corrosion coupons are reweighed and measured metal strips that are mounted inside of a special pipe known as a coupon rack. We use them to estimate the rate of metal corrosion by comparing the initial weight versus the weight after it is removed over a period of time. The time of exposure can vary between sixty days to one hundred and twenty days. These tests are conducted by our contractors.

Distribution System Materials Inventory

Water System Name CITY OF PATTERSON

Water System ID 1101006

Contact Name SHARON GILLUM Phone # 985-395-8310

Email pwp@cox-internet.com

I. Distribution System Piping

A. Estimated Total System Piping 200 Miles

B. Estimated Pipe Size Breakdown

2 inch <u>15</u> %	12 inch <u>5</u> %
4 inch <u>15</u> %	16 inch <u>0</u> %
6 inch <u>40</u> %	20 inch <u>0</u> %
8 inch <u>25</u> %	24 inch <u>0</u> %
10 inch <u>0</u> %	other <u>0</u> %

C. Estimated Piping Material Breakdown

Lead	<u>0</u>	%	Cement Lined	<u>0</u>	%
Copper	<u>0</u>	%	PVC	<u>20</u>	%
Cast Iron	<u>55</u>	%	PE	<u>5</u>	%
Mild Steel	<u>0</u>	%	Wood	<u>0</u>	%
AC	<u>20</u>	%	Galvanized	<u>0</u>	%
Concrete	<u>0</u>	%	Other	<u>0</u>	%

D. Estimated 5 Year Growth Unknown

E. Plans for Future Growth and/or Replacement

Lead	<u>0</u>	%	Cement Lined	<u>0</u>	%
Copper	<u>0</u>	%	PVC	<u>80</u>	%
Cast Iron	<u>0</u>	%	PE	<u>20</u>	%
Mild Steel	<u>0</u>	%	Wood	<u>0</u>	%
AC	<u>0</u>	%			
Concrete	<u>0</u>	%	Other	<u>0</u>	%

II. Services

A. Present Number 2558

B. Estimated 5 Year Growth 200

C. Present Service Materials

Lead	<u>0</u>	%	Galvanized PVC	<u>70</u>	%
Copper	<u>10</u>	%	Other		%
PE	<u>20</u>	%			

D. Plans for Future Growth and/or Replacement

Lead 0 % Galvanized 0 %
Copper 0 % Other 0 %
PE 100 %

III. Customer Plumbing

A. Age of Dwellings Estimate

Prior 1960 20 %
1960-1988 45 %
1988-2000 25 %
2000-Present 10 %

B. Estimate of Customer Plumbing Materials

Lead 0 % PVC 65 %
Copper 5 % PE 0 %
Galvanized 30 % Other 0 %
Cast Iron 0 %

IV. Does the System Utilize a Corrosion Control Program?

YES X NO _____

If Yes, what program is employed:

1. pH Elevation YES _____ NO X _____

pH Target Range 7.0-7.4 _____

2. Phosphate Addition YES _____ **X** _____ NO _____

What Type of Phosphate Blend?

Orthophosphate YES _____ NO _____

Zinc/Orthophosphate YES _____ **X** _____ NO _____

Polyphosphate YES _____ NO _____

Zinc/Polyphosphate YES _____ NO _____

Ortho/Polyphosphate Blend YES _____ NO _____

3. Target Range at POE

Orthophosphate (Test Result) _____ **1.86** _____

Zinc (Test Results) _____ **0.02** _____

Polyphosphate (Calculated) _____

4. Does the Target Range Inclusive of Naturally Occurring Phosphate?

YES _____ NO _____ **X** _____

5. More Information

For more information, you can visit LDH website at www.dhh.la.gov or the EPA'S Website at www.epa.gov. As always, you can also call the City of Patterson Water System office at 985-395-8310 or go to the City of Patterson web address at (<http://cityofpatterson.gov>). The information for this report was gathered through reports, application records and water distribution system maps. In some cases the figures gathered are estimated due to the availability of records. The reference material used, to the best of the City's knowledge, supports the collective accuracy of this report.

