



DRINKING WATER SAMPLING REPORT

Morris-Union Jointure Commission

Transportation Department
Berkeley Heights, New Jersey 07922

December 7, 2021
Partner Project No. 21-331027.12



Prepared for

Morris-Union Jointure Commission

340 Central Avenue
New Providence, New Jersey 07974

December 7, 2021

Erik Hammerdahl
Morris-Union Jointure Commission
340 Central Avenue
New Providence, New Jersey 07974

Subject: Drinking Water Sampling Report
Morris-Union Jointure Commission
Transportation Department
310 Snyder Avenue
Berkeley Heights, New Jersey 07922
Partner Project 21-331027.12

Dear Mr. Hammerdahl:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the *Drinking Water Sampling* conducted at the abovementioned address (the "subject property"). This sampling event was performed in general conformance with the scope and limitations as detailed in our fee proposal. This inspection included a site reconnaissance as well as sampling and analysis. An assessment was made, conclusions stated, and recommendations outlined, as required.

We appreciate the opportunity to provide environmental services to the Morris-Union Jointure Commission. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (908) 497-8904 or via e-mail at dbracey@partneresi.com.

Sincerely,



Dan Bracey, CSP, CHMM
Senior Project Manager
Industrial Hygiene & Health and Safety Services

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Executive Summary

Partner Engineering and Science, Inc. (Partner) collected drinking water samples for Morris-Union Jointure Commission at New Providence Developmental Learning Center (DLC) on October 23, 2021. Samples were collected according to the "New Jersey Department of Education N.J.A.C. 6A:26" requirements for testing of lead in New Jersey Schools and the "USEPA 3Ts for Reducing Lead in Drinking Water in Schools" recommendations, as well as the Safe Drinking Water Act of 1974.

The first sample at each fixture was a "first draw" which was collected directly from the fixture without letting the water run or flush. The second sample was collected after letting the water run (flush) for thirty seconds. This sample evaluates the lead in water from the water purveyor and the pipes outside the building. The samples collected were analyzed by Alpha Analytical Labs located in Mahwah, New Jersey for analysis of lead content using USEPA Method 200.8 for lead in drinking water. The action level for lead has been set at 15 parts per billion (ppb). According to the USEPA, given present technology and resources, this level is the lowest level to which water systems can reasonably be required to control this contaminant should it be present in drinking water.

Sample analysis indicated that measured lead concentrations did exceed the USEPA Action Level of 15 ppb for lead at New Providence DLC. Specifically, water from the following outlets had exceedances:

- TRA-POE, initial draw, 50.96 ppb
- TRA-POE-F, second draw, 42.80 ppb

Based on the above referenced sample analytical results, Partner recommends the following actions:

- For initial point of entry outlet exceeding the USEPA Action Level, this outlet should be labelled as "Do Not Drink – Safe for Handwashing Only".
- A flushing program can be implemented at the point of entry outlet, with either manual or automatic flushing.
- Conduct an investigation into the drinking water outlet of concern and replace any potential lead-leaching fixtures or equipment, such as fixtures and associated piping, that may be contributing to dissolved lead in drinking water.

1.0 INTRODUCTION

1.1 Property Description

Address(s):	Transportation Department – 310 Snyder Avenue, Berkeley Heights, NJ
Nature of Use:	Transportation Depot/Office
Walk-Through Inspector:	Angelica Rosaperez
Walk-Through Date:	October 11, 2021
Sampling Conducted By:	Nastja Swenticky
Sampling Date:	October 23, 2021

1.2 Purpose and Scope

The purpose of this drinking water sampling event was to sample and analyze drinking water for a determination of lead content for comparison with the USEPA Action Level as defined by the National Primary Drinking Water Regulations (NPDWR - 40 CFR Chapter I, Part 141), in addition to the "New Jersey Department of Education N.J.A.C. 6A:26" requirements for testing of lead in New Jersey Schools and the "USEPA 3Ts for Reducing Lead in Drinking Water in Schools". The NPDWR set a Maximum Contaminant Level Goal (MCLG) for each listed contaminant, which identifies a level of that contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals. The MCLG for lead has been set at zero (0) ppb. Since lead contamination generally occurs from corrosion of onsite lead pipes, or lead-based solder on fittings and fixtures, it cannot be directly detected or removed by the municipal water system. Instead, the USEPA is requiring municipal water systems to control the corrosiveness of their water if the level of lead at the tap exceeds an Action Level.

The action level for lead has been set at 15 parts per billion (ppb). According to the NPDWR Lead and Copper Rule (LCR), given present technology and resources, this level is the lowest level to which water systems can reasonably be required to control this contaminant should it be present in drinking water.

The second sample was collected after letting the water run (flush) for thirty seconds. This sample evaluates the lead in water from the water purveyor and the pipes outside the building. Flush samples were analyzed only if the first draw sample was at or above the USEPA action level of 15 ppb.

2.0 METHODOLOGY

Select drinking water samples were collected according to the "New Jersey Department of Education N.J.A.C. 6A:26" requirements for testing of lead in New Jersey Schools and the "USEPA 3Ts for Reducing Lead in Drinking Water in Schools" recommendations, as well as the LCR Monitoring requirements for lead in tap water (40 CFR Part 141, Subpart I, § 141.86(b)). Sampling consisted of collecting a one liter (L) first draw sample from a drinking water outlet that had been stagnant for at least eight (8) hours in a bottle with an appropriate preservative. Partner made a reasonable effort to determine whether the stagnation preconditions were able to be met prior to conducting sampling. A second-draw sample was collected minutes after the first-draw, in order to determine whether lead was being provided via the service line. Second-draw samples were only analyzed if the first-draw sample exceeded the USEPA Action Level of 15 ppb. Sample bottles were provided by Alpha Analytical Labs located in Mahwah, New Jersey with an appropriate preservative lead in drinking water sampling. After collection, sample bottles were labeled with a unique identifier and transferred under chain of custody to by Alpha Analytical Labs located in Mahwah, New Jersey for analysis by USEPA Method 200.8. The laboratory results and chain of custody are contained in **Appendix A**.

3.0 BACKGROUND

Partner collected a total of twenty (20) samples from Morris-Union Jointure Commission-Transportation on December 29, 2016. A total of eleven (11) samples were analyzed. Following collection, samples were sent to ESC Lab Sciences in Mount Juliet, Tennessee for analysis of lead content using USEPA Method 200.8 for lead in drinking water. The results of the analytical data revealed that a total of one (1) first draw samples exceeded the USEPA Action level of 15 ppb for lead.

4.0 ANALYTICAL RESULTS

During the course of this site visit, Partner collected water samples at 10 locations. Partner did not attempt to disassemble mechanical equipment, open plumbing pipe chases, or assess materials within wall voids.

Sample names and their respective locations were updated from the 2016 sampling event based on relevant known plumbing information as provided by the site guide.

A total of 20 drinking water samples were collected from the Transportation Department on October 23, 2021. A total of eleven (11) samples were analyzed. The results are listed in Table 1 below.

Table 1 Analytical Results Summary Transportation Department October 23, 2021		
Sample Name	Location	Results (ppb)
TRA-S-01	Men's bathroom	ND
TRA-S-02	Men's bathroom	ND
TRA-S-03	Women's bathroom	0.7733
TRA-S-04	Women's bathroom	0.4400
TRA-S-05	Women's bathroom	0.6345
TRA-S-06	Women's bathroom	ND
TRA-WC-07	Driver's break room	ND
TRA-S-08	Kitchenette	ND
TRA-S-09	Mechanic's bathroom	0.6946
TRA-POE	Custodial Closet	50.96
TRA-POE-F	Custodial Closet	42.80

NOTES

ND= Not detected. Lead levels not detected at the reporting limit (0.3430 ppb)

1 ppb = 1 ug/L

BOLD = Exceedances above USEPA Action Level 15 ppb

5.0 CONCLUSION

Sample analysis indicated that measured lead concentrations did exceed the USEPA Action Level of 15 ppb for lead at New Providence DLC. Specifically, water from the following outlets had exceedances:

- TRA-POE, initial draw, 50.96 ppb
- TRA-POE-F, second draw, 42.80 ppb

6.0 RECOMMENDATIONS

Based on the above referenced sample analytical results, Partner recommends the following actions:

- For initial point of entry outlet exceeding the USEPA Action Level, this outlet should be labelled as “Do Not Drink – Safe for Handwashing Only”.
- A flushing program can be implemented at the point of entry outlet, with either manual or automatic flushing.
- Conduct an investigation into the drinking water outlet of concern and replace any potential lead-leaching fixtures or equipment, such as fixtures and associated piping, that may be contributing to dissolved lead in drinking water.

Additional control technologies may be utilized to reduce lead content in drinking water, including, but not limited to onsite water treatment and filtration. All response actions should be conducted in accordance with industry, local, state and federal guidelines and/or requirements

In the event the remedial action involves replacing the fixture/associated piping or installing a new fixture, Morris-Union Jointure Commission should conduct sampling for lead in drinking water to ensure lead levels are below the action level prior to opening up the fixture for use. Additionally, sampling of all drinking water outlets must be conducted every third school year beginning with the 2021-2022 school year.

Flushing involves opening suspect taps every morning before the facility opens and letting the water run to remove water that has been standing in the interior pipes and/or the outlets. All flushing should be recorded in a log submitted daily to the head of maintenance/facilities. The faucet should be opened, and the water should run for 30 seconds to one minute, or until cold.

A filtration device, or point-of-use (POU) device can be relatively inexpensive (\$65 to \$250) or expensive (ranging from \$250 to \$500), their effectiveness varies, and they may be vulnerable to vandalism. They also require a maintenance program for regular upkeep to ensure effectiveness. Cartridge filter units need to be replaced periodically to remain effective. NSF International, an independent, third-party certification organization, has a testing program to evaluate the performance of POU devices for lead removal (NSF Standard 53). Before purchasing any device, ask the manufacturer for proof of NSF approval and the Performance Data Sheet, or check by visiting the NSF Web site at:

http://www.nsf.org/business/search_listings/index/asp

Consult NSF Standard 61 (Sections 4, 8 and 9) before buying any replacement products. This standard will provide you with information on plumbing products that are designed to minimize lead leaching. Before you purchase any brass plumbing products, request information regarding compliance with this standard.

7.0 LIMITATIONS

Partner subcontracted with Alpha Analytical, Inc. who performed the lead analysis. No warranties expressed or implied, are made by Partner or its subcontractor Alpha Analytical, Inc. or their employees as to the use of any information, apparatus, product or process disclosed in this report. Every reasonable effort has been made to assure correctness.

State-of-the-art practices have been employed to perform this inspection. No demolition or product research was performed in attempts to reveal material compositions. The services consist of professional opinions and recommendations made in accordance with generally accepted engineering principles/practices. These services are designed to provide an analytical tool to assist the client. Partner and its subcontractors and their employees/representatives bear no responsibility for the actual condition of the structure or safety of this site pertaining to lead and/or lead contamination regardless of the actions taken by the inspection team or the client.

8.0 SIGNATURES OF PROFESSIONALS

Partner performed lead-in-drinking water sampling at the Morris-Union Jointure Commission properties, Union County, New Jersey in general conformance with the scope and limitations of the protocol stated earlier in this report. Exceptions to or deletions from this protocol are discussed earlier in this report.

Prepared By:

Partner Engineering and Science, Inc.



Angelica Rosaperez
Field Technician

Reviewed by:



Dan Bracey, CSP, CHMM
Senior Project Manager

APPENDIX A: LABORATORY ANALYSIS AND CHAIN OF CUSTODY

APPENDIX B: SAMPLING PLAN

APPENDIX C: QUALITY ASSURANCE PROJECT PLAN
