



*Effective and Economical
Environmental Solutions*

**Lead in Drinking Water Screening
Closter Board of Education
340 Homans Avenue
Closter, NJ 07624**

Karl Environmental Group Project #: 16-0622

June 6, 2016

Prepared for:

**Mr. Peter Iappelli
Business Administrator
Closter Board of Education
340 Homans Avenue
Closter, NJ 07624**

Prepared by:

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June 6, 2016

Mr. Peter Iappelli
Business Administrator
Closter Board of Education
340 Homans Avenue
Closter, NJ 07624

Re: Lead in Drinking Water Screening
Hillside Elementary School: 340 Homans Avenue, Closter, NJ 07624
Tenakil Middle School: 275 High Street, Closter, NJ 07624
Karl Environmental Group Project #: 16-0622

Dear Mr. Iappelli:

Thank you for selecting Karl Environmental Group ("Karl") for this project. This report details the methods and findings of the lead in drinking water screening performed at the Hillside Elementary School located at 340 Homans Avenue and the Tenakil Middle School, located at 275 High Street, in Closter, New Jersey (the "Facilities") on April 21, 2016.

1.0 PROJECT BACKGROUND

Karl was contacted by the Closter Board of Education (the "Client") to conduct a lead in drinking water screening to determine the lead content of water sampled from representative potable water collection points throughout the facilities.

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. There are currently no state or federal regulations that require the testing of drinking water in schools supplied by a municipal water utility, however, 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 collected drinking water samples from selected potable water outlets throughout each of the Facilities, spatially spread in order to be representative of the entire building, and chosen to include those water sources most often used by the occupants in each building. 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."

At each collection point, Karl filled a 250 milliliter (mL) wide-mouth, high density polyethylene (HDPE) sample collection bottle pretreated with a Nitric Acid (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). Subsequently, a second draw sample was taken at each collection point after flushing the water for a predetermined amount of time. The second draw sample is representative of the water from the lateral plumbing lines that lead to the collection point. A service line sample and a water main sample were also collected from each 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. The second draw samples were placed on hold and were only analyzed in the case that analysis of the corresponding first draw sample identified lead concentrations at or above the Action Level of fifteen (15) ppb.



Hillside Elementary School

- One (1) Service Line Sample
- One (1) Main Line Sample
- Twenty (20) First Draw Samples
- Twenty (20) Second Draw Samples

Tenakil Middle School

- One (1) Service Line Sample
- One (1) Main Line Sample
- Eight (8) First Draw Samples
- Eight (8) Second Draw Samples

A sampling map indicating the location of each collection point is included in Appendix A.

4.0 DRINKING WATER ANALYSIS RESULTS

The analytical lead in drinking water results for each first draw sample are listed in Tables 1 & 2, below:

Table 1: Analytical Lead Results for First Draw Drinking Water Samples Collected from Hillside Elementary School

Sample ID	Location	Type of Collection Point	Lead Concentration (mg/L)	Lead Concentration (ppb)	Above Action Level?
CL-HES-01-S	A101 Closet (Service Line Sample)	SS	<0.001	<1	No
CL-HES-01-M	A101 Closet (Main Line Sample)	SS	<0.001	<1	No
CL-HES-01-A	Next to Electrical Closet (Left)	MWF	<0.001	<1	No
CL-HES-02-A	Next to Electrical Closet (Right)	MWF	<0.001	<1	No
CL-HES-03-A	In Room C136	MWF	0.024	24	Yes
CL-HES-04-A	In Room C137	MWF	0.030	30	Yes
CL-HES-05-A	In Room C138	MWF	0.019	19	Yes
CL-HES-06-A	Between A101 and Boiler Room	PWF	0.003	3	No
CL-HES-07-A	Opposite C139	PWF	0.018	18	Yes
CL-HES-08-A	Opposite C140	PWF	0.019	19	Yes
CL-HES-09-A	In Room C141	MWF	0.013	13	No
CL-HES-10-A	In Room C153	PWF	0.009	9	No
CL-HES-11-A	In Room C156	PWF	0.023	23	Yes
CL-HES-12-A	Kitchen	KF	0.003	3	No
CL-HES-13-A	Opposite C106 (Left)	MWF	<0.001	<1	No
CL-HES-14-A	Opposite C106 (Right)	MWF	<0.001	<1	No
CL-HES-15-A	Faculty Room (B101)	KF	0.004	4	No
CL-HES-16-A	In Room C104	MWF	0.010	10	No
CL-HES-17-A	Next to Custodial Closet D-Wing	MWF	<0.001	<1	No



Sample ID	Location	Type of Collection Point	Lead Concentration (mg/L)	Lead Concentration (ppb)	Above Action Level?
CL-HES-18-A	In Room C103	MWF	0.012	12	No
CL-HES-19-A	In Room P100	MWF	<0.001	<1	No
CL-HES-20-A	In Room P102	MWF	<0.001	<1	No

PWF = Porcelain Water Fountain
MWF = Metal Water Fountain
HC = Hose Connection
KF = Kitchen Faucet

MS = Metal Sink
PS = Porcelain Sink
BD = Bottle Water Dispenser
SS = Slop Sink

Table 2: Analytical Lead Results for First Draw Drinking Water Samples Collected from Tenakil Middle School

Sample ID	Location	Type of Collection Point	Lead Concentration (mg/L)	Lead Concentration (ppb)	Above Action Level?
CL-TMS-01-S	Outside Maintenance Room (Service Line Sample)	HC	<0.001	<1	No
CL-TMS-01-M	Outside Maintenance Room (Main Line Sample)	HC	<0.001	<1	No
CL-TMS-01-A	Outside Main Office	MWF	<0.001	<1	No
CL-TMS-02-A	Faculty Room	KF	0.002	2	No
CL-TMS-03-A	Nurse's Office Exam Room	MS	0.003	3	No
CL-TMS-04-A	Opposite B114	MWF	<0.001	<1	No
CL-TMS-05-A	Opposite B128 Boiler Room	MWF	0.011	11	No
CL-TMS-06-A	Opposite B212	MWF	0.002	2	No
CL-TMS-07-A	Opposite B205	MWF	0.006	6	No
CL-TMS-08-A	Kitchen	KF	0.005	5	No

PWF = Porcelain Water Fountain
MWF = Metal Water Fountain
HC = Hose Connection
KF = Kitchen Faucet

MS = Metal Sink
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 at the time of the screening event, six (6) of the first draw samples collected exhibited a lead level above the Action Level of 15 ppb. All six (6) exceedences occurred at the Hillside Elementary School. The second draw samples for those collection points at the Hillside Elementary School exhibiting elevated lead levels were analyzed. No exceedences occurred at the Tenakil Middle School. The results of the second draw sample analysis are shown in Table 3, below:



Table 3: Analytical Lead Results for Second Draw Drinking Water Samples Collected from Hillside Elementary School

Sample ID	Location	Type of Collection Point	Lead Concentration (mg/L)	Lead Concentration (ppb)	Likely Source of Lead Contamination
CL-HES-03-B	In Room C136	MWF	0.003	3	Collection Point
CL-HES-04-B	In Room C137	MWF	0.003	3	Collection Point
CL-HES-05-B	In Room C138	MWF	0.002	2	Collection Point
CL-HES-07-B	Opposite C139	PWF	0.005	5	Collection Point
CL-HES-08-B	Opposite C140	PWF	0.006	6	Collection Point
CL-HES-11-B	In Room C156	PWF	0.010	10	Collection Point and Upstream Plumbing

PWF = Porcelain Water Fountain
MWF = Metal Water Fountain
HC = Hose Connection
KF = Kitchen Faucet

MS = Metal Sink
PS = Porcelain Sink
BD = Bottle Water Dispenser
SS = Slop Sink

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. 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 3, based on the second draw sample results, the source of lead contamination identified in five (5) of the samples from the Hillside Elementary School is the collection point with little to no contribution from upstream plumbing or the water service and main lines. For the sixth second draw sample, collected in Room C156, results indicate the source of lead contamination is likely a combination of upstream plumbing and the collection point itself with little to no contribution from the water service or main lines.

Analytical laboratory results and chains of custody are included in Appendix B.

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 reports. Closter, New Jersey is serviced by SUEZ. Karl obtained the most recently released consumer confidence report from SUEZ dated June 2016 and reviewed the results of water quality testing as it relates to lead in drinking water. According to the consumer confidence report, the most common source of lead in public water systems is the corrosion of household plumbing and the erosion of natural deposits.



SUEZ reported five (5) exceedances of the Action Level of 15 ppb for lead in their most recent consumer confidence report (June 2016). Additionally, 90% of the water samples collected exhibited lead levels of 13.9 ppb or lower. Based on the reported statistics, SUEZ was in compliance with regards to lead contamination in water.

The service line samples (CL-HES-01-S and CL-TMS-01-S) and the main line samples (CL-TMS-01-S and CL-TMS-01-M) collected at the Hillside Elementary School and Tenakil Middle School are representative of the water entering the building. The results indicate that the the service line, main line, and/or municipal water are not likely to be significant sources of the lead contamination within the Facilities. The EPA guidance implies that “very low lead levels” are less than five (5) ppb.

The consumer confidence report is included in Appendix C.

6.0 CONCLUSIONS & RECOMMENDATIONS

Karl collected first draw and second draw drinking water samples from the Hillside Elementary School and Tenakil Middle School in Closter, New Jersey. Additionally, service line and main line samples were collected the Facilities. Six (6) first draw samples from Hillside Elementary School exhibited lead levels above the recommended Action Level of 15 ppb, and therefore the corresponding second draw samples were analyzed. The second draw sample results indicated that the drinking water outlet is the likely source of contamination for five (5) of the samples. The collection point and the upstream plumbing are potentially contributing to the elevated lead levels identified in the final sample. Based on the findings of the lead in drinking water screening and observations made during sample collection, Karl offers the following recommendations at this time:

- Immediately remove from service the water outlets that exhibited elevated lead levels.
- Replace the drinking water outlets in the locations where elevated lead levels were identified.
- Install filters upstream from the outlets. Regularly replace spent water filters according to manufacturer recommendations to prevent contaminants from passing through to the drinking water port.
- 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 remedial actions.
- Replace any known or discovered lead piping with with lead-free piping.



- 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.
- 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 did not attempt to sample all water outlets in each building. As such, Karl 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).



8.0 CLOSING

Thank you for using Karl 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

A handwritten signature in cursive script that reads "Kelly L. Mays".

Kelly L. Mays
Consultant

Attachments:

A-Sampling Location Maps

B-Laboratory Analytical Report

C-Consumer Confidence Reports



SUBURBAN TESTING LABS

Results Report

Order ID: 6043525

Karl Environmental Group 20 Lauck Road Mohnton, PA 19540	Project: Copper & Lead
Attn: Kristian Bills	Regulatory ID:

Sample Number: 6043525-01	Site: CL-HES-01-S	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:37 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:18	RPV
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Sample Number: 6043525-02	Site: CL-HES-01-M	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:40 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:43	RPV
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Sample Number: 6043525-03	Site: CL-HES-01-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:43 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:53	RPV
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Sample Number: 6043525-04	Site: CL-HES-02-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:43 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:55	RPV
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Sample Number: 6043525-05	Site: CL-HES-03-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:47 am	Sample Type: Grab

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

Lead	0.024	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:57	RPV
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Report Generated On: 05/31/2016 4:49 pm 6043525
 STL_Results Revision #1.6 Effective: 07/09/2014





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Sample Number: 6043525-06 Site: CL-HES-04-A Sample ID:
 Collector: DT Collect Date: 04/21/2016 3:49 am Sample Type: Grab

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

Lead 0.030 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 22:59 RPV

Sample Number: 6043525-07 Site: CL-HES-05-A Sample ID:
 Collector: DT Collect Date: 04/21/2016 3:52 am Sample Type: Grab

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

Lead 0.019 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:01 RPV

Sample Number: 6043525-08 Site: CL-HES-06-A Sample ID:
 Collector: DT Collect Date: 04/21/2016 3:55 am Sample Type: Grab

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

Lead 0.003 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:03 RPV

Sample Number: 6043525-09 Site: CL-HES-07-A Sample ID:
 Collector: DT Collect Date: 04/21/2016 4:01 am Sample Type: Grab

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

Lead 0.018 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:05 RPV

Sample Number: 6043525-10 Site: CL-HES-08-A Sample ID:
 Collector: DT Collect Date: 04/21/2016 4:05 am Sample Type: Grab

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

Lead 0.019 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:07 RPV

Sample Number: 6043525-11 Site: CL-HES-09-A Sample ID:
 Collector: DT Collect Date: 04/21/2016 4:08 am Sample Type: Grab

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

Lead 0.013 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:09 RPV

Report Generated On: 05/31/2016 4:49 pm 6043525
 STL_Results Revision #1.6 Effective: 07/09/2014





SUBURBAN TESTING LABS

Sample Number: 6043525-12
Collector: DT

Site: CL-HES-10-A
Collect Date: 04/21/2016 4:11 am

Sample ID:
Sample Type: Grab

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

Lead	0.009	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 23:11	RPV
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Sample Number: 6043525-13
Collector: DT

Site: CL-HES-11-A
Collect Date: 04/21/2016 4:15 am

Sample ID:
Sample Type: Grab

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

Lead	0.023	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 23:21	RPV
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Sample Number: 6043525-14
Collector: DT

Site: CL-HES-12-A
Collect Date: 04/21/2016 4:20 am

Sample ID:
Sample Type: Grab

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

Lead	0.003	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 23:23	RPV
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Sample Number: 6043525-15
Collector: DT

Site: CL-HES-13-A
Collect Date: 04/21/2016 4:25 am

Sample ID:
Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 23:25	RPV
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Sample Number: 6043525-16
Collector: DT

Site: CL-HES-14-A
Collect Date: 04/21/2016 4:26 am

Sample ID:
Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 23:27	RPV
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Sample Number: 6043525-17
Collector: DT

Site: CL-HES-15-A
Collect Date: 04/21/2016 4:28 am

Sample ID:
Sample Type: Grab

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

Lead	0.004	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 23:29	RPV
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Report Generated On: 05/31/2016 4:49 pm 6043525
STL_Results Revision #1.6 Effective: 07/09/2014





SUBURBAN TESTING LABS

Sample Number: 6043525-18
Collector: DT

Site: CL-HES-16-A
Collect Date: 04/21/2016 4:34 am

Sample ID:
Sample Type: Grab

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

Lead 0.010 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:31 RPV

Sample Number: 6043525-19
Collector: DT

Site: CL-HES-17-A
Collect Date: 04/21/2016 4:38 am

Sample ID:
Sample Type: Grab

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

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:33 RPV

Sample Number: 6043525-20
Collector: DT

Site: CL-HES-18-A
Collect Date: 04/21/2016 4:46 am

Sample ID:
Sample Type: Grab

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

Lead 0.012 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:35 RPV

Sample Number: 6043525-21
Collector: DT

Site: CL-HES-19-A
Collect Date: 04/21/2016 4:50 am

Sample ID:
Sample Type: Grab

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

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/05/16 23:17 RPV

Sample Number: 6043525-22
Collector: DT

Site: CL-HES-20-A
Collect Date: 04/21/2016 4:53 am

Sample ID:
Sample Type: Grab

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

Lead < 0.001 mg/L EPA 200.8 0.001 1 05/05/16 RPV 05/06/16 22:11 RPV

Sample Number: 6043525-25
Collector: DT

Site: CL-HES-03-B
Collect Date: 04/21/2016 3:48 am

Sample ID:
Sample Type: Grab

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

Lead 0.003 mg/L EPA 200.8 0.001 1 05/27/16 JGY 05/28/16 4:56 RPV

Report Generated On: 05/31/2016 4:49 pm
STL_Results Revision #1.6

6043525
Effective: 07/09/2014





SUBURBAN TESTING LABS

Sample Number: 6043525-26	Site: CL-HES-04-B	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:50 am	Sample Type: Grab

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

Lead	0.003	mg/L	EPA 200.8	0.001	1	05/27/16	JGY	05/28/16 5:01	RPV
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Sample Number: 6043525-27	Site: CL-HES-05-B	Sample ID:
Collector: DT	Collect Date: 04/21/2016 3:53 am	Sample Type: Grab

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

Lead	0.002	mg/L	EPA 200.8	0.001	1	05/27/16	JGY	05/28/16 5:03	RPV
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Sample Number: 6043525-29	Site: CL-HES-07-B	Sample ID:
Collector: DT	Collect Date: 04/21/2016 4:03 am	Sample Type: Grab

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

Lead	0.005	mg/L	EPA 200.8	0.001	1	05/27/16	JGY	05/28/16 5:05	RPV
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Sample Number: 6043525-30	Site: CL-HES-08-B	Sample ID:
Collector: DT	Collect Date: 04/21/2016 4:06 am	Sample Type: Grab

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

Lead	0.006	mg/L	EPA 200.8	0.001	1	05/27/16	JGY	05/28/16 5:06	RPV
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Sample Number: 6043525-33	Site: CL-HES-11-B	Sample ID:
Collector: DT	Collect Date: 04/21/2016 4:16 am	Sample Type: Grab

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

Lead	0.010	mg/L	EPA 200.8	0.001	1	05/27/16	JGY	05/28/16 5:08	RPV
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Data Qualifiers:

Report Generated On: 05/31/2016 4:49 pm 6043525
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William Smith

Client Services

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6043525
Effective: 07/09/2014

1037F MacArthur Road, Reading, PA 19605 Phone: 800-433-6595 Fax: 610-375-4090 suburbantestinglabs.com



PADEP 06-00206



SUBURBAN TESTING LABS

Results Report

Order ID: 6043476

Karl Environmental Group 20 Lauck Road Mohnton, PA 19540	Project: Copper & Lead
Attn: Kristian Bills	Regulatory ID:

Sample Number: 6043476-01	Site: CL-TMS-01-S	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:14 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 21:45	RPV
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Sample Number: 6043476-02	Site: CL-TMS-01-M	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:17 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 21:51	RPV
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Sample Number: 6043476-03	Site: CL-TMS-01-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:24 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 21:53	RPV
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Sample Number: 6043476-04	Site: CL-TMS-02-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:26 am	Sample Type: Grab

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

Lead	0.002	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 21:55	RPV
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Sample Number: 6043476-05	Site: CL-TMS-03-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:29 am	Sample Type: Grab

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

Lead	0.003	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 21:57	RPV
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Report Generated On: 05/12/2016 4:55 pm 6043476
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SUBURBAN TESTING LABS

Sample Number: 6043476-06	Site: CL-TMS-04-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:38 am	Sample Type: Grab

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

Lead	< 0.001	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 21:59	RPV
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Sample Number: 6043476-07	Site: CL-TMS-05-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:40 am	Sample Type: Grab

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

Lead	0.011	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:05	RPV
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Sample Number: 6043476-08	Site: CL-TMS-06-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:44 am	Sample Type: Grab

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

Lead	0.002	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:08	RPV
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Sample Number: 6043476-09	Site: CL-TMS-07-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 5:48 am	Sample Type: Grab

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

Lead	0.006	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:10	RPV
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Sample Number: 6043476-10	Site: CL-TMS-08-A	Sample ID:
Collector: DT	Collect Date: 04/21/2016 6:04 am	Sample Type: Grab

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

Lead	0.005	mg/L	EPA 200.8	0.001	1	05/05/16	RPV	05/05/16 22:12	RPV
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Data Qualifiers:

Report Generated On: 05/12/2016 4:55 pm 6043476
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