



*Effective and Economical  
Environmental Solutions*

**Lead in Drinking Water Screening  
Fort Lee High School  
3000 Lemoine Avenue  
Fort Lee, New Jersey 07024**

**Karl Environmental Group Project #: 16-0620**

**July 22, 2016**

Prepared for:  
Mr. Scott Bendul  
Supervisor of Buildings & Grounds & Security  
Fort Lee Public Schools  
2175 Lemoine Avenue  
Fort Lee, NJ 07024

Prepared by:  
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July 22, 2016

Mr. Scott Bendul  
Supervisor of Buildings & Grounds & Security  
Fort Lee Public Schools  
2175 Lemoine Avenue  
Fort Lee, NJ 07024

**Re: Lead in Drinking Water Screening  
Fort Lee High School: 3000 Lemoine Avenue, Fort Lee, New Jersey 07024  
Karl Environmental Group Project #: 16-0620**

Dear Mr. Bendul:

Thank you for selecting Karl Environmental Group ("Karl Environmental") for this project. This report details the methods and findings of the Lead-in-Drinking Water screening performed at the Fort Lee High School, located 3000 Lemoine Avenue, Fort Lee, New Jersey 07024 (the "Facility"). Karl Environmental performed two lead in drinking water screening events: a first-draw screening on May 4, 2016 and a follow up second-draw on June 9, 2016.

## **1.0 PROJECT BACKGROUND**

Karl Environmental was contacted by the Fort Lee Public Schools (the "Client") to conduct lead in drinking water screening to determine the lead content of water sampled from potable water collection points throughout the facility. All sampling was performed prior to the enactment of the New Jersey State Lead-in-Drinking Water in Schools regulation.

The purpose of the screening was to determine if any sampled drinking water sources exhibit lead levels exceeding the recommended Action Level of fifteen (15) parts per billion (ppb). The Action Level is the concentration of contaminant at which remedial action is warranted. Potable water collection points can include any water source from which an occupant may drink or from which the water may be used for cooking, including water fountains/bubblers, kitchen faucets, Nurse's Office faucets, and the Faculty/Staff lounge. Additionally, the Facility's water service and main lines are sampled at or near the main building connection to aid in the interpretation of results.



## **2.0 LEAD IN DRINKING WATER**

Lead is a toxic substance that can be harmful to human health. As compared to adults, children are more susceptible to the detrimental health effects of lead, as their nervous systems are not yet fully developed. Exposure to lead can occur in a variety of ways including through food, soil, deteriorating lead-based paint, and drinking water. Lead can leach into drinking water from plumbing materials such as pipes and solder, as well as brass plumbing fixtures. All sampling was performed prior to the enactment of the New Jersey State Lead-in-Drinking Water in Schools regulation. The United States Environmental Protection Agency (EPA) provides general guidance for the testing of potable water sources in school buildings. The EPA's "3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance" (October 2006) provides recommendations for sampling strategy, methodology, and interpretation for schools that are supplied by municipal water.

## **3.0 DRINKING WATER SAMPLING METHODOLOGY**

Karl Environmental collected drinking water samples from potable water outlets throughout the Facility. The sampling strategy was planned in general accordance with the guidance provided by the EPA in the "3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance" dated October 2006.

At each collection point, Karl Environmental filled a 250 milliliter (mL) preserved, wide-mouth high density polyethylene (HDPE) sample collection bottle pretreated with a Nitric Acid ( $\text{HNO}_3$ ) preservative from the selected water source. Samples were collected after the water in each building had not been used for at least 8 hours, but not more than 18 hours, and prior to the building's daily opening. The initial sample at each collection point represents the first draw sample. The first draw sample is representative of the water from the end point of the water source (i.e. the bubbler or tap). If the first draw sample exceeds the action level of fifteen (15) ppb, a follow-up second draw sample would be taken to represent the water in the upstream plumbing from the initial sample point. A service line sample and a water main sample were also collected from the Facility and are representative of the water service line from the main line to the Facility and the municipal water line, respectively. The samples were recorded under proper chain of custody and couriered directly to Suburban Testing Labs (Suburban), a New Jersey certified laboratory (NJ Lab ID #PA081) located in Reading, Pennsylvania for analysis by EPA method 200.8.

Karl Environmental collected the following number of water samples from the Facility:

- One (1) Service Line Sample
- One (1) Water Main Sample
- Thirty-one (31) First Draw Samples
- One (1) Second Draw Sample



According to the client, the number of water samples taken at the Fort Lee High School represents all of the drinking water sources within the Facility.

#### 4.0 DRINKING WATER ANALYSIS RESULTS

The analytical lead in drinking water results for each first draw sample are listed in Table 1, below:

**Table 1: Analytical Lead Results for First Draw Drinking Water Samples Collected from Fort Lee High School**

| Sample I.D.       | Location  | Type of Collection Point | Lead Concentration (mg/L) | Lead Concentration (ppb) | Above Action Level? |
|-------------------|---|--------------------------|---------------------------|--------------------------|---------------------|
| FL-HS-S-1         | Service Line  | KF                       | 0.002                     | 2                        | No                  |
| FL-HS-M-1         | Water Main  | KF                       | 0.011                     | 11                       | No                  |
| <b>FL-HS-01-A</b> | <b>Hallway – Near Gym Across from Girls’ Locker Room</b>  | <b>PWF</b>               | <b>0.017</b>              | <b>17</b>                | <b>Yes</b>          |
| FL-HS-02-A        | Nurse’s Office  | KF                       | 0.008                     | 8                        | No                  |
| FL-HS-03-A        | Hallway – Across from Boiler Room                         | MWF                      | 0.001                     | 1                        | No                  |
| FL-HS-04-A        | Hallway – Across from Boiler Room (bottle fill dispenser) | MWF                      | <0.001                    | <1                       | No                  |
| FL-HS-05-A        | Hallway – Across from Room 124 (Right)                    | MWF                      | 0.008                     | 8                        | No                  |
| FL-HS-06-A        | Hallway – Across from Room 124 (Left)                     | MWF                      | 0.006                     | 6                        | No                  |
| FL-HS-07-A        | Faculty Room  | KF                       | 0.006                     | 6                        | No                  |
| FL-HS-08-A        | Hallway – Across from Cafeteria (Right)                   | PWF                      | 0.002                     | 2                        | No                  |
| FL-HS-09-A        | Hallway – Across from Cafeteria (Left)                    | PWF                      | 0.012                     | 12                       | No                  |
| FL-HS-10-A        | Hallway – Band/Audition                                   | PWF                      | 0.004                     | 4                        | No                  |
| FL-HS-11-A        | Cafeteria – By Vending Machine                            | MWF                      | 0.004                     | 4                        | No                  |
| FL-HS-12-A        | Kitchen – Handwashing Sink                                | KF                       | 0.003                     | 3                        | No                  |
| FL-HS-13-A        | Kitchen – Pan/Dishwashing Sink                            | KF                       | 0.001                     | 1                        | No                  |
| FL-HS-14-A        | Kitchen – Center Table Food Prep                          | KF                       | 0.002                     | 2                        | No                  |
| FL-HS-15-A        | Kitchen – Handwashing Sink, Left of Meat Cutting Table    | KF                       | 0.008                     | 8                        | No                  |
| FL-HS-16-A        | Kitchen – Food Prep Sink near Meat Cutting Table          | KF                       | 0.008                     | 8                        | No                  |
| FL-HS-17-A        | Kitchen – Dishwashing Sink in back of Kitchen (Right)     | KF                       | 0.004                     | 4                        | No                  |



| Sample I.D. | Location  | Type of Collection Point | Lead Concentration (mg/L) | Lead Concentration (ppb) | Above Action Level? |
|-------------|---|--------------------------|---------------------------|--------------------------|---------------------|
| FL-HS-18-A  | Kitchen – Dishwashing Sink in back of Kitchen (Left)                | KF                       | 0.002                     | 2                        | No                  |
| FL-HS-19-A  | Weight Room   | MWF                      | <0.001                    | <1                       | No                  |
| FL-HS-20-A  | Weight Room (bottle fill dispenser)                                 | MWF                      | <0.001                    | <1                       | No                  |
| FL-HS-21-A  | Trainer Room – Ice Machine  | IC                       | <0.001                    | <1                       | No                  |
| FL-HS-22-A  | Trainer Room – Handwashing Sink                                     | KF                       | 0.001                     | 1                        | No                  |
| FL-HS-23-A  | Gym Area – Ice Machine  | IC                       | <0.001                    | <1                       | No                  |
| FL-HS-24-A  | Gym – Near Electric Panel Room                                      | PWF                      | 0.003                     | 3                        | No                  |
| FL-HS-25-A  | Custodian Office  | KF                       | 0.009                     | 9                        | No                  |
| FL-HS-26-A  | Second Floor Hallway – Across from Map Room                         | MWF                      | 0.006                     | 6                        | No                  |
| FL-HS-27-A  | Second Floor Hallway – Across from Map Room (bottle fill dispenser) | MWF                      | <0.001                    | <1                       | No                  |
| FL-HS-28-A  | Second Floor Hallway – Across from Room 214 (Right)                 | MWF                      | 0.009                     | 9                        | No                  |
| FL-HS-29-A  | Second Floor Hallway – Across from Room 214 (Left)                  | MWF                      | 0.012                     | 12                       | No                  |
| FL-HS-30-A  | Second Floor Hallway – Across from Room 222 (Right)                 | PWF                      | 0.003                     | 3                        | No                  |
| FL-HS-31-A  | Second Floor Hallway – Across from Room 222 (Left)                  | PWF                      | 0.006                     | 6                        | No                  |

**PWF = Porcelain Water Fountain**  
**MWF = Metal Water Fountain**  
**KF = Kitchen Faucet**  
**IC = Ice Machine**

**PS = Porcelain Sink**  
**BD = Bottle Water Dispenser**  
**SS = Slop Sink**

Laboratory analytical results were compared to the New Jersey Department of Environmental Protection (NJDEP) Drinking Water Quality Standard of 15 ppb for lead. This value coincides with the EPA's Action Level of 15 ppb. Analysis of lead in the first draw drinking water samples indicated that sample FL-HS-01-A exceeded the EPA's Action Level of 15ppb.

On June 9, 2016, Karl Environmental performed a follow-up second draw Lead-in-Drinking Water Screening at the Facility. The result of the second draw sampling is provided below.



**Table 2: Analytical Lead Results for Second Draw Drinking Water Samples Collected from Fort Lee High School**

| Sample I.D. | Location  | Type of Collection Point | Lead Concentration (mg/L) | Lead Concentration (ppb) | Likely Source of Lead Contamination     |
|-------------|---|--------------------------|---------------------------|--------------------------|---|
| FL-HS-01-B  | Hallway – Near Gym<br>Across from Girls’<br>Locker Room | PWF                      | 0.010                     | 10                       | Water Fountain and<br>Upstream Plumbing |

According to EPA guidance documentation, if a second draw sample result exhibits lead levels at very low levels, the likely source of the contamination identified in the corresponding first draw sample is the collection point or outlet. EPA guidance documentation indicates that very low levels of Lead-in-Drinking Water would be equal or less than five (5) ppb. If a second draw sample result exhibits lead levels below the corresponding first draw sample, but above very low levels, both the outlet and the upstream plumbing are likely contributing to the lead contamination identified in the first draw sample. Finally, if a second draw sample result exhibits lead levels above the corresponding first draw sample, the upstream plumbing is the likely source of lead contamination. The service and main line sample results are then considered when determining if the municipal water entering the building is also contributing to lead contamination.

As illustrated in Table 2, based on the first draw and follow up second draw sample results, the lead contamination identified during the May 4, 2016 and June 9, 2016 Lead in Drinking Water Screenings at Fort Lee High School from the hallway water fountain near the gym across from the Girls’ Locker Room was likely from the combination of the water fountain and associated upstream plumbing. Analytical laboratory results and chains of custody are included in *Attachment A*.

## **5.0 MUNICIPAL WATER QUALITY**

Public water systems are required by law to monitor for contaminants. Results of this monitoring are provided to the public as annual consumer confidence report. Fort Lee, New Jersey is serviced by American Water New Jersey. Karl Environmental obtained the most recently released consumer confidence report dated 2015 and reviewed the results of water quality testing as it relates to lead in drinking water. According the consumer confidence report, the most common source of lead in public water systems is the corrosion of household plumbing and erosion of natural deposits.

American Water New Jersey reported no exceedances of the Action Level of 15 ppb for lead in 2014. Based on the reported statistics for 2014, American Water New Jersey was in compliance with regards to lead contamination in water. The water main sample (FL-HS-M-1) collected at the



Facility is representative of the water entering the building. The sample results for the water main sample identified very low lead levels, indicating that the municipal water is not likely to be a significant source of lead contamination within the Facility. The EPA guidance implies that “very low lead levels” are less than five (5) ppb. The consumer confidence report is included in *Attachment B*.

## 6.0 RECOMMENDATIONS

Karl Environmental screened thirty-one (31) drinking water sources within the Fort Lee High School. One (1) out of thirty-one (31) Lead-in-Drinking samples (FL-HS-01-A) exceeded EPA’s Action Level of 15ppb. The lead contamination identified during the May 4, 2016 and June 9, 2016 Lead in Drinking Water Screenings at Fort Lee High School from the hallway water fountain near the gym across from the Girls’ Locker Room was likely from the combination of the water fountain and associated upstream plumbing. Based on the findings of the lead in drinking water screening and observations made during sample collection, Karl Environmental offers the following recommendations at this time:

- Replace the drinking water the outlet in the hallway across from the Girls’ Locker Room near the Gym where an elevated lead level was identified.
- Install in-line filter upstream from the outlet in the hallway across from the Girls’ Locker Room near the Gym. Regularly replace spent water filters according to manufacturer recommendations to prevent contaminants from passing through to the drinking water port.
- Replace any newly discovered lead piping with lead-free piping.

## ADDITIONAL RECOMMENDATIONS

Karl Environmental also offers the following additional recommendations at this time:

- Continue to monitor lead in drinking water levels as part of a regular sampling and maintenance plan. It is recommended that this include sampling any remaining untested drinking water outlets in the facilities. Additional parameters may also be considered for analysis, such as: Antimony, Asbestos, Cadmium, Copper, Mercury, Nickel, Silver, Zinc, and biologicals.
- In the event that water drinking source(s) are remediated, the source(s) should be resampled before being placed back into service to ensure the efficacy of the remediation actions.
- Where in use, regularly clean aerators to prevent the build-up of debris behind the screen which may contribute to elevated lead levels.



- Use only cold water for food and beverage preparation. Hot water is more likely to contribute to the corrosion of plumbing materials and therefore contain a greater level of contaminants from the plumbing system.
- Check piping for ground wiring for electricity. Such wiring may cause premature corrosion of the affected piping and lead to contamination of the water contained within.

## 7.0 LIMITATIONS

The purpose of the sampling event outlined within this report was to provide a general screening of potable water sources for potential lead contamination. No other heavy metals or additional contaminants were sampled for or analyzed. Lead concentrations can change as water continues to move through the water system. Each sample was a grab sample and represents lead concentrations only at the specific time of collection and may vary based on the water usage in the facility. Interpretation of these results is only valid if the facility is serviced by a municipal water supplier or water utility. This screening event focused upon the water outlets most likely to be used for consumption and food preparation. As such, Karl Environmental strongly recommends that the District continue to sample the remaining water sources at each building as part of a continuing sampling and maintenance plan. In the event that Karl Environmental Group could not access a building's water main connection, the nearest downstream water source was used to represent the service line and main line samples (a protocol recommended by the EPA). This screening was completed prior to the enactment of new amendments and rules in the New Jersey regulation N.J.A.C. 6A:26, Educational Facilities and may not comply with Department of Education regulations.

## 8.0 CLOSING

Thank you for using Karl Environmental to assist you with this project. Please do not hesitate to call if you have any questions relating to this report or for any other environmental health and safety concerns.

Respectfully submitted,  
***Karl Environmental Group***



Kristian Bills  
Environmental Consultant  
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610-914-0214 (cell)  
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kbills@karlenv.com





**Attachment A**  
**Laboratory Analytical Results**



## Results Report

Order ID: 6051216

Karl Environmental Group  
20 Lauck Road  
Mohnton, PA 19540

Project: Copper & Lead

Attn: Kristian Bills

Regulatory ID:

Sample Number: 6051216-01  
Collector: KB

Site: FL-HS-1-S  
Collect Date: 05/03/2016 1:25 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

|      |       |      |           |       |   |          |     |               |     |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|
| Lead | 0.002 | mg/L | EPA 200.8 | 0.001 | 1 | 05/13/16 | JGY | 05/14/16 2:43 | RPV |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|

Sample Number: 6051216-02  
Collector: KB

Site: FL-HS-1-M  
Collect Date: 05/03/2016 1:28 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

|      |       |      |           |       |   |          |     |               |     |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|
| Lead | 0.011 | mg/L | EPA 200.8 | 0.001 | 1 | 05/13/16 | JGY | 05/14/16 2:45 | RPV |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|

Sample Number: 6051216-03  
Collector: KB

Site: FL-HS-01-A  
Collect Date: 05/03/2016 1:30 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

|      |       |      |           |       |   |          |     |               |     |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|
| Lead | 0.017 | mg/L | EPA 200.8 | 0.001 | 1 | 05/13/16 | JGY | 05/14/16 2:47 | RPV |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|

Sample Number: 6051216-04  
Collector: KB

Site: FL-HS-02-A  
Collect Date: 05/03/2016 1:32 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

|      |       |      |           |       |   |          |     |               |     |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|
| Lead | 0.008 | mg/L | EPA 200.8 | 0.001 | 1 | 05/13/16 | JGY | 05/14/16 2:23 | RPV |
|------|-------|------|-----------|-------|---|----------|-----|---------------|-----|

Sample Number: 6051216-05  
Collector: KB

Site: FL-HS-03-A  
Collect Date: 05/03/2016 1:34 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

|      |       |      |           |       |   |          |     |                |     |
|------|-------|------|-----------|-------|---|----------|-----|----------------|-----|
| Lead | 0.001 | mg/L | EPA 200.8 | 0.001 | 1 | 05/13/16 | JGY | 05/13/16 23:40 | RPV |
|------|-------|------|-----------|-------|---|----------|-----|----------------|-----|

Report Generated On: 05/23/2016 4:55 pm  
STL\_Results Revision #1.6

6051216  
Effective: 07/09/2014





# SUBURBAN TESTING LABS

Sample Number: 6051216-06  
Collector: KB

Site: FL-HS-04-A  
Collect Date: 05/03/2016 1:36 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/13/16 23:46 RPV

Sample Number: 6051216-07  
Collector: KB

Site: FL-HS-05-A  
Collect Date: 05/03/2016 1:38 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.008 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/13/16 23:47 RPV

Sample Number: 6051216-08  
Collector: KB

Site: FL-HS-06-A  
Collect Date: 05/03/2016 1:39 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.006 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/13/16 23:49 RPV

Sample Number: 6051216-09  
Collector: KB

Site: FL-HS-07-A  
Collect Date: 05/03/2016 1:42 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.006 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/13/16 23:51 RPV

Sample Number: 6051216-10  
Collector: KB

Site: FL-HS-08-A  
Collect Date: 05/03/2016 1:44 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.002 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/13/16 23:53 RPV

Sample Number: 6051216-11  
Collector: KB

Site: FL-HS-09-A  
Collect Date: 05/03/2016 1:45 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.012 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/13/16 23:59 RPV

Report Generated On: 05/23/2016 4:55 pm 6051216  
STL\_Results Revision #1.6 Effective: 07/09/2014





# SUBURBAN TESTING LABS

Sample Number: 6051216-12  
Collector: KB

Site: FL-HS-10-A  
Collect Date: 05/03/2016 1:47 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.004 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:01 RPV

Sample Number: 6051216-13  
Collector: KB

Site: FL-HS-11-A  
Collect Date: 05/03/2016 1:50 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.004 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:03 RPV

Sample Number: 6051216-14  
Collector: KB

Site: FL-HS-12-A  
Collect Date: 05/03/2016 1:52 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.003 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:05 RPV

Sample Number: 6051216-15  
Collector: KB

Site: FL-HS-13-A  
Collect Date: 05/03/2016 1:54 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:11 RPV

Sample Number: 6051216-16  
Collector: KB

Site: FL-HS-14-A  
Collect Date: 05/03/2016 1:56 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.002 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:13 RPV

Sample Number: 6051216-17  
Collector: KB

Site: FL-HS-15-A  
Collect Date: 05/03/2016 1:58 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.008 mg/L EPA 200.8 0.001 1 05/18/16 RPV 05/19/16 23:29 RPV

Report Generated On: 05/23/2016 4:55 pm 6051216  
STL\_Results Revision #1.6 Effective: 07/09/2014





# SUBURBAN TESTING LABS

Sample Number: 6051216-18  
Collector: KB

Site: FL-HS-16-A  
Collect Date: 05/03/2016 2:00 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.008 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:15 RPV

Sample Number: 6051216-19  
Collector: KB

Site: FL-HS-17-A  
Collect Date: 05/03/2016 2:02 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.004 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:17 RPV

Sample Number: 6051216-20  
Collector: KB

Site: FL-HS-18-A  
Collect Date: 05/03/2016 2:04 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.002 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:23 RPV

Sample Number: 6051216-21  
Collector: KB

Site: FL-HS-19-A  
Collect Date: 05/03/2016 2:06 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:24 RPV

Sample Number: 6051216-22  
Collector: KB

Site: FL-HS-20-A  
Collect Date: 05/03/2016 2:07 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:26 RPV

Sample Number: 6051216-23  
Collector: KB

Site: FL-HS-21-A  
Collect Date: 05/03/2016 2:10 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:28 RPV

Report Generated On: 05/23/2016 4:55 pm 6051216  
STL\_Results Revision #1.6 Effective: 07/09/2014





# SUBURBAN TESTING LABS

Sample Number: 6051216-24  
Collector: KB

Site: FL-HS-22-A  
Collect Date: 05/03/2016 2:12 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:07 RPV

Sample Number: 6051216-25  
Collector: KB

Site: FL-HS-23-A  
Collect Date: 05/03/2016 2:14 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/18/16 RPV 05/19/16 23:30 RPV

Sample Number: 6051216-26  
Collector: KB

Site: FL-HS-24-A  
Collect Date: 05/03/2016 2:16 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.003 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:34 RPV

Sample Number: 6051216-27  
Collector: KB

Site: FL-HS-25-A  
Collect Date: 05/03/2016 2:18 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.009 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:40 RPV

Sample Number: 6051216-28  
Collector: KB

Site: FL-HS-26-A  
Collect Date: 05/03/2016 2:20 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.006 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:46 RPV

Sample Number: 6051216-29  
Collector: KB

Site: FL-HS-27-A  
Collect Date: 05/03/2016 2:23 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:47 RPV

Report Generated On: 05/23/2016 4:55 pm 6051216  
STL\_Results Revision #1.6 Effective: 07/09/2014





# SUBURBAN TESTING LABS

Sample Number: 6051216-30  
Collector: KB

Site: FL-HS-28-A  
Collect Date: 05/03/2016 2:25 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.009 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:49 RPV

Sample Number: 6051216-31  
Collector: KB

Site: FL-HS-29-A  
Collect Date: 05/03/2016 2:26 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.012 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:51 RPV

Sample Number: 6051216-32  
Collector: KB

Site: FL-HS-30-A  
Collect Date: 05/03/2016 2:28 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.003 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/14/16 0:53 RPV

Sample Number: 6051216-33  
Collector: KB

Site: FL-HS-31-A  
Collect Date: 05/03/2016 2:30 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | By | Analysis Date | By |
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|
|-------------------------------|--------|-------|--------|------|----|-----------|----|---------------|----|

Metals

Lead 0.006 mg/L EPA 200.8 0.001 1 05/13/16 JGY 05/17/16 2:51 RPV

**Data Qualifiers:**

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

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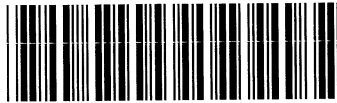
Results are considered Preliminary unless report is signed by authorized representative of STL.

**Reviewed and Released By:**

William Smith  
Client Services

Report Generated On: 05/23/2016 4:55 pm 6051216  
STL\_Results Revision #1.6 Effective: 07/09/2014





6051216  
Sarah Tyrrell

TAT(Check One):  Standard  24hr  48hr  72hr  Other \_\_\_\_\_  
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: \_\_\_\_\_

Client Name: Karl Environmental Group

Address: 20 Lauck Road  
Mohnton, PA 19540

Contact Name: Kristian Bills

Phone: 610-856-7700

Fax: 610-856-5040

Email: kbills@karlenv.com

Site Name: Fort Lee Lead-in-Drinking Water Screening

Address: High School

Payment / P.O. Info: 16-0620

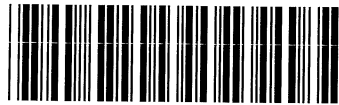
Comments:

| SWTL Sample Number | Sample Description / Site ID: | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below |             |             |              | Comments / Field Data: |
|--------------------|-------------------------------|--------------|--------------|-------------------|--------------------|-----------------|-----------------|-------------|-------------|--------------|------------------------|
|                    |                               |              |              |                   |                    |                 | Matrix          | Sample Type | Bottle Type | Preservative |                        |
|                    | FL-HS-S-1                     | 5/3/16       | 0125         | DT/KM/KB          | LEAD <i>pH 2</i>   | 1               | PW              | G           | P           | H            | Service Line           |
|                    | FL-HS-M-1                     | 5/3/16       | 0128         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | Water Main             |
|                    | FL-HS-01-A                    | 5/3/16       | 0130         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-02-A                    | 5/3/16       | 0132         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-03-A                    | 5/3/16       | 0134         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-04-A                    | 5/3/16       | 0136         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-05-A                    | 5/3/16       | 0138         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-06-A                    | 5/3/16       | 0139         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |

|  |   |   |  |   |  |   |
|--|---|---|--|---|--|---|
| Relinquished By: <i>KB</i>             | Date: <u>5-3-16</u><br>Time: <u>0417</u>  |   | <b>Sample Conditions</b><br>Submitted with COC? <input checked="" type="radio"/> Y / <input type="radio"/> N<br>Number of containers match number on COC? <input checked="" type="radio"/> Y / <input type="radio"/> N<br>All containers in tact? <input checked="" type="radio"/> Y / <input type="radio"/> N<br>Tests within holding times? <input checked="" type="radio"/> Y / <input type="radio"/> N<br>40 mL VOA vials free of headspace? <input type="radio"/> Y / <input type="radio"/> N | <b>Matrix Key</b><br>NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)<br>PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample<br><b>Sample Type Key</b><br>G = Grab<br>8HC = 8 Hr. Composite<br>24HC = 24 Hr. Composite | <b>Bottle Type Key</b><br>P = Plastic<br>G = Glass<br>O = Other<br><b>Preservative Key</b><br>N = Sodium Thiosulfate<br>A = Ascorbic Acid<br>H = HNO <sub>3</sub><br>C = HCl<br>S = H <sub>2</sub> SO <sub>4</sub><br>OH = NaOH<br>O = Other<br>NA = None Required | <b>Reporting Options</b><br><input type="checkbox"/> SDWA Reporting<br>PWSID: _____<br><input type="checkbox"/> Fax<br><input checked="" type="checkbox"/> Email<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Return a copy of this form with Report |
| Received By: <i>Kelly Zmap</i>         | Date: <u>5-3-16</u><br>Time: <u>0417</u>  | Temp °C: _____<br>Acceptable: Y / N   |  |   |  |   |
| Relinquished By: <i>Kelly Zmap</i>     | Date: <u>5-3-16</u><br>Time: <u>0845</u>  | Temp °C: _____<br>Acceptable: Y / N   |  |   |  |   |
| Received in Lab By: <i>Kate L</i> (33) | Date: <u>5.3.16</u><br>Time: <u>08:45</u> | Temp °C: <u>19.6°</u><br>Acceptable: <input checked="" type="radio"/> Y / <input type="radio"/> N |  |   |  |   |

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Shaded areas are for SWTL use only.





6051216  
Sarah Tyrrell

TAT(Check One):  Standard  24hr  48hr  72hr  Other \_\_\_\_\_  
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: \_\_\_\_\_

Client Name: Karl Environmental Group

Address: 20 Lauck Road  
Mohnton, PA 19540

Contact Name: Kristian Bills

Phone: 610-856-7700

Fax: 610-856-5040

Email: kbills@karlenv.com

Name: Fort Lee Lead-in-Drinking Water Screening

Address: High School

Payment / P.O. Info: 16-0620

Comments:

| SWTL Sample Number | Sample Description / Site ID: | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below |             |             |              | Comments / Field Data: |
|--------------------|-------------------------------|--------------|--------------|-------------------|--------------------|-----------------|-----------------|-------------|-------------|--------------|------------------------|
|                    |                               |              |              |                   |                    |                 | Matrix          | Sample Type | Bottle Type | Preservative |                        |
|                    | FL-HS-07-A                    | 5/3/16       | 0142         | DT/KM/KB          | LEAD <i>pH=2</i>   | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-08-A                    | 5/3/16       | 0144         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-09-A                    | 5/3/16       | 0145         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-10-A                    | 5/3/16       | 0147         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-11-A                    | 5/3/16       | 0150         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-12-A                    | 5/3/16       | 0152         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-13-A                    | 5/3/16       | 0154         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-14-A                    | 5/3/16       | 0156         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |

|   |                     |  |   |  |  |  |
|---|---------------------|--|---|--|--|--|
| Relinquished By:<br><i>KB</i>           | Date: <u>5-3-16</u> | Temp °C: _____   | Sample Conditions<br>Submitted with COC? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N | Matrix Key<br>NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)<br>PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample | Bottle Type Key<br>P = Plastic<br>G = Glass<br>O = Other                                   | Reporting Options<br><input type="checkbox"/> SDWA Reporting<br>PWSID: _____<br><input type="checkbox"/> Fax<br><input checked="" type="checkbox"/> Email<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Return a copy of this form with Report |
|   | Time: <u>0417</u>   |  |   |  |  |  |
| Received By:<br><i>Kelly Z Mayp</i>     | Date: <u>5-3-16</u> | Temp °C: _____   | All containers in tact? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N                  | Tests within holding times <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N  | 40 mL VOA vials free of headspace? <input type="checkbox"/> Y / <input type="checkbox"/> N |  |
| Relinquished By:<br><i>Kelly Z Mayp</i> | Date: <u>5-3-16</u> |  |   |  |  |  |
| Received in Lab By:<br><i>Kate (33)</i> | Date: <u>5-3-16</u> | Temp °C: <u>19.6</u>   |   |  |  |  |
|   | Time: <u>0849</u>   | Acceptable: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N |   |  |  |  |
|   | Date: <u>5-3-16</u> | Temp °C: <u>19.6</u>   |   |  |  |  |
|   | Time: <u>08:45</u>  | Acceptable: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N |   |  |  |  |

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Shaded areas are for SWTL use only.



6051216  
Sarah Tyrrell

TAT(Check One):  Standard  24hr  48hr  72hr  Other  
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: \_\_\_\_\_

Client Name: Karl Environmental Group  
 Address: 20 Lauck Road  
Mohnton, PA 19540  
 Contact Name: Kristian Bills  
 Phone: 610-856-7700  
 Fax: 610-856-5040  
 Email: kills@karlenv.com

Site Name: Fort Lee Lead-in-Drinking Water Screening  
 Address: High School  
 Payment / P.O. Info: 16-0620

Comments:

| SWTL Sample Number | Sample Description / Site ID: | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below |             |             |              | Comments / Field Data: |
|--------------------|-------------------------------|--------------|--------------|-------------------|--------------------|-----------------|-----------------|-------------|-------------|--------------|------------------------|
|                    |                               |              |              |                   |                    |                 | Matrix          | Sample Type | Bottle Type | Preservative |                        |
|                    | FL-HS-15-A                    | 5/3/16       | 0158         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-16-A                    | 5/3/16       | 0200         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-17-A                    | 5/3/16       | 0202         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-18-A                    | 5/3/16       | 0204         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-19-A                    | 5/3/16       | 0206         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-20-A                    | 5/3/16       | 0207         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-21-A                    | 5/3/16       | 0210         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-22-A                    | 5/3/16       | 0212         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |

|  |   |   |  |   |  |   |
|--|---|---|--|---|--|---|
| Relinquished By: <u>KB</u>             | Date: <u>5-3-16</u><br>Time: <u>0417</u>  |   | <b>Sample Conditions</b><br>Submitted with COC? <input checked="" type="checkbox"/> Y / N<br>Number of containers match number on COC? <input checked="" type="checkbox"/> Y / N<br>All containers in tact? <input checked="" type="checkbox"/> Y / N<br>Tests within holding times? <input checked="" type="checkbox"/> Y / N<br>40 mL VOA vials free of headspace? <input checked="" type="checkbox"/> Y / N | <b>Matrix Key</b><br>NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)<br>PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample<br><b>Sample Type Key</b><br>G = Grab<br>8HC = 8 Hr. Composite<br>24HC = 24 Hr. Composite | <b>Bottle Type Key</b><br>P = Plastic<br>G = Glass<br>O = Other<br><b>Preservative Key</b><br>N = Sodium Thiosulfate<br>A = Ascorbic Acid<br>H = HNO <sub>3</sub><br>C = HCl<br>S = H <sub>2</sub> SO <sub>4</sub><br>OH = NaOH<br>O = Other<br>NA = None Required | <b>Reporting Options</b><br><input type="checkbox"/> SDWA Reporting<br>PWSID: _____<br><input type="checkbox"/> Fax<br><input checked="" type="checkbox"/> Email<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Return a copy of this form with Report |
| Received By: <u>Kelly Z Map</u>        | Date: <u>5-3-16</u><br>Time: <u>0417</u>  | Temp °C: _____<br>Acceptable: Y / N   |  |   |  |   |
| Relinquished By: <u>Kelly Z Map</u>    | Date: <u>5-3-16</u><br>Time: <u>0845</u>  | Temp °C: _____<br>Acceptable: Y / N   |  |   |  |   |
| Received in Lab By: <u>Kate L (33)</u> | Date: <u>5-3-16</u><br>Time: <u>08:45</u> | Temp °C: <u>19.6</u><br>Acceptable: <input checked="" type="checkbox"/> Y / N |  |   |  |   |

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6051216  
Sarah Tyrrell

TAT(Check One):  Standard  24hr  48hr  72hr  Other \_\_\_\_\_  
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: \_\_\_\_\_

Client Name: Karl Environmental Group

Address: 20 Lauck Road  
Mohnton, PA 19540

Phone: 610-856-1100

Fax: 610-856-5040

Contact Name: Kristian Bills

Email: kbills@karlenv.com

Sample Name: Fort Lee Lead-in-Drinking Water Screening

Address: High School

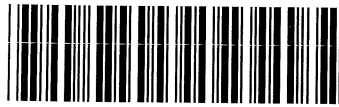
Payment / P.O. Info: 16-0620

Comments:

| SWTL Sample Number | Sample Description / Site ID: | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below |             |             |              | Comments / Field Data: |
|--------------------|-------------------------------|--------------|--------------|-------------------|--------------------|-----------------|-----------------|-------------|-------------|--------------|------------------------|
|                    |                               |              |              |                   |                    |                 | Matrix          | Sample Type | Bottle Type | Preservative |                        |
|                    | FL-HS-23-A                    | 5/3/16       | 0214         | DT/KM/KB          | LEAD <i>pH=2</i>   | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-24-A                    | 5/3/16       | 0216         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-25-A                    | 5/3/16       | 0218         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-26-A                    | 5/3/16       | 0220         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-27-A                    | 5/3/16       | 0223         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-28-A                    | 5/3/16       | 0225         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-29-A                    | 5/3/16       | 0226         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-30-A                    | 5/3/16       | 0228         | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |

|  |   |                                     |  |   |  |  |
|--|---|-------------------------------------|--|---|--|--|
| Relinquished By: <i>KB</i>             | Date: <i>5-3-16</i><br>Time: <i>0417</i>  | Temp °C: _____<br>Acceptable: Y / N | Sample Conditions<br>Submitted with COC? <input checked="" type="checkbox"/> Y / N<br>Number of containers match number on COC? <input checked="" type="checkbox"/> Y / N<br>All containers in tact? <input checked="" type="checkbox"/> Y / N<br>Tests within holding times <input checked="" type="checkbox"/> Y / N<br>40 mL VOA vials free of headspace? <input checked="" type="checkbox"/> Y / N | Matrix Key<br>NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)<br>PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample<br>Sample Type Key<br>G = Grab<br>8HC = 8 Hr. Composite<br>24HC = 24 Hr. Composite | Bottle Type Key<br>P = Plastic<br>G = Glass<br>O = Other<br>Preservative Key<br>N = Sodium Thiosulfate<br>A = Ascorbic Acid<br>H = HNO <sub>3</sub><br>C = HCl<br>S = H <sub>2</sub> SO <sub>4</sub><br>OH = NaOH<br>O = Other<br>NA = None Required | Reporting Options<br><input type="checkbox"/> SDWA Reporting<br>PWSID: _____<br><input type="checkbox"/> Fax<br><input checked="" type="checkbox"/> Email<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Return a copy of this form with Report |
| Received By: <i>Kelly Zmap</i>         | Date: <i>5-3-16</i><br>Time: <i>0417</i>  |                                     |  |   |  |  |
| Relinquished By: <i>Kelly Zmap</i>     | Date: <i>5-3-16</i><br>Time: <i>0845</i>  |                                     |  |   |  |  |
| Received in Lab By: <i>Kate L (33)</i> | Date: <i>5-3-16</i><br>Time: <i>08:45</i> |                                     |  |   |  |  |

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Shaded areas are for SWTL use only.



6051216  
Sarah Tyrrell

TAT(Check One):  Standard  24hr  48hr  72hr  Other  
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: \_\_\_\_\_

Client Name: Karl Environmental Group

Address: 20 Lauck Road  
Mohnton, PA 19540

Contact Name: Kristian Bills

Phone: 610-856-7700

Fax: 610-856-5040

Email: kbills@karlenv.com

Name: Fort Lee Lead-in-Drinking Water Screening

Address: High School

Payment / P.O. Info: 16-0620

Comments:

| SWTL Sample Number | Sample Description / Site ID: | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below |             |             |              | Comments / Field Data: |
|--------------------|-------------------------------|--------------|--------------|-------------------|--------------------|-----------------|-----------------|-------------|-------------|--------------|------------------------|
|                    |                               |              |              |                   |                    |                 | Matrix          | Sample Type | Bottle Type | Preservative |                        |
|                    | FL-HS-31-A                    | 5/3/16       | 0230         | DT/KM/KB          | LEAD <i>PH=2</i>   | 1               | PW              | G           | P           | H            | First Draw             |
|                    | <del>FL-HS-32-A</del>         | 5/3/16       |              | DT/KM/KB          | <del>LEAD</del>    | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-33-A                    | 5/3/16       |              | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-34-A <i>(KB)</i>        | 5/3/16       |              | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-35-A <i>8/3/16</i>      | 5/3/16       |              | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-36-A                    | 5/3/16       |              | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | FL-HS-37-A                    | 5/3/16       |              | DT/KM/KB          | LEAD               | 1               | PW              | G           | P           | H            | First Draw             |
|                    | <del>FL-HS-38-A</del>         | 5/3/16       |              | DT/KM/KB          | <del>LEAD</del>    | 1               | PW              | G           | P           | H            | First Draw             |

|  |   |  |   |   |  |   |   |
|--|---|--|---|---|--|---|---|
| Relinquished By: <i>KB</i>             | Date: <i>5-3-16</i><br>Time: <i>0417</i>  |  | <b>Sample Conditions</b><br>Submitted with COC? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N<br>Number of containers match number on COC? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N<br>All containers in tact? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N<br>Tests within holding times? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N<br>40 mL VOA vials free of headspace? <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N | <b>Matrix Key</b><br>NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)<br>PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample<br><b>Sample Type Key</b><br>G = Grab<br>8HC = 8 Hr. Composite<br>24HC = 24 Hr. Composite | <b>Matrix Key</b><br>NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc. (reported as mg/kg)<br>PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample<br><b>SDWA Sample Types</b><br>D=Distribution<br>E=Entry Point<br>R=Raw<br>C=Check<br>S=Special<br>M=Maximum Residence | <b>Bottle Type Key:</b><br>P = Plastic<br>G = Glass<br>O = Other<br><b>Preservative Key</b><br>N = Sodium Thiosulfate<br>A = Ascorbic Acid<br>H = HNO <sub>2</sub><br>C = HCl<br>S = H <sub>2</sub> SO <sub>4</sub><br>OH = NaOH<br>O = Other<br>NA = None Required | <b>Reporting Options</b><br><input type="checkbox"/> SDWA Reporting<br>PWSID: _____<br><input type="checkbox"/> Fax<br><input checked="" type="checkbox"/> Email<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Return a copy of this form with Report |
| Received By: <i>Kelly Zmap</i>         | Date: <i>5-3-16</i><br>Time: <i>0417</i>  | Temp °C: _____<br>Acceptable: Y / N  |   |   |  |   |   |
| Relinquished By: <i>Kelly Zmap</i>     | Date: <i>5-3-16</i><br>Time: <i>0845</i>  | Temp °C: _____<br>Acceptable: Y / N  |   |   |  |   |   |
| Received in Lab By: <i>Kate L (33)</i> | Date: <i>5.3.16</i><br>Time: <i>08:45</i> | Temp °C: <i>19.6</i><br>Acceptable: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N |   |   |  |   |   |

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### Results Report

Order ID: 6062436

Karl Environmental Group  
20 Lauck Road  
Mohnton, PA 19540

Project: Copper & Lead

Attn: Kristian Bills

Regulatory ID:

Sample Number: 6062436-01  
Collector: KB

Site: FL-HS-01-B  
Collect Date: 06/09/2016 2:27 am

Sample ID:  
Sample Type: Grab

| Department / Test / Parameter | Result | Units | Method    | R.L.  | DF | Prep Date | By  | Analysis Date  | By  |
|-------------------------------|--------|-------|-----------|-------|----|-----------|-----|----------------|-----|
| <u>Metals</u>                 |        |       |           |       |    |           |     |                |     |
| Lead                          | 0.010  | mg/L  | EPA 200.8 | 0.001 | 1  | 07/05/16  | TPK | 07/13/16 22:56 | RPV |

**Data Qualifiers:**

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of STL.

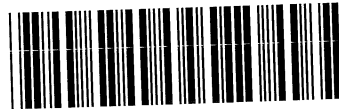
Results are considered Preliminary unless report is signed by authorized representative of STL.

**Reviewed and Released By:**

William Smith  
Client Services

Report Generated On: 07/14/2016 4:22 pm 6062436  
STL\_Results Revision #1.6 Effective: 07/09/2014





6062436  
Sarah Tyrrell

TAT(Check One): Standard 24hr 48hr 72hr Other  
(Additional charges may apply for rush TAT. If not specified, standard TAT will apply)

Order ID: \_\_\_\_\_

Client Name: Karl Environmental Group      Name: Fort Lee School District  
 Address: 20 Lauck Road      Phone: 610-856-7700      Address: Fort Lee High School  
Mohnton, PA 19540      Fax: 610-856-5040      3000 Lemoine Ave, Fort Lee, NJ 07024  
 Contact Name: Kristian Bills      Email: kbills@karlenv.com      Payment / P.O. Info: 16-0620

Comments:

| SWTL Sample Number | Sample Description / Site ID: | Date Sampled | Time Sampled | Samplers Initials | Test(s) Requested: | Bottle Quantity | See Codes Below |             |             |              | Comments / Field Data:                      |
|--------------------|-------------------------------|--------------|--------------|-------------------|--------------------|-----------------|-----------------|-------------|-------------|--------------|---|
|                    |                               |              |              |                   |                    |                 | Matrix          | Sample Type | Bottle Type | Preservative |   |
|                    | FL-HS-01-B                    | 6/9/16       | 0227         | KB                | LEAD               | 1               | PW              | G           | P           | NA           | Second Draw                                 |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              | Added HNO <sub>3</sub> pH < 2<br>UN56-10-16 |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |
|                    |                               |              |              |                   |                    |                 |                 |             |             |              |   |

|                         |                     |                                     |  |  |   |  |                  |  |   |   |
|-------------------------|---------------------|-------------------------------------|--|--|---|--|------------------|--|---|---|
| Relinquished By:<br>    | Date: <u>6/9/16</u> | Temp °C: _____<br>Acceptable: Y / N | Sample Conditions                                      |  | Matrix Key  |  | Bottle Type Key  |  | Reporting Options   |   |
|                         | Time: <u>1345</u>   |                                     | Submitted with COC? <u>Y / N</u>                       | NPW = Non-Potable Water<br>Solid = Raw Sludge, Dewatered sludge, soil, etc.<br>(reported as mg/kg) |   | P = Plastic<br>G = Glass<br>O = Other                        |                  | <input type="checkbox"/> SDWA Reporting<br>PWSID: _____  |   |   |
| Received By:            | Date:               | Temp °C: _____<br>Acceptable: Y / N | Number of containers match number on COC? <u>Y / N</u> |  | PW = Potable Water (not for SDWA compliance)<br>SDWA = Safe Drinking Water Act Potable Sample |  | Preservative Key |  | <input type="checkbox"/> Fax<br><input checked="" type="checkbox"/> Email<br><input type="checkbox"/> Other _____ |   |
|                         | Time:               |                                     | All containers in tact? <u>Y / N</u>                   | Tests within holding times <u>Y / N</u>  |   | Sample Type Key  |                  | N = Sodium Thiosulfate<br>A = Ascorbic Acid<br>H = HNO <sub>3</sub><br>C = HCl<br>S = H <sub>2</sub> SO <sub>4</sub><br>OH = NaOH<br>O = Other<br>NA = None Required |   | <input type="checkbox"/> Return a copy of this form with Report |
| Relinquished By:        | Date:               | Temp °C: _____<br>Acceptable: Y / N | 40 mL VOA vials free of headspace? <u>Y / N</u>        |  | SDWA Sample Types   |  |                  |  |   |   |
|                         | Time:               |                                     |  |  |   | G = Grab<br>8HC = 8 Hr. Composite<br>24HC = 24 Hr. Composite |                  | D=Distribution<br>E=Entry Point<br>R=Raw<br>C=Check<br>S=Special<br>M=Maximum Residence  |   |   |
| Received in Lab By:<br> | Date: <u>6.9.16</u> | Temp °C: <u>26.0</u>                |  |  |   |  |                  |  |   |   |
|                         | Time: <u>1345</u>   | Acceptable: <u>Y / N</u>            |  |  |   |  |                  |  |   |   |

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Shaded areas are for SWTL use only.



**Attachment B**  
**Consumer Confidence Reports**





2015 Annual

# Water Quality Report

Fort Lee District  
PWS ID: VA3149247



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

This report contains important information about your drinking water. If you do not understand it, please have someone translate it for you.

## A Message from the Virginia American Water President

To Our Valued Customer:

Virginia American Water is proud to be your local water service provider, and I am pleased to share with you good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report – and like so many years prior -- we continue to supply water that meets or surpasses all state and federal water quality regulations for **about a penny per gallon— an exceptional value.**



This is no small task. Quite a lot goes into bringing that water to your home. The miles of pipeline hidden below the ground. The facilities that draw water from the source. The plant where it's treated and tested. Our treatment plant operators, water quality experts, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Delivering high-quality, reliable water service to your tap around the clock also requires significant investment in our water infrastructure to upgrade aging facilities. In 2015 alone, we invested \$16.1 million in water system improvements statewide.

We do this because we believe we're delivering more than just water service. We deliver a key resource for public health, fire protection, the economy and overall quality of life. Our job is to ensure that quality water keeps flowing not only today, but well into the future. It's part of our commitment to you and the communities we serve.

We hope you agree, it's worth every penny and worth learning more about. Please, take the time to review this report. It provides details about the source and quality of your drinking water using the data from water quality testing conducted for your local water system from January through December 2015.

Thanks for allowing us to serve you.

Sincerely,

Barry Suits, P.E.

President



American Water Works Company, Inc., together with its subsidiaries, is referred to as American Water. "Virginia American Water" and the star logo are the registered trademarks of American Water Works Company, Inc. All rights reserved.

WE CARE ABOUT WATER. IT'S WHAT WE DO.®



## Information on the Internet

Virginia American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water services to more than 350,000 people.

American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting [www.amwater.com](http://www.amwater.com).

The U.S. EPA Office of Water ([www.epa.gov/safewater](http://www.epa.gov/safewater)) and the Center for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Virginia Department of Health and the Virginia Department of Environmental Quality have web sites that provide complete and current information on water issues in Virginia. These web sites are located at ([www.vdh.virginia.gov](http://www.vdh.virginia.gov)) and ([www.deq.state.va.us](http://www.deq.state.va.us)). All these web sites have numerous links that will direct you to other professional organizations, public education and public health topics related to water.

## Protecting Your Water Source

The Source Water Assessment Program is a result of the 1996 amendments to the Federal Safe Drinking Water Act (SDWA). Those amendments require all states to establish a program to assess the vulnerability of public water systems to potential contamination. While Fort Lee is classified as a consecutive water system, the Virginia Department of Health, Office of Water Programs, performed a source water assessment of the Appomattox and James Rivers in 2001 for the Hopewell District. This assessment consisted of defining the drainage-watershed area, provided an inventory of known land use activity, and identified any known contamination that occurred within the last five years within a five mile radius of our water intakes. The report became available in the year 2002, and is the first step in the preparation of a Source Water Protection Program. The following paragraphs which have been prepared by the Virginia Department of Health are required to be included in the CCR.

“The Virginia Department of Health conducted a Source Water Assessment of the Appomattox and James Rivers in 2001. The rivers were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known land use activities and potential sources of contamination of concern, best management practices utilized at land use activity sites in zone 1, documentation of any known contamination within the last five years, susceptibility explanation chart, and definitions of key terms. The report is available by contacting your waterworks system owner at (804) 446-9822.”

“The Virginia Department of Health conducted a Source Water Assessment of the ARWA source water during 2002. Lake Chesdin (Appomattox River) was determined to be of high susceptibility to contamination, using criteria developed by the State in its EPA-approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, and inventory of known land use activities of concern and documentation of any known contamination within the last five years from the date of the assessment. The report is available by contacting Dr. Robert Wichser at (804) 590-1145.

## What Is a Water Quality Report?

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

To comply with Virginia Department of Health and U.S. Environmental Protection Agency (EPA) regulations, Virginia American Water issues a report annually describing the quality of your drinking water. The purpose of this report is to provide you an overview of last year's (2015) drinking water quality. It includes details about where your water comes from and what it contains. We hope the report will raise your understanding of drinking water issues and awareness of the need to protect your drinking water sources.

## Share This Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important water quality information with water users at their location who are not billed customers of Virginia American Water and therefore do not receive this report directly.



## Where Does My Water Come From?

In April 2001, the Virginia American Water Company acquired ownership and is the current operator of the water system at the U.S. Army Garrison at Fort Lee, Virginia. Virginia American Water customers at Fort Lee enjoy an abundant water supply from two major surface water treatment plants. Fort Lee is a consecutive water system. That is, the drinking water that enters the base is supplied from other treatment facilities outside the installation. Currently, water is supplied from both the Appomattox River Water Authority (ARWA) in Petersburg, and Virginia American Water (VAWC) in Hopewell. For the Hopewell District, the water is withdrawn from the Appomattox River, at the confluence with the James River. The combined drainage area of these two watersheds is approximately 9,000 squares miles. Lake Chesdin, which is supplied by the Appomattox River, is the water source for the Appomattox River Water Authority. To learn more about our watershed on the Internet, go to U.S. EPA's Search Your Watershed at [www.epa.gov/safewater](http://www.epa.gov/safewater).

### Other Drinking Water Constituents You May Be Interested In Are As Follows:

The sodium concentration in the sample collected from Virginia American Water plant effluent was 21.2 ppm. These concentrations exceed the recommended maximum contaminant level guidance of 20 ppm for persons on a "strict" sodium intake diet.

## Water Quality: What You Can Do

Everyone can play a role in improving the health of the source water and the Chesapeake Bay watershed:

- Avoid overuse of pesticides, herbicides and fertilizers, which contribute to the growth of algae that can cause taste and odor in drinking water.
- Clean up after your pet so the rain won't wash pet waste into the watershed through storm sewers.
- Dispose of pharmaceutical and personal care products in the trash, not down the toilet.
- Properly dispose of chemicals, paints and hazardous waste products so they don't enter the watershed through storm sewers.
- If you have a boat, keep it clean to avoid bringing algae, dirty water or contaminants into your marina.

Support regulations and other efforts to reduce nutrients in the watershed.

## Lead Education Statement

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. Virginia American Water is responsible for providing high quality drinking water, 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 two minutes before using the water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

## Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (800) 426-4791.

### Other Drinking Water Constituents You May Be Interested In Are As Follows:

The sodium concentration in the sample collected from the plant effluent was 21.2 ppm. This concentration exceeds the recommended maximum contaminant level guidance of 20ppm for persons on a "strict" sodium intake diet.



## Water Information Sources

**Virginia American Water:**

[www.amwater.com/vaaw](http://www.amwater.com/vaaw)

**Virginia Department of Health:**

[www.vdh.virginia.gov](http://www.vdh.virginia.gov)

**United States Environmental Protection Agency**

[www.epa.gov/safewater](http://www.epa.gov/safewater)

**Safe Drinking Water Hotline: (800) 426-4791**

**Centers for Disease Control and Prevention:**

[www.cdc.gov](http://www.cdc.gov)

**American Water Works Association:**

[www.awwa.org](http://www.awwa.org)

**National Library of Medicine/National Institute of Health:**

[www.nlm.nih.gov/medlineplus](http://www.nlm.nih.gov/medlineplus)

## Substances Expected to be in Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline (800) 426-4791.

The sources of drinking water (both tap water and bottled water) includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

**Contaminants that may be present in source water include:**

**Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems.

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

## Opportunities for Public Participation

Virginia American Water does not schedule regular meetings for public participation in decisions that affect drinking water quality. However when public participation is required, meetings would be announced in the local newspaper and information would be posted on our website ([www.amwater.com/vaaw](http://www.amwater.com/vaaw)).

## Why does my water sometimes have a chlorine taste and odor?

Periodically, you may notice the taste and odor of chlorine in your water. Virginia American Water uses free chlorine instead of the less noticeable combined chlorine (chloramines) as a disinfectant during distribution system flushing. Free chlorine provides the best method of disinfection, during the water main flushing program done each year, to maintain a high level of water quality. Keeping an open container of drinking water in the refrigerator allows the chlorine to dissipate, which usually improves the taste of the water. Change the water in your refrigerated container weekly.



## How to Read the Data Tables

Virginia American Water conducts extensive monitoring. The results of our monitoring are reported in the accompanying tables. While most monitoring was conducted in 2015, certain substances are only monitored once every three to nine years because the levels do not change frequently. For help with interpreting this table, see the "Table Definitions" section.

Starting with a **Substance**, read across. **Year Sampled** is usually in 2015 but may be a prior year. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **Average Amount Detected** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

## Table Definitions and Abbreviations

- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MRDL (Maximum Residual Disinfectant Level):** The highest level of disinfectant routinely allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG (Maximum Residual Disinfectant Level Goal):** The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
- **NA:** Not applicable
- **ND:** Not detected
- **NTU – Nephelometric Turbidity Units:** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter. 1 ppm = 1 minute in 2 years or 1 penny in \$10,000.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter. 1 ppb = 1 minute in 2,000 years or 1 penny in \$10,000,000.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

## Unregulated Contaminant Monitoring

**Definition:** Unregulated contaminants are those for which the U.S. Environmental Protection Agency has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted.

The list of unregulated contaminants applicable for monitoring during 2013-2016 under the unregulated contaminants monitoring rule 3 is located on EPA's website at: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm>

## Water Quality Statement

For your information, we have compiled a list in the table, showing what substances were detected in your drinking water during 2015. We feel it is important that you know exactly what was detected and how much of the substance was present in the water. For information concerning our results, please contact Water Quality Supervisor, Kelly Ryan, at (804) 446-9822.



# Fort Lee Water Quality 2015

## Regulated Substances (from the treatment facilities)

| Substance (units)                   | Year Sampled <sup>1</sup> | MCL  | MCLG        | ARWA                         |                          | VAWC                         |                          | Violation | Typical Source   |
|-------------------------------------|---------------------------|--|-------------|------------------------------|--------------------------|------------------------------|--------------------------|-----------|--|
|                                     |                           |  |             | Amount Detected              | Range of Detected Levels | Amount Detected              | Range of Detected Levels |           |  |
| Alpha emitters (pCi/L)              | 2014 ARWA<br>2015 VAWC    | 15   | 0           | <0.6                         | NA                       | NA                           | NA                       | No        | Erosion of natural deposits  |
| Barium (ppm)                        | 2015                      | 2  | 2           | 0.027                        | NA                       | NA                           | NA                       | No        | Erosion of natural deposits, Discharge of drilling waste and, metal refineries |
| Beta emitters (pCi/L) <sup>2</sup>  | 2014 ARWA<br>2015 VAWC    | 50   | 0           | 4.9 ± 0.8                    | NA                       | 3.4                          | NA                       | No        | Decay of natural and man-made deposits   |
| Fluoride (ppm)                      | 2015                      | 4  | 4           | 0.68                         | 0.01 - 1.31              | 0.63                         | NA                       | No        | Added to water to promote healthy teeth  |
| Nitrate (ppm)                       | 2015                      | 10   | 10          | 0.3                          | NA                       | 0.11                         | NA                       | No        | Erosion of natural deposits; Runoff from fertilizer use                        |
| Radium (pCi/L)                      | 2014 ARWA<br>2015 VAWC    | 5  | 0           | <0.6                         | NA                       | 3.9                          | NA                       | No        | Erosion of natural deposits  |
| TOC                                 | 2015                      | TT   | NA          | 1.35                         | 1.25 - 1.46              | 1.20                         | 1.16 - 1.23              | No        | Naturally present in the environment   |
| Turbidity (NTU) <sup>3</sup>        | 2015                      | TT = 1 NTU                                       | NA          | 0.615                        | NA                       | 0.450                        | NA                       | No        | Soil erosion and runoff  |
|                                     |                           | Percent of readings ≤ 0.3 NTU on a monthly basis | NA          | 99.95% of readings ≤ 0.3 NTU | NA                       | 99.86% of readings ≤ 0.3 NTU | NA                       |           |  |
| Chlorine Dioxide (ppm) <sup>4</sup> | 2015                      | MRDL = 0.8                                       | MRDLG = 0.8 | 0.19                         | -0.12 - 0.19             | NA                           | NA                       | No        | Additive used to control microbes; Used during pre-treatment only              |

<sup>1</sup> Year Sampled: The state requires monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

<sup>2</sup> Beta/Photon emitters: The MCL for Beta/photon emitters is written as 4 mrem/year. EPA considers 50 pCi/L as the level of concern for beta emitters.

<sup>3</sup> Turbidity: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, a minimum of 99.3% of all samples taken to measure turbidity met water quality standards.

<sup>4</sup> Chlorine Dioxide: Is a calculated value, when the chlorine dioxide level is low in the finished water, the concentration will sometimes be a negative number.

## Disinfection By-Products (from the distribution system)

| Substance (units)            | Year Sampled | MCL | MCLG | Amount Detected <sup>5</sup> | Range of Detected Levels <sup>6</sup> | Violation | Typical Source                            |
|------------------------------|--------------|-----|------|------------------------------|---------------------------------------|-----------|---|
| Haloacetic acids (HAAs)      | 2015         | 60  | NA   | 14.6                         | 7.2 - 22.0                            | No        | By-product of drinking water disinfection |
| Total Trihalomethanes (TTHM) | 2015         | 80  | NA   | 48.58                        | 18.6 - 66.9                           | No        | By-product of drinking water disinfection |
| Chlorite (ppm)               | 2015         | 1.0 | 0.8  | 0.25                         | ND - 0.26                             | No        | By-product of drinking water disinfection |

Trihalomethanes: Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

<sup>5</sup> Amount detected is the locational running annual average of the 4 Stage 2 compliance sample sites

<sup>6</sup> The range is determined using all compliance sites

## Regulated Lead and Copper (Tap water samples were collected from 30 homes on Base)

| Substance (units) | Year Sampled | MCL      | MCLG | Amount Detected (90 <sup>th</sup> Percentile) | Number of Samples Over Action Level | Violation | Typical Source   |
|-------------------|--------------|----------|------|---|-------------------------------------|-----------|--|
| Copper (ppm)      | 2014         | AL = 1.3 | 1.3  | 0.141   | 0                                   | No        | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb)        | 2014         | AL = 15  | 0    | <1  | 0                                   | No        | Corrosion of household plumbing systems; Erosion of natural deposits |

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.





## Bacteriological Results (from the distribution system)

| Substance (units)                           | Year Sampled | MCL                       | MCLG      | Highest Level Detected            | Compliance Achieved | Typical Source                                |
|---|--------------|---------------------------|-----------|-----------------------------------|---------------------|---|
| Total Coliform (number of positive samples) | 2015         | 1 positive monthly sample | 0         | 0                                 | Yes                 | Bacteria naturally present in the environment |
| Chlorine/Chloramine Residual                | 2015         | MRDL = 4                  | MRDLG = 4 | Range: 0.4 - 3.4<br>Average: 1.93 | Yes                 | Additive used to control microbes             |

## Unregulated Substances (from the distribution system)<sup>7</sup>

| Substance (units)            | Year Sampled | ARWA            |                          | VAWC            |                          | Typical Source                            |
|------------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|---|
|                              |              | Amount Detected | Range of Detected Levels | Amount Detected | Range of Detected Levels |   |
| Bromide (ppm)                | 2015         | NA              | NA                       | 0.02            | ND - 0.02                | By-product of drinking water disinfection |
| Bromochloroacetic Acid (ppb) | 2015         | NA              | NA                       | 2.0             | ND - 2.0                 | By-product of drinking water disinfection |
| Bromodichloromethane (ppb)   | 2015         | NA              | NA                       | 14.3            | 3.4 - 14.3               | By-product of drinking water disinfection |
| Chlorate (ppm)               | 2015         | NA              | NA                       | 0.61            | ND - 0.61                | By-product of drinking water disinfection |
| Chloroform (ppb)             | 2015         | NA              | NA                       | 48.7            | 15.2 - 48.7              | By-product of drinking water disinfection |
| Chlorodibromomethane (ppb)   | 2015         | NA              | NA                       | 3.9             | ND - 3.9                 | By-product of drinking water disinfection |
| Dichloroacetic Acid (ppb)    | 2015         | NA              | NA                       | 12.0            | 4.1 - 12.0               | By-product of drinking water disinfection |
| Monobromoacetic Acid (ppb)   | 2015         | NA              | NA                       | 3.1             | ND - 3.1                 | By-product of drinking water disinfection |
| Trichloroacetic Acid (ppb)   | 2015         | NA              | NA                       | 8.9             | 2.4 - 8.9                | By-product of drinking water disinfection |

<sup>7</sup> Unregulated Substances (from the distribution system) are results from disinfection by-product sampling locations.

## Other Unregulated Substances (from the treatment facilities)

| Substance (units)          | Year Sampled                   | ARWA            |                          | VAWC            |                          | Typical Source   |
|----------------------------|--------------------------------|-----------------|--------------------------|-----------------|--------------------------|--|
|                            |                                | Amount Detected | Range of Detected Levels | Amount Detected | Range of Detected Levels |  |
| Calcium (ppm)              | 2015                           | NA              | NA                       | 14              | NA                       | Naturally occurring  |
| Magnesium (ppm)            | 2015                           | NA              | NA                       | 3               | NA                       | Naturally occurring  |
| Sodium (ppm)               | 2015                           | NA              | NA                       | 21.2            | NA                       | Naturally occurring and water treatment additive   |
| Giardia (cysts/L)          | 2015                           | NA              | NA                       | 0.400           | ND - 0.400               | Organism naturally present in the environment  |
| Cryptosporidium (oocyst/L) | ARWA:<br>2015<br>VAWC:<br>2015 | 0.019           | NA                       | 0.178           | ND - 0.178               | Organism naturally present in the environment  |
| Bromodichloromethane (ppb) | 2015                           | 3.6             | NA                       | NA              | NA                       | By-product of drinking water disinfection  |
| Chloroform (ppb)           | 2015                           | 25              | NA                       | NA              | NA                       | By-product of drinking water disinfection  |
| MTBE (ppb)                 | 2015                           | <5.0            | NA                       | NA              | NA                       | Leaking underground gasoline storage tanks   |
| Zinc (ppm)                 | 2015                           | NA              | NA                       | 0.134           | NA                       | Water treatment additive   |
| Sulfate (ppm)              | 2015                           | 26.7            | NA                       | 32.5            | NA                       | Erosion of natural deposits and water treatment additive   |
| Chloride (ppm)             | 2015                           | NA              | NA                       | 16.6            | NA                       | Naturally occurring  |
| Chlorite (ppm)             | 2015                           | 0.57            | ND - 0.57                | NA              | NA                       | By-product of drinking water disinfection  |
| Total Chlorine (ppm)       | 2015                           | 3.16            | 0.70 - 3.8               | 3.98            | 0.20 - 3.98              | Additive used to control microbes; Values reported for ARWA are from distribution system prior to Ft Lee entry point |

## Unregulated Substances (from the distribution system and treatment facility) UCMR3

| Substance (units)  | Year Sampled | Amount Detected <sup>5</sup> | Range of Detected Levels <sup>6</sup> | Typical Source   |
|--------------------|--------------|------------------------------|---------------------------------------|--|
| Strontium (ug/L)   | 2014         | 43.2                         | 38.3 - 43.2                           | Soil Runoff  |
| Vanadium (ug/L)    | 2014         | 0.5                          | 0.3 - 0.5                             | Discharge from power plants; erosion of natural deposits |
| Chromium VI (ug/L) | 2014         | 0.07                         | 0.05 - 0.07                           | Discharge from steel and pulp mills                      |
| Chlorate (ug/L)    | 2014         | 470                          | ND - 470                              | By Product of disinfection                               |





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