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UNITED ANALYTICAL SERVICES, INC.

December 7, 2017

Board of Education
Queen Bee School District #16
1560 Bloomingdale Road
Glendale Heights, Illinois 60139

UAS Project #1798621-01

Attn: Mr. Dick Mabberley, Director of Buildings and Grounds
Re: Summary of Findings - Lead in Drinking Water Sampling & Lab Analysis
Queen Bee School -
1525 Bloomingdale Road, Glendale Heights, IL 60139
November 15, 2017

Dear Mr. Mabberley:

United Analytical Services, Inc. (UAS) prepared this executive summary of findings for the drinking water sampling performed at Queen Bee School District #16's Queen Bee School located at 1525 Bloomingdale Road in Glendale Heights, Illinois on November 15, 2017. The current testing involved collecting drinking water samples from ALL twelve (12) of the drinking water sources/locations throughout the school facility that are accessible to the Students, Faculty and Staff, with subsequent laboratory analysis for the presence of Lead. Including 1st draw and 2nd draw samples at each of the drinking water sources, a total of twenty-four (24) water samples were collected during this current assessment.

It should be noted that the current sampling at this Queen Bee School District #16 school facility included only the drinking water and/or potable water sources within the school building, as noted.

The laboratory results reveal that the reported concentrations for twelve (12) of the twelve (12) drinking water samples resulted in concentrations below the IDPH public notification/communication target level of 5 µg Lead/L. Zero (0) of the samples revealed a drinking water concentration above the IDPH public notification/communication target level of 5 µg Lead/L.

SAMPLING REQUIREMENTS AND METHODOLOGY -

The current sampling and reporting followed the Illinois Public Act 99-0922 requirements. Following the IDPH requirements and reporting, it should be noted that UAS performed and provided the services noted below, including, but not limited to, the following:

1. The current testing and analysis was limited only to those twelve (12) locations/sources noted.
2. UAS provided fixture/source identifiers for each of the sources/locations identified with alphanumeric identifiers for each fixture and sample.
3. UAS utilized sampling media (250 mL sample bottles) obtained from a State of Illinois Environmental Protection Agency (IEPA) accredited laboratory, labeled all sampling bottles with the alphanumeric identifiers and prepared a Chain of Custody form for samples.
4. The IEPA accredited laboratory that UAS utilized to perform the laboratory analysis for this project was Pace Analytical Services, LLC (Pace) of Minneapolis, MN. Pace is recognized by the IEPA as NELAP-Recognized Environmental Laboratory for Lead in Drinking Water. A copy of the SLI accreditation for the approved method is attached. UAS confirmed with SLI, that the IDPH required minimum reporting limit (MRL) and significant digits requested by IDPH could be utilized and documented. The MRL identified by IDPH, and utilized for this assessment was 2.00 µg Lead/L, or lower.
5. Following confirmation from Queen Bee School District #16 (Queen Bee S.D. #16) that each of the target drinking water sources/systems had been allowed a mandated stagnation period of eight (8) to eighteen (18) hours, UAS collected the required 1st Draw and 2nd Draw (30 second flush) drinking water samples from each drinking water fixture/source identified by Queen Bee #16. Queen Bee S.D. #16 reported that the last use of any of the sources/fixtures in the school was 8:00 p.m. on November 14, 2017, following a day of typical school occupancy and usage within the facility. The sample collection by UAS began at 6:15 a.m. on November 15, 2017 and was completed prior to any water use within the building.
6. UAS completed and compiled Chain of Custody forms for the school building samples.
7. UAS submitted the samples to Pace following strict Chain of Custody protocols.
8. UAS compiled this final summary report with results for this school using IDPH's guidance for reporting, data and information spreadsheet to ensure consistency and reliability.
10. All sampling, documentation and reporting was performed under the direct supervision of an Illinois Department of Public Health (IDPH) licensed Lead Inspector/Risk Assessor.

IDPH REPORTING & PUBLIC NOTIFICATION -

As required, IDPH Reporting and Public Notification requirements shall be the responsibility of Queen Bee School District #16. Please note the following: Illinois Public Act 099-0922: Within seven (7) days of receipt of these test results, the district/school must email all test results to IDPH. If any of the samples taken in the school exceed 5 parts per billion (µg/L), the school district or chief school administrator, or the designee of the school district or chief school administrator, shall promptly provide an individual notification of the sampling results, via written or electronic communication, to the parents or legal guardians of all enrolled students and include the following information: the corresponding sampling location within the school building and the United States Environmental Protection Agency's website for information about lead in drinking water. If any of the samples taken at the school are at or below 5 parts per billion (µg/L), notification may be made by posting on the schools website.

TEST RESULTS / SUMMARY OF FINDINGS-

The test results are noted in the attached Spreadsheet and Analytical Laboratory Reports. The current testing and analysis was limited only to those twelve (12) locations/sources noted. Review of the current testing laboratory data reveals the following:

The results from twelve (12) of the twelve (12) locations/sources reveled concentrations below both the IDPH mitigation strategies lower limit of 2 ppb, and below the IDPH public notification/communication target level of 5 µg Lead/L.

Zero (0) of the twelve (12) locations/sources reported a concentration at/above the IDPH mitigation strategies lower limit of 2 ppb, but below the IDPH public notification/communication target level of 5 µg Lead/L.

Zero (0) of the twelve (12) locations/sources revealed a drinking water concentration above the IDPH public notification/communication target level of 5 µg Lead/L.

Pursuant to Public Act 99-0922, the Illinois Plumbing Licensing Law (225 ILCS 320/35.5), the IDPH is required to provide guidance to schools concerning mitigation of hazards discovered by testing for lead in water. While Section 35.5 does not require mitigation, IDPH is requiring the mitigation strategies and requirements contained in their Guidance Document for Mitigating Lead in Schools (copy attached) to be followed for all plumbing fixtures identified with any level of lead. IDPH further notes that mitigation strategies should continue until subsequent testing indicates no lead is present in water.

RECOMMENDATIONS -

At this time, UAS recommends the following:

1. Along with their standard water programs, Queen Bee School District #16 should follow the IDPH reporting requirements, as well as the mitigation strategies and requirements contained in their Guidance Document for Mitigating Lead in Schools (copy attached) for the sources, locations and fixtures that were identified with lead greater than 2 parts per billion (µg/L). IDPH further notes that mitigation strategies should continue until subsequent testing indicates no lead (<2.00 ppb) is present in water. While none were revealed, it should be noted that any source, location and fixture that was identified with lead of 5 parts per billion (µg/L) or greater should be taken “off-line”, either permanently, or until such time that mitigation and subsequent testing demonstrate that lead levels are within acceptable IDPH limits.
2. Queen Bee School District #16 should provide this report and results to IDPH in accordance with Illinois Public Act 099-0922.
3. Pursuant to Public Act 99-0922, the Illinois Plumbing Licensing Law (225 ILCS 320/35.5), the IDPH is required to provide guidance to schools concerning mitigation of hazards discovered by testing for lead in water. While Section 35.5 does not require mitigation, IDPH is requiring the mitigation strategies and requirements contained in their Guidance Document for Mitigating

Mr. Dick Mabberley, Director of Buildings and Grounds
Summary of Findings - Lead in Drinking Water Sampling & Lab Analysis
Queen Bee School District #16
Queen Bee School -
1525 Bloomingdale Road, Glendale Heights, IL 60139

December 7, 2017

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Lead in Schools (copy attached) to be followed for all plumbing fixtures identified with any level of lead. IDPH further notes that mitigation strategies should continue until subsequent testing indicates no lead (i.e. <2.00 ppb) is present in water.

Thank you for the continued opportunity to be of service to Queen Bee School District #16. If you have any questions regarding this information, please do not hesitate to contact our office.

Sincerely,
UNITED ANALYTICAL SERVICES, INC.



Thad Daniels
Director of Field Services
Lead Risk Assessor (IL 001047)

attachments: IDPH Spreadsheet Summary of Lead in Drinking Water
12/04/17 Laboratory Report & COCs
IDPH Mitigation Strategies
UAS' Inspector/Sample Collector License & Accreditation
Pace Laboratory Accreditation

cc: Kevin E. Aikman, Ph.D., CIH, FAIHA (UAS)

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December 04, 2017

Thad Daniels
United Analytical Services, Inc.
1429 Centre Circle Drive
Downers Grove, IL 60515

RE: Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Dear Thad Daniels:

Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Sylvia Hunter
sylvia.hunter@pacelabs.com
1(612)607-1700
Project Manager

Enclosures

cc: Mr. Thad Daniels, United Analytical Services, Inc



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064

Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10411768001	QB-01a South Hallway DWC	Water	11/15/17 06:15	11/20/17 10:30
10411768002	QB-01b South Hallway DWC	Water	11/15/17 06:15	11/20/17 10:30
10411768003	QB-02a South Hallway BFS	Water	11/15/17 06:15	11/20/17 10:30
10411768004	QB-02b South Hallway BFS	Water	11/15/17 06:15	11/20/17 10:30
10411768005	QB-03a South Stairway DWC	Water	11/15/17 06:15	11/20/17 10:30
10411768006	QB-03b South Stairway DWC	Water	11/15/17 06:15	11/20/17 10:30
10411768007	QB-04a South Stairway BFS	Water	11/15/17 06:15	11/20/17 10:30
10411768008	QB-04b South Stairway BFS	Water	11/15/17 06:15	11/20/17 10:30
10411768009	QB-05a North Hallway DWC West	Water	11/15/17 06:15	11/20/17 10:30
10411768010	QB-05b North Hallway DWC West	Water	11/15/17 06:15	11/20/17 10:30
10411768011	QB-06a North Hallway BFS West	Water	11/15/17 06:15	11/20/17 10:30
10411768012	QB-06b North Hallway BFS West	Water	11/15/17 06:15	11/20/17 10:30
10411768013	QB-07a Main Hallway DWC East	Water	11/15/17 06:15	11/20/17 10:30
10411768014	QB-07b Main Hallway DWC East	Water	11/15/17 06:15	11/20/17 10:30
10411768015	QB-08a Main Hallway BFS East	Water	11/15/17 06:15	11/20/17 10:30
10411768016	QB-08b Main Hallway BFS East	Water	11/15/17 06:15	11/20/17 10:30
10411768017	QB-09a Lower Level DWC West	Water	11/15/17 06:15	11/20/17 10:30
10411768018	QB-09b Lower Level DWC West	Water	11/15/17 06:15	11/20/17 10:30
10411768019	QB-10a Lower Level BFS West	Water	11/15/17 06:15	11/20/17 10:30
10411768020	QB-10b Lower Level BFS West	Water	11/15/17 06:15	11/20/17 10:30
10411768021	QB-11a Lower Level DWC East	Water	11/15/17 06:15	11/20/17 10:30
10411768022	QB-11b Lower Level DWC East	Water	11/15/17 06:15	11/20/17 10:30
10411768023	QB-12a Lower Level BFS East	Water	11/15/17 06:15	11/20/17 10:30
10411768024	QB-12b Lower Level BFS East	Water	11/15/17 06:15	11/20/17 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10411768001	QB-01a South Hallway DWC	EPA 200.8	WBS	1	PASI-M
10411768002	QB-01b South Hallway DWC	EPA 200.8	WBS	1	PASI-M
10411768003	QB-02a South Hallway BFS	EPA 200.8	WBS	1	PASI-M
10411768004	QB-02b South Hallway BFS	EPA 200.8	WBS	1	PASI-M
10411768005	QB-03a South Stairway DWC	EPA 200.8	WBS	1	PASI-M
10411768006	QB-03b South Stairway DWC	EPA 200.8	WBS	1	PASI-M
10411768007	QB-04a South Stairway BFS	EPA 200.8	WBS	1	PASI-M
10411768008	QB-04b South Stairway BFS	EPA 200.8	WBS	1	PASI-M
10411768009	QB-05a North Hallway DWC West	EPA 200.8	WBS	1	PASI-M
10411768010	QB-05b North Hallway DWC West	EPA 200.8	WBS	1	PASI-M
10411768011	QB-06a North Hallway BFS West	EPA 200.8	WBS	1	PASI-M
10411768012	QB-06b North Hallway BFS West	EPA 200.8	WBS	1	PASI-M
10411768013	QB-07a Main Hallway DWC East	EPA 200.8	WBS	1	PASI-M
10411768014	QB-07b Main Hallway DWC East	EPA 200.8	WBS	1	PASI-M
10411768015	QB-08a Main Hallway BFS East	EPA 200.8	WBS	1	PASI-M
10411768016	QB-08b Main Hallway BFS East	EPA 200.8	WBS	1	PASI-M
10411768017	QB-09a Lower Level DWC West	EPA 200.8	WBS	1	PASI-M
10411768018	QB-09b Lower Level DWC West	EPA 200.8	WBS	1	PASI-M
10411768019	QB-10a Lower Level BFS West	EPA 200.8	WBS	1	PASI-M
10411768020	QB-10b Lower Level BFS West	EPA 200.8	WBS	1	PASI-M
10411768021	QB-11a Lower Level DWC East	EPA 200.8	WBS	1	PASI-M
10411768022	QB-11b Lower Level DWC East	EPA 200.8	WBS	1	PASI-M
10411768023	QB-12a Lower Level BFS East	EPA 200.8	WBS	1	PASI-M
10411768024	QB-12b Lower Level BFS East	EPA 200.8	WBS	1	PASI-M

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Sample: QB-01a South Hallway DWC Lab ID: 10411768001 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:30	7439-92-1	

Sample: QB-01b South Hallway DWC Lab ID: 10411768002 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:39	7439-92-1	

Sample: QB-02a South Hallway BFS Lab ID: 10411768003 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:41	7439-92-1	

Sample: QB-02b South Hallway BFS Lab ID: 10411768004 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:47	7439-92-1	

Sample: QB-03a South Stairway DWC Lab ID: 10411768005 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:49	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Sample: QB-03b South Stairway Lab ID: 10411768006 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water
DWC

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:50	7439-92-1	

Sample: QB-04a South Stairway Lab ID: 10411768007 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water
BFS

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:52	7439-92-1	

Sample: QB-04b South Stairway Lab ID: 10411768008 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water
BFS

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:54	7439-92-1	

Sample: QB-05a North Hallway Lab ID: 10411768009 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water
DWC West

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:55	7439-92-1	

Sample: QB-05b North Hallway Lab ID: 10411768010 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water
DWC West

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:57	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Sample: QB-06a North Hallway BFS **Lab ID:** 10411768011 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
West

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		11/27/17 21:58	7439-92-1	

Sample: QB-06b North Hallway BFS **Lab ID:** 10411768012 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
West

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:01	7439-92-1	

Sample: QB-07a Main Hallway DWC **Lab ID:** 10411768013 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:07	7439-92-1	

Sample: QB-07b Main Hallway DWC **Lab ID:** 10411768014 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:09	7439-92-1	

Sample: QB-08a Main Hallway BFS **Lab ID:** 10411768015 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:10	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Sample: QB-08b Main Hallway BFS East Lab ID: 10411768016 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:12	7439-92-1	

Sample: QB-09a Lower Level DWC West Lab ID: 10411768017 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:14	7439-92-1	

Sample: QB-09b Lower Level DWC West Lab ID: 10411768018 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:15	7439-92-1	

Sample: QB-10a Lower Level BFS West Lab ID: 10411768019 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:17	7439-92-1	

Sample: QB-10b Lower Level BFS West Lab ID: 10411768020 Collected: 11/15/17 06:15 Received: 11/20/17 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW Analytical Method: EPA 200.8									
Lead	ND	ug/L	0.10	0.010	1		11/27/17 22:18	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Sample: QB-11a Lower Level DWC **Lab ID:** 10411768021 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		12/01/17 16:32	7439-92-1	

Sample: QB-11b Lower Level DWC **Lab ID:** 10411768022 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		12/01/17 16:33	7439-92-1	

Sample: QB-12a Lower Level BFS **Lab ID:** 10411768023 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		12/01/17 16:35	7439-92-1	

Sample: QB-12b Lower Level BFS **Lab ID:** 10411768024 **Collected:** 11/15/17 06:15 **Received:** 11/20/17 10:30 **Matrix:** Water
East

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8							
Lead	ND	ug/L	0.10	0.010	1		12/01/17 16:36	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

QC Batch: 509878 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, Drinking Water
Associated Lab Samples: 10411768001, 10411768002, 10411768003, 10411768004, 10411768005, 10411768006, 10411768007, 10411768008, 10411768009, 10411768010, 10411768011, 10411768012, 10411768013, 10411768014, 10411768015, 10411768016, 10411768017, 10411768018, 10411768019, 10411768020

METHOD BLANK: 2772166 Matrix: Water
Associated Lab Samples: 10411768001, 10411768002, 10411768003, 10411768004, 10411768005, 10411768006, 10411768007, 10411768008, 10411768009, 10411768010, 10411768011, 10411768012, 10411768013, 10411768014, 10411768015, 10411768016, 10411768017, 10411768018, 10411768019, 10411768020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	ug/L	ND	0.10	0.010	11/27/17 21:29	

LABORATORY CONTROL SAMPLE: 2772167

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	100	101	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2776451 2776452

Parameter	Units	10411768001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	ND	100	100	98.7	98.9	99	99	70-130	0	20	

MATRIX SPIKE SAMPLE: 2776453

Parameter	Units	10411768011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	ND	100	99.2	99	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

QC Batch: 511258 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, Drinking Water
Associated Lab Samples: 10411768021, 10411768022, 10411768023, 10411768024

METHOD BLANK: 2780363 Matrix: Water
Associated Lab Samples: 10411768021, 10411768022, 10411768023, 10411768024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	ug/L	ND	0.10	0.010	12/01/17 16:11	

LABORATORY CONTROL SAMPLE: 2780364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	100	102	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2781328 2781329

Parameter	Units	7578176001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Lead	ug/L	0.0089 mg/L	100	100	105	109	96	100	70-130	3	20

MATRIX SPIKE SAMPLE: 2781330

Parameter	Units	10412158001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	ND	100	103	103	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1798621-01 S.D.#16-Queen Bee
Pace Project No.: 10411768

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10411768001	QB-01a South Hallway DWC	EPA 200.8	509878		
10411768002	QB-01b South Hallway DWC	EPA 200.8	509878		
10411768003	QB-02a South Hallway BFS	EPA 200.8	509878		
10411768004	QB-02b South Hallway BFS	EPA 200.8	509878		
10411768005	QB-03a South Stairway DWC	EPA 200.8	509878		
10411768006	QB-03b South Stairway DWC	EPA 200.8	509878		
10411768007	QB-04a South Stairway BFS	EPA 200.8	509878		
10411768008	QB-04b South Stairway BFS	EPA 200.8	509878		
10411768009	QB-05a North Hallway DWC West	EPA 200.8	509878		
10411768010	QB-05b North Hallway DWC West	EPA 200.8	509878		
10411768011	QB-06a North Hallway BFS West	EPA 200.8	509878		
10411768012	QB-06b North Hallway BFS West	EPA 200.8	509878		
10411768013	QB-07a Main Hallway DWC East	EPA 200.8	509878		
10411768014	QB-07b Main Hallway DWC East	EPA 200.8	509878		
10411768015	QB-08a Main Hallway BFS East	EPA 200.8	509878		
10411768016	QB-08b Main Hallway BFS East	EPA 200.8	509878		
10411768017	QB-09a Lower Level DWC West	EPA 200.8	509878		
10411768018	QB-09b Lower Level DWC West	EPA 200.8	509878		
10411768019	QB-10a Lower Level BFS West	EPA 200.8	509878		
10411768020	QB-10b Lower Level BFS West	EPA 200.8	509878		
10411768021	QB-11a Lower Level DWC East	EPA 200.8	511258		
10411768022	QB-11b Lower Level DWC East	EPA 200.8	511258		
10411768023	QB-12a Lower Level BFS East	EPA 200.8	511258		
10411768024	QB-12b Lower Level BFS East	EPA 200.8	511258		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.


Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company:	United Analytical Services, Inc. (UAS)	Report To:	Thad Daniels	Attention:	Same
Address:	1429 Centre Circle Drive	Copy To:		Company Name:	Same
	Dover's Grove, Illinois 60515			Address:	Same
Email:	tdaniels@uas1.com	Purchase Order #:		Pace Quote:	40981
Phone:	630-691-8271	Project Name:	S.D. #18 - Queen Bee School	Pace Project Manager:	Jeff Dorton
Requested Due Date:	Standard TAT	Project #:	1798621-01	Pace Profile #:	


Page: 2 Of 2

ITEM #	MATRIX CODE DW: Drinking Water WW: Wastewater P: Product SL: Sewerage WIP: Wastewater A: Air OT: Other TS: Tissue	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	PB 200.8	Residual Chlorine (Y/N)	
				START DATE	END DATE							
1	QB-07a Main Hallway DW/C East	DW/G		11/15/2017	6:15a	1	1	X				013
2	QB-07b Main Hallway DW/C East	DW/G		11/15/2017	6:15a	1	1	X				014
3	QB-08a Main Hallway BFS East	DW/G		11/15/2017	6:15a	1	1	X				015
4	QB-08b Main Hallway BFS East	DW/G		11/15/2017	6:15a	1	1	X				016
5	QB-09a Lower Level DW/C West	DW/G		11/15/2017	6:15a	1	1	X				017
6	QB-09b Lower Level DW/C West	DW/G		11/15/2017	6:15a	1	1	X				018
7	QB-10a Lower Level BFS West	DW/G		11/15/2017	6:15a	1	1	X				019
8	QB-10b Lower Level BFS West	DW/G		11/15/2017	6:15a	1	1	X				020
9	QB-11a Lower Level DW/C East	DW/G		11/15/2017	6:15a	1	1	X				021
10	QB-11b Lower Level DW/C East	DW/G		11/15/2017	6:15a	1	1	X				022
11	QB-12a Lower Level BFS East	DW/G		11/15/2017	6:15a	1	1	X				023
12	QB-12b Lower Level BFS East	DW/G		11/15/2017	6:15a	1	1	X				024

REINQUISHED BY (AFFILIATION)	DATE	TIME	ACCEPTED BY (AFFILIATION)	DATE	TIME	SAMPLE CONDITIONS
Thad Daniels	11/15/17	1320	Kathryn Womel	11/15/17	1320	
Kathryn Womel	11/16/17	1330	Thad Daniels	11/16/17	1630	


SAMPLER NAME AND SIGNATURE		Received on	Temp in C	Samples Intact (Y/N)	Cooled (Y/N)	Sealed (Y/N)	Received on	Temp in C	Samples Intact (Y/N)
PRINT Name of SAMPLER:									
SIGNATURE of SAMPLER:									
Thad Daniels Brian Grobowski									
DATE Signed:									
11/16/2017									

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 30Aug2017 Page 1 of 2
	Document No.: F-MN-L-213-rev.21	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> SpeedDee <input type="checkbox"/> Other: Tracking Number: <u>1212-5349-3965/3976/3987</u> Custody Seal on Cooler/Box Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Packing Material: <input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: Thermometer <input type="checkbox"/> 151401163 <input checked="" type="checkbox"/> G87A9155100842 Used: <u>12/2/17 11:17.8</u> Cooler Temp Read (°C): <u>15.8/15.8</u> Temp should be above freezing to 6°C USDA Regulated Soil <input checked="" type="checkbox"/> N/A, water sample Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.	Client Name: <u>United Analytical</u> Project #: WO#: 10411768  Optional: Proj. Due Date: Proj. Name:
Type of Ice: <input type="checkbox"/> Wet <input type="checkbox"/> Blue <input checked="" type="checkbox"/> None Cooler Temp Corrected (°C): <u>15.4/15.4</u> Date and Initials of Person Examining Contents: <u>11/20/17</u> <u>SD</u> Biological Tissue Frozen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. <u>To be filtered by lab</u>
-Includes Date/Time/ID/Analysis Matrix: <u>WWT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION Person Contacted: _____ Date/Time: _____ Comments/Resolution: _____ Field Data Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Project Manager Review: <u>Sylvia Hunter</u> Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).	Date: <u>11/20/17</u>

	Document Name:	Document Revised: 30Aug2017
	Sample Condition Upon Receipt Form	Page 2 of 2
	Document No.: F-MN-L-213-rev.21	Issuing Authority: Pace Minnesota Quality Office

SCUR Exceptions:

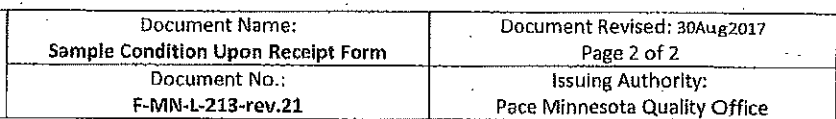
Workorder #:

Issue	Sample ID	Container Type/#

pH Adjustment Log for Preserved Samples

Page 1 of 2

Sample ID	Type of Preservative	pH Upon Receipt	Date Preservation Adjusted	Time Preservation Adjusted	Amount of Additional Preservative Added	Lot # of Preservative Added	pH After Adjustment	Initials
QB-01a	H ₂ O ₂	10.4	11/29/17	20:48	1 mL	1117050	3	JD
" "01b	" "	" "	" "	" "	" "	" "	3	" "
" "02a	" "	" "	" "	" "	" "	" "	3.0	" "
" "02b	" "	" "	" "	" "	" "	" "	3.5	" "
" "03a	" "	" "	" "	" "	" "	" "	3	" "
" "03b	" "	" "	" "	" "	" "	" "	3	" "
" "04a	" "	" "	" "	" "	" "	" "	3	" "
" "04b	" "	" "	" "	" "	" "	" "	3	" "
" "05a	" "	" "	" "	" "	" "	" "	3	" "
" "05b	" "	" "	" "	" "	" "	" "	4.2	" "
" "06a	" "	" "	" "	" "	" "	" "	4.3.5	" "
" "06b	" "	" "	" "	" "	" "	" "	3	" "



Workorder #:

[illegible]

Page 2 of 2

[illegible]



525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • www.dph.illinois.gov

1/17/2017

LICENSE NUMBER: 001047

Thad Daniels

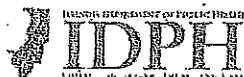
1335 Fagan Road

Batavia, IL 60510

LICENSE APPROVED

IDPH recently received and reviewed your application for lead licensure. Your qualifications have been reviewed and found that you meet the requirements set forth by the Lead Poisoning Prevention Code, Section 845.125. Therefore, your application for lead licensure is now complete. Enclosed please find your lead license card. Please have this identification card with you at all times while conducting lead abatement activities.

IDPH has updated its 7 – Day Notice of Commencement effective immediately. The revised document can be identified by its 9/16 revision date on the bottom left corner. Please discontinue using the old form and begin using the new form as soon as possible. The revised form is located in the same web address that the old form was located (<http://www.dph.illinois.gov/sites/default/files/forms/7-day-notice-leadabatement-mitigation-project-091916.pdf>).



LEAD RISK ASSESSOR LICENSE

LEAD ID	ISSUED	EXPIRES
001047	1/17/2017	1/31/2018

Thad Daniels

1335 Fagan Road

Batavia, IL 60510



ILLINOIS LEAD PROGRAM
Environmental Health

Alteration of this license shall result in legal action
RISK ASSESSOR CERTIFICATE EXPIRES

3/8/2019

This license issued under authority of the State
of Illinois -Department of Public Health

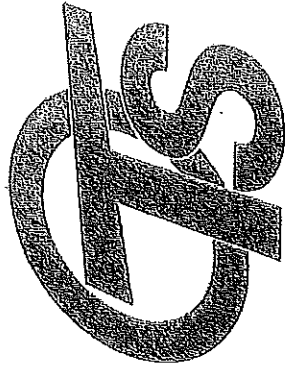
This license is valid only when accompanied by
a valid training course certificate

If found return to 525 W. Jefferson St Springfield, IL 62761

PROTECTING HEALTH, IMPROVING LIVES

Nationally Accredited by PHAB

2016



OCCUPATIONAL TRAINING & SUPPLY, INC.

7233 S. Adams Street ♦ Willowbrook, IL 60527 ♦ (630) 655-3900

Lead Risk Assessor Refresher

Occupational Training & Supply, Inc. certifies that

Thad Daniels

has successfully completed the Lead Risk Assessor Refresher course and has passed the competency exam with a minimum score of 70%.
This course is accredited by the Illinois Department of Public Health in accordance with the Illinois Lead Poisoning Prevention Code.

Course Date: 3/8/2016

Exam Date: 3/8/2016

Expiration Date: 3/8/2019

Certificate Number: LRAR1603080977

Kathy DeSalvo, Director



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
NELAP - RECOGNIZED
ENVIRONMENTAL LABORATORY ACCREDITATION



is hereby granted to

PACE ANALYTICAL SERVICES, LLC. - MN

1700 ELM STREET SE SUITE 200

MINNEAPOLIS, MN 55414-2485

NELAP ACCREDITED
ACCREDITATION NUMBER #200011



According to the Illinois Administrative Code, Title 35, Subtitle A, Chapter II, Part 186, ACCREDITATION OF LABORATORIES FOR DRINKING WATER, WASTEWATER AND HAZARDOUS WASTES ANALYSIS, the State of Illinois formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of accreditation detailed below.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part 186 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part 186. Please contact the Illinois EPA Environmental Laboratory Accreditation Program (IL ELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Illinois is not an endorsement or a guarantee of validity of the data generated by the laboratory.

Primary Accrediting Authority: MN Department of Health, ELAP

Celeste M. Crowley
Supervisor
Environmental Laboratory Accreditation Program

John South
Accreditation Officer
Environmental Laboratory Accreditation Program

Certificate No.: 003998
Expiration Date: 12/11/2017
Issued On: 11/15/2016

State of Illinois
Environmental Protection Agency
Awards the Certificate of Approval

Certificate No.: 003998

Pace Analytical Services, LLC. - MN
1700 Elm Street SE Suite 200
Minneapolis, MN 55414-2485

FOT Name: Drinking Water, Inorganic

Method: SM4500P-E,20Ed

Matrix Type: Potable Water

Orthophosphate

Method: USEPA180.1

Matrix Type: Potable Water

Turbidity

Method: USEPA200.8R5.4

Matrix Type: Potable Water

Aluminum

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Copper

Lead

Manganese

Mercury

Nickel

Selenium

Silver

Thallium

Zinc

Method: USEPA245.1R3.0

Matrix Type: Potable Water

Mercury

Method: USEPA300.0R2.1

Matrix Type: Potable Water

Bromide

Chloride

Fluoride

Nitrate

Nitrite

Sulfate

Method: USEPA353.2R2.0

Matrix Type: Potable Water

Nitrate

Nitrite

FOT Name: Drinking Water, Organic

Method: USEPA1613RB

Matrix Type: Potable Water

Dioxin (2,3,7,8 TCDD)

Method: USEPA624.2R4.1

Matrix Type: Potable Water

1,1,1,2-Tetrachloroethane

1,1,1-Trichloroethane

1,1,2,2-Tetrachloroethane

1,1,2-Trichloroethane

1,1-Dichloroethane

1,1-Dichloroethene



Mitigation Strategies

for Lead Found in
School Drinking Water

Guidance Document for Mitigating Lead in Schools



New Guidance

Pursuant to the Illinois Plumbing Licensing Law (225 ICLS 320/35.5), the Illinois Department of Public Health (IDPH) is required to provide guidance to schools concerning mitigation of hazards discovered by testing for lead in water.

While Section 35.5 does not specifically require mitigation, IDPH is requiring the mitigation strategies and requirements contained in this guidance document to be followed for all plumbing fixtures identified with any level of lead. Mitigation should continue until subsequent testing indicates no lead is present in water.

Mitigation strategies depend on many variables and schools may need to implement various and multiple steps to mitigate lead-in-water hazards. This guidance provides the most common mitigations strategies, but is not intended to be all inclusive.

WQMP

Water Quality Management Plan

Steps to an Effective Water Quality Management Plan

Regardless of lead or any other potential plumbing issues within your facility, developing an effective Water Quality Management Plan (WQMP) is essential to ensuring that safe, potable drinking water is maintained at all times.

In many cases, the internal plumbing system in schools and other large facilities is extensive, often containing hundreds, if not thousands of feet of pipe. If left unused for extended periods of time (2-3 days), the water in this pipe can become stagnant and develop internal water quality issues such as high lead concentrations and harmful bacterial growth.

An effective WQMP can help mitigate the potential for these negative water quality issues.

The steps outlined in this section are not intended to be all inclusive, since every facility and administration is different, each with their own set of individual circumstances. However, it should help you understand the general concepts of a WQMP and how you can develop your unique team to address potential water quality conditions within your facility.

Step 1

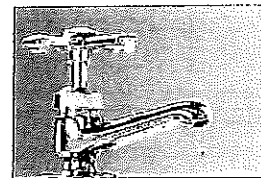
Select Your Team

Your team could include:

- Administrators and Faculty
- Facilities and Maintenance Staff
- Parents
- Students
- Water Suppliers

These individuals will be key to implementing whatever program you develop.

- In general terms, familiarize yourself with the layout of your plumbing system. Look for long pipe runs with fixtures that may be used infrequently, even when the building is occupied.



Step 2

Understand Your Facility Layout

- Obtain building plans.
- Know where your drinking fountains and food service water fixtures are located.

Step 3

Understand Your Facility Schedule

Although this step will be intuitive for facility staff, you should familiarize your team with the schedule of the facility. Questions to ask include:

- When is the facility closed for more than just one day?
 - Weekends, holidays, extended spring or summer break periods.

- Are there any particular areas of the building that are unused even when the rest of the facility is operational? These may include:
 - Gymnasiums
 - Churches or rectories
 - Childcare areas
 - Particular classroom areas or wings of the building.

Step 4

Develop Your Plan

The principal goal of your plan will be to flush an adequate amount of water through your plumbing system in order to maintain fresh (safe) drinking water at all times, in all areas of your facility. In addition, you want to do this without unnecessarily wasting water.

Flushing is the easiest method whereby fresh water may be delivered from the water main. Because lead concentrations increase the longer the water is in contact with pipes or plumbing fixtures containing lead, reducing the water age (how long water sits in the pipe) will reduce the levels of lead in water.

Note: IDPH suggests the following program guidelines be considered as minimum steps:

1. *Locate the fixtures farthest from the entry point of the water service to the building and flush them for 10 minutes each morning.*
2. *Open all fixtures used for cooking and drinking and run until you feel the water temperature get colder.*

Additional information on flushing and other remedies is available in the U.S. Environmental Protection Agency's 3Ts for Reducing Lead in Drinking Water In Schools Technical Guidance.

Schools can request help from their supplier in identifying potential lead hazards and developing mitigation strategies. The water supplier can also educate the school on topics like corrosion control and water age.

Schools on well water or non-community water systems, can request help from the Illinois Section American Water Works Association (AWWA) or the Illinois Rural Water Association.

Your plan may likely include some if not all of these actions:

Mechanical Flushing requires the installation of devices such as valves or other similar equipment on the ends of long pipes that can be set to automatically flush at pre-determined intervals.

Licensed plumbers and engineers can help determine the type of device that should be installed and where to install the device.

Manual Flushing will likely require a variety of individuals to implement.

Faculty - Faculty members may be able to flush fixtures (sinks, drinking fountains, etc.) if they are nearby or in their classroom or work area.

Parents - Parent volunteers may be helpful in flushing fixtures in general areas or in organizing student volunteers to help with that job.

Students - Faculty and school administrators often are interested in providing students with additional responsibilities outside the classroom. Utilizing students to assist in the implementation of your WQMP can help teach them responsibility and better understand the importance of safe drinking water.

- **Develop a Student Water Patrol**

Select a handful of students whom you believe are deserving of responsibility.

If you have a public water utility, engage those professionals to explain the importance of safe drinking water and how the students can help protect their classmates by participating in a Student Water Patrol.

Step 5

Implement Your Plan

Remove the problem fixture(s) from service

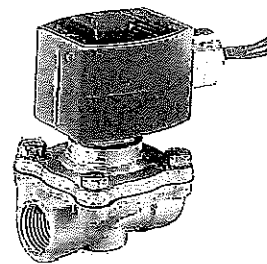
Immediately upon learning that a fixture has tested positive for lead, it should be removed from service. *Install signs, remove handles or bag the device to prevent use until it can be addressed.*



Once the fixture has been addressed, validation testing is required and should be conducted in the same manner in which the initial testing was performed.

Persistent Problem Fixtures

- For sources of water that are not corrected by the steps outlined previously, infrastructure mitigation strategies may be required.
- Source investigation involves sequential sampling of the problem fixture to determine the relative location of the source of lead. Sequential sampling consists of a series of samples taken at defined time intervals from a single fixture.
- A plumbing survey, including a determination of installed plumbing materials, fixtures and length of pipes, should be developed to identify known and possible sources.
- Permanent removal of fixtures and branch plumbing should only be undertaken with the advice of a professional engineer or licensed plumber. Identified sources of lead, such as lead pipes, leaded plumbing fixtures and lead solder, should be replaced by a registered plumbing contractor with materials that do not contain lead.
- Automatic flushing valves, installed by a licensed plumber, may be implemented to ensure adequate flushing of piping systems.





Working Together ... Administration, Faculty, Students, Parents
and Water Professionals we can...

GET THE LEAD OUT !

* Illinois Section AWWA email: jdillon@isawwa.org

* Illinois Rural Water Association email: ilrwa@ilrwa.org

*Questions regarding lead in schools should be directed to the:
Illinois Department of Public Health
Plumbing and Water Quality Program*

Email: dph.leadh2o@illinois.gov