

March 17, 2017

City School District of the City of Niagara Falls
Attn: Joe Giarrizzo
Director of Facilities
630 – 66th Street
Niagara Falls, NY 14304

Re: Follow-Up Sampling of Drinking Water for Lead Concentrations

Dear Mr. Giarrizzo:

Included with this letter is Stohl Environmental LLC's report for the follow-up Water Sampling performed at the educational buildings of the City School District of the City of Niagara Falls, including:

- Niagara Falls High School, 4455 Porter Road, Niagara Falls, New York

This report is prepared to assist the District in complying with the requirements of NYS regulations, *SUBPART 67-4: Lead Testing in School Drinking Water*, by identifying the sources of potable water with lead concentrations greater than the NYS "Action Level of 15 parts per billion (ppb)".

Initial Sampling and Analysis: In Compliance with NYS regulations, initial first draw water sampling was completed on 10/8/2016 and 36 samples were identified as containing lead concentrations above the NYS Action Level of 15 ppb.

Mitigation by District and Follow-up Sampling by Stohl Environmental LLC:

- Following the receipt of initial sampling results, in accordance with guidance received from NYS, the District is reported to have prohibited use of the outlets analyzed as above the NYS Action Level of 15 ppb until "(1) a lead remediation plan is implemented... and (2) test results indicate that the lead levels are at or below the action level".
- Subsequent to reported mitigation by the District, Stohl Environmental LLC was requested to perform follow-up sampling and laboratory analysis.
- Follow-up sampling was performed by Stohl Environmental LLC in accordance with the requirements and protocols outlined in NYS regulations, as well as USEPA Technical Guidance Document "3-T's for Reducing Lead in Drinking Water in Schools".

Results of Follow-up Sampling: As further detailed in Section 1.2 (*Executive Summary*) of the accompanying report, based upon the follow-up sampling and analysis performed, the following is reported:

- **Follow-up First Draw Samples:** Following remediation by the District, or for confirmatory purposes, 36 outlets were re-sampled on 2/4/2017 and 2/22/2017 then analyzed by a certified and independent laboratory. **Of the 36 samples collected, 31 of these follow-up samples contained lead concentrations above the action level.**

Interpretation of First Draw Sampling Results: Under NYSDOH regulations Section 67-4.4, for the outlets that continue to have First Draw test results above the NYS action level, the District must “prohibit use of the outlet until lead remediation is implemented and (First Draw) test results indicate that lead levels are at or below the action level.”

- **Flush Samples:** As additional confirmation of lead concentrations, and in an attempt to determine whether lead concentrations above the action level result from the outlet/fixture or from the plumbing to the outlet, 36 flush samples were also collected from these same outlets on 2/4/2017 and 2/22/2017 then submitted to and analyzed by a certified and independent laboratory. **Of the 36 samples collected, 4 of these flush samples contained lead concentrations above the action level.**

Interpretation of Flush Sampling Results: As detailed in EPA guidance (“3T’s for Reducing Lead in Drinking Water in Schools”), *“If initial test results reveal lead concentrations greater than (the action level) for a given outlet, follow-up flush testing... is recommended to determine if the lead contamination results are from the fixture or from the plumbing.”*

Based upon this guidance,

- (4) outlets tested on 2/7/17 and 2/22/17 had First Draw lead concentrations at or below the NYS Action Level; therefore, under NYS regulations, the outlets may be cleared for use.
- (28) outlets tested on 2/4/2017 and 2/22/2017 continue to have First Draw Sample lead concentrations above the NYS Action Level; the Flush Sample results infer that the source of lead at these outlets is the fixture, rather than the plumbing to the fixture. These outlets should not be used until remediation is performed and satisfactory laboratory results are received.
- (3) outlets tested on 2/4/2017 and 2/22/2017 continue to have concentrations above the action level for both the Follow-up First Draw and Flush Samples. Results infer that the source of lead for these outlets could be the fixture and/or the plumbing. These outlets should not be used until remediation is performed and satisfactory laboratory results are received.
- (1) outlet tested on 2/4/2017 and 2/22/2017 had a First Draw lead concentration below the action level with Flush Sample lead concentrations above the action level. Results infer that the source of lead for this outlet may be the plumbing. Because of the conflicting laboratory results, it is recommended that this outlet not be used until further investigation and sampling is performed.

Thank you for the opportunity to be of service to City School District of the City of Niagara Falls.

Sincerely,
Stohl Environmental, LLC.



Eric Henderson
Project Manager

**Follow-Up Investigation and Sampling
Of Sources of Potable Water
For Lead Concentrations**

Prepared for:

**City School District of the City of Niagara Falls
Attn: Joe Giarrizzo
Director of Facilities
630 – 66th Street
Niagara Falls, NY 14304**

Prepared by:



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Conditions as of February 4 and 22, 2017



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1.1 Sampling Protocol and Summary of Results:

Stohl Environmental was retained by City School District of the City of Niagara Falls to perform follow-up sampling and analysis of potable water outlets that were identified in report dated 1/24/2017 as having lead concentrations greater than the NYS action level of 15 ppb. Sampling was performed in the following buildings:

- Niagara Falls High School, 4455 Porter Road, Niagara Falls, New York

Scope of Work:

Stohl Environmental was charged with collecting follow-up water samples from outlets which previously were analyzed as having lead concentrations above 15 ppb in Niagara Falls High School. Outlets are defined in NYS regulations as: "a potable water fixture currently or potentially used for drinking or cooking purposes, including but not limited to a bubbler, drinking fountain, or faucets".

Sampling Protocol:

In accordance with NYS regulations, *Subpart 67-4: Lead Testing in School Drinking Water*, and the EPA guidance document, *'3Ts for Reducing Lead in Drinking Water in Schools'*, Stohl Environmental's protocol can be summarized as follows:

- **Follow-up Samples** were collected to verify initial findings of lead contaminations, to assist in problem assessment to determine remediation, and/or verify that lead levels are at or below action level post-remediation. Confirmatory samples were collected as follows:
 - **Follow-up First-Draw samples** of 250 milliliters (mL) were collected from cold water outlets before any water was used. Sampling was coordinated with District representatives to assure that water was motionless in the pipes for a minimum of 8 hours, but not more than 18 hours before sample collection.
 - **To supplement follow-up first draw samples, in some instances, Flush samples** of 250 mL were collected from cold water outlets after the outlet was run for 30 seconds before any water was used or following a second first-draw sample at the same outlet. Sampling was coordinated with District representatives to assure that water was motionless in the pipes for a minimum of 8 hours, but not more than 18 hours before sample collection.
 - **Laboratory Analysis:** Samples were submitted following strict chain-of-custody protocols to an independent laboratory approved by the NYS Department of Health's Environmental Laboratory Approval Program (ELAP).

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1.2 Executive Summary of Sampling and Analysis:

Total Number of Samples Collected by Building Classified by Initial First Draw & Follow-up Samples

Building Name	Date of Sample Events	Total Number Samples Collected	Initial First Draw Samples		Follow-up Samples**			
			Analyzed at or Below Action Level of 15 ppb	Analyzed Above Action Level of 15 ppb	First Draw Samples		Flush Samples	
					Analyzed at or Below Action Level of 15 ppb	Analyzed Above Action Level of 15 ppb	Analyzed at or Below Action Level of 15 ppb	Analyzed Above Action Level of 15 ppb
Niagara Falls High School	10/8/2016, 2/4/2017, and 2/22/2017	450	342	36	5	31	32	4

**Follow-up samples are samples collected subsequent to "Step1" First Draw samples to verify initial findings of lead contamination, to assist in problem assessment to determine remediation and/or verify that lead levels are at or below action level post-remediation.

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Sample Results: Initial First Draw, Follow-up First Draw and Flush Samples

Sample #	Sample Type (Initial First Draw, Follow-up First Draw or Flush)	Sample Location	Fixture / Outlet type	Laboratory Analysis in ppb
111.11-174	First Draw	Copy Room	Sink	15.7
111.11-174-1	Follow-Up First Draw	Copy Room	Sink	23.2
111.11-174-2	Flush	Copy Room	Sink	<2.00
111.11-189	First Draw	Room 131 (hood, east side of room)	Sink	59.2
111.11-189-1	Follow-Up First Draw	Room 131 (hood, east side of room)	Sink	154
111.11-189-2	Flush	Room 131 (hood, east side of room)	Sink	<2.00
111.11-1	First Draw	Room 141 (hood, north side of room)	Sink	54.1
111.11-1-1	Follow-Up First Draw	Room 141 (hood, north side of room)	Sink	306
111.11-1-2	Flush	Room 141 (hood, north side of room)	Sink	3.50
111.11-29	First Draw	Room 111 (hood)	Sink	106
111.11-29-1	Follow-Up First Draw	Room 111 (hood)	Sink	496
111.11-29-2	Flush	Room 111 (hood)	Sink	26.4
111.11-35	First Draw	Room 111 (back room)	Sink	49.0
111.11-35-1	Follow-Up First Draw	Room 111 (back room)	Sink	118
111.11-35-2	Flush	Room 111 (back room)	Sink	5.60
111.11-44	First Draw	Room 121	Sink	293
111.11-44-1	Follow-Up First Draw	Room 121	Sink	90.7
111.11-44-2	Flush	Room 121	Sink	6.10
111.11-51	First Draw	Exterior of Room 115	Hose Bib	16.5
111.11-51-1	Follow-Up First Draw	Exterior of Room 115	Hose Bib	92.7
111.11-51-2	Flush	Exterior of Room 115	Hose Bib	3.90
111.11-52	First Draw	Exterior of Room 117	Hose Bib	23.1
111.11-52-1	Follow-Up First Draw	Exterior of Room 117	Hose Bib	55.6
111.11-52-2	Flush	Exterior of Room 117	Hose Bib	3.00

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Sample Results: Initial First Draw, Follow-up First Draw and Flush Samples Continued

Sample #	Sample Type (Initial First Draw, Follow-up First Draw or Flush)	Sample Location	Fixture/Outlet type	Laboratory Analysis in ppb
111.11-53	First Draw	Exterior of Room 116	Hose Bib	17.0
111.11-53-1	Follow-Up First Draw	Exterior of Room 116	Hose Bib	54.0
111.11-53-2	Flush	Exterior of Room 116	Hose Bib	<2.00
111.11-54	First Draw	Exterior of Room 122	Hose Bib	140
111.11-54-1	Follow-Up First Draw	Exterior of Room 122	Hose Bib	8.00
111.11-54-2	Flush	Exterior of Room 122	Hose Bib	4.10
111.11-55	First Draw	Exterior of Room 126	Hose Bib	47.9
111.11-55R	Follow-Up First Draw	Exterior of Room 126	Hose Bib	490
111.11-55F	Flush	Exterior of Room 126	Hose Bib	2.50
111.11-56	First Draw	Exterior of Room 127	Hose Bib	278
111.11-56-1	Follow-Up First Draw	Exterior of Room 127	Hose Bib	26.6
111.11-56-2	Flush	Exterior of Room 127	Hose Bib	200
111.11-57	First Draw	Exterior of Room 121	Hose Bib	109
111.11-57R	Follow-Up First Draw	Exterior of Room 121	Hose Bib	189
111.11-57F	Flush	Exterior of Room 121	Hose Bib	2.40
111.11-58	First Draw	Exterior of Room 137	Hose Bib	205
111.11-58-1	Follow-Up First Draw	Exterior of Room 137	Hose Bib	295
111.11-58-2	Flush	Exterior of Room 137	Hose Bib	8.00
111.11-59	First Draw	Exterior of Room 136	Hose Bib	34.4
111.11-59R	Follow-Up First Draw	Exterior of Room 136	Hose Bib	715
111.11-59F	Flush	Exterior of Room 136	Hose Bib	2.00
111.11-60	First Draw	Exterior of Door 8	Hose Bib	221
111.11-60-1	Follow-Up First Draw	Exterior of Door 8	Hose Bib	228
111.11-60-2	Flush	Exterior of Door 8	Hose Bib	34.6
111.11-61	First Draw	Exterior of Room 146	Hose Bib	100
111.11-61R	Follow-Up First Draw	Exterior of Room 146	Hose Bib	52.0
111.11-61F	Flush	Exterior of Room 146	Hose Bib	4.90

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Sample Results: Initial First Draw, Follow-up First Draw and Flush Samples Continued

Sample #	Sample Type (Initial First Draw, Follow-up First Draw or Flush)	Sample Location	Fixture/Outlet type	Laboratory Analysis in ppb
111.11-62	First Draw	Exterior of Room 147	Hose Bib	318
111.11-62-1	Follow-Up First Draw	Exterior of Room 147	Hose Bib	17.5
111.11-62-2	Flush	Exterior of Room 147	Hose Bib	2.50
111.11-63	First Draw	Exterior of Door	Hose Bib	50.7
111.11-63-1	Follow-Up First Draw	Exterior of Door	Hose Bib	332
111.11-63-2	Flush	Exterior of Door	Hose Bib	3.30
111.11-65	Water Main Flush	Water Main	Hot Box	63.3
111.11-65-1	Follow-Up First Draw	Water Main	Hot Box	<2.00
111.11-65-2	Flush	Water Main	Hot Box	<2.00
111.11-229	First Draw	Room 211 (hood)	Sink	98.5
111.11-229-1	Follow-Up First Draw	Room 211 (hood)	Sink	23.0
111.11-229-2	Flush	Room 211 (hood)	Sink	2.10
111.11-245	First Draw	Room 221 (hood)	Sink	29.5
111.11-245-1	Follow-Up First Draw	Room 221 (hood)	Sink	76.5
111.11-245-2	Flush	Room 221 (hood)	Sink	3.90
111.11-253	First Draw	Room 260	Sink	36.4
111.11-253-1	Follow-Up First Draw	Room 260	Sink	56.8
111.11-253-2	Flush	Room 260	Sink	5.40
111.11-267	First Draw	Room 231 (hood)	Sink	87.6
111.11-267-1	Follow-Up First Draw	Room 231 (hood)	Sink	33.5
111.11-267-2	Flush	Room 231 (hood)	Sink	12.9
111.11-273	First Draw	Room 231(back room)	Sink	16.0
111.11-273-1	Follow-Up First Draw	Room 231(back room)	Sink	270
111.11-273-2	Flush	Room 231(back room)	Sink	2.80
111.11-329	First Draw	Room 331(hood)	Sink	46.5
111.11-329-1	Follow-Up First Draw	Room 331(hood)	Sink	58.0
111.11-329-2	Flush	Room 331(hood)	Sink	<2.00

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Sample Results: Initial First Draw, Follow-up First Draw and Flush Samples Continued

Sample #	Sample Type (Initial First Draw, Follow-up First Draw or Flush)	Sample Location	Fixture / Outlet type	Laboratory Analysis in ppb
111.11-340	First Draw	Faculty Women's Restroom near Room 320	Sink	18.6
111.11-340-1	Follow-Up First Draw	Faculty Women's Restroom near Room 320	Sink	<2.00
111.11-340-2	Flush	Faculty Women's Restroom near Room 320	Sink	<2.00
111.11-341	First Draw	Room 320 (hood)	Sink	31.5
111.11-341-1	Follow-Up First Draw	Room 320 (hood)	Sink	16.6
111.11-341-2	Flush	Room 320 (hood)	Sink	2.50
111.11-354	First Draw	Room 311 Storage	Sink	37.2
111.11-354-1	Follow-Up First Draw	Room 311 Storage	Sink	59.2
111.11-354-2	Flush	Room 311 Storage	Sink	<2.00
111.11-359	First Draw	Room 321 (left side window sink)	Sink	291
111.11-359-1	Follow-Up First Draw	Room 321 (left side window sink)	Sink	<2.00
111.11-359-2	Flush	Room 321 (left side window sink)	Sink	<2.00
111.11-362	First Draw	Room 321 (center left door sink)	Sink	16.8
111.11-362-1	Follow-Up First Draw	Room 321 (center left door sink)	Sink	25.8
111.11-362-2	Flush	Room 321 (center left door sink)	Sink	<2.00
111.11-363	First Draw	Room 321 (hood)	Sink	16.7
111.11-363-1	Follow-Up First Draw	Room 321 (hood)	Sink	44.0
111.11-363-2	Flush	Room 321 (hood)	Sink	3.20
111.11-410	First Draw	Room 441 (hood)	Sink	71.2
111.11-410-1	Follow-Up First Draw	Room 441 (hood)	Sink	83.4
111.11-410-2	Flush	Room 441 (hood)	Sink	<2.00
111.11-431	First Draw	Room 440 (hood)	Sink	115
111.11-431-1	Follow-Up First Draw	Room 440 (hood)	Sink	23.4
111.11-431-2	Flush	Room 440 (hood)	Sink	5.50

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Sample Results: Initial First Draw, Follow-up First Draw and Flush Samples Continued

Sample #	Sample Type (Initial First Draw, Follow-up First Draw or Flush)	Sample Location	Fixture / Outlet type	Laboratory Analysis in ppb
111.11-435	First Draw	Room 431, prep room sink	Sink	152
111.11-435-1	Follow-Up First Draw	Room 431, prep room sink	Sink	4.80
111.11-435-2	Flush	Room 431, prep room sink	Sink	38.6
111.11-455	First Draw	Room 421 (hood)	Sink	45.6
111.11-455-1	Follow-Up First Draw	Room 421 (hood)	Sink	35.2
111.11-455-2	Flush	Room 421 (hood)	Sink	<2.00

1.3 Response Actions Required Under NYS Regulations, Section 67-4.4:

For outlets analyzed with a lead concentration in excess of the NYS Action Level, regulations require:

- (a) Prohibit use of the outlet until:
 - (1) a lead remediation plan is implemented to mitigate the lead level of such outlet; and
 - (2) test results indicate that the lead levels are at or below the action level;
- (b) Provide building occupants with an adequate supply of potable water for drinking and cooking until remediation is performed;
- (c) Report the test results to the local health department as soon as practicable, but no more than one (1) business day after the school received the laboratory report; and
- (d) Notify all staff and all persons in parental relation to students of the test results, in writing, as soon as practicable but no more than ten (10) business days after the school received the laboratory report.



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1.4 Laboratory Analytical Reports by Building



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1.5 Laboratory Certifications



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1.6 Chains of Custody