Environmental Protection

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October 8, 2021

Li Huang, P.E.
New York City Department of Health and Mental Hygiene
Environmental Sciences & Engineering
42-09 28th Street, 14th Floor CN# 56
Long Island City, NY 11101

Patrick Palmer
New York State Department of Health
Bureau of Water Supply Protection, NYC Watershed Section
Empire State Plaza, Corning Tower, Room 1198
Albany, NY 12237

Katie Lynch
United States Environmental Protection Agency
Clean Water Division - New York City Water Supply Protection Program
290 Broadway, 24th Floor
New York, New York 10007-1866

RE: Monthly Water Quality Report for September 2021

Dear Ms. Huang, Mr. Palmer and Ms. Lynch:

Enclosed, please find the New York City Water Quality report for the month of **September 2021**. There was no well pumpage to distribution in the Groundwater System this month. Croton water was feeding into distribution for the month of September. In addition to the following list of compliance reports, electronic files containing compliance and non-compliance data for this month are being emailed to you.

- Raw Water Fecal Coliform Report
- Raw Water Turbidity Report
- Distribution Microbiological Compliance Reports
  - Summary
  - Positive Samples
  - Resamples
- Chlorine Residual Reports
  - Entry Point Online
  - Entry Point Daily Minimum
  - Heterotrophic Plate Count
  - Monthly Summary
- Distribution Turbidity Reports
  - Distribution Turbidity Report
  - Source Water > 1.49 NTU Table
- Color Entry Point Report

- Fluoride Reports
  - Fluoride Entry Point Report
  - Distribution Fluoride Report
- Quarterly Disinfection By-products Report

The reports are summarized as follows:

FAD REQUIREMENTS

1. *Raw Water Fecal Coliform Concentrations* (Section 141.71(a)(1)):
Requirements met. The Delaware Aqueduct effluent from Kensico Reservoir exhibited fecal coliform concentrations in water prior to disinfection at levels less than or equal to 20 CFU/100 mL in at least 90% of the samples collected in the six-month period from April 1, 2021 to September 30, 2021. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 2.19% for the Catskill/Delaware System for this time period.

2. *Raw Water Turbidity* (Section 141.71(a)(2)):
Requirements met. The raw water leaving Kensico Reservoir via the Delaware Aqueduct in compliance samples collected at DEL18DT, just prior to disinfection, exhibited turbidity levels less than or equal to 5 NTU on an ongoing basis during the month. The highest reported turbidity value was 1.5 NTU on the Catskill/Delaware System for the month.

3. *Entry Point Chlorine Residual* (Section 141.71(b)(1)(iii) and 141.72(a)(3)):
Requirements met. As required, continuous monitoring for free chlorine residual was maintained at the distribution entry points throughout the month and at no time did the concentration fall below 0.2 mg/L for more than four hours. The minimum daily free chlorine residual values for Catskill/Delaware System entry points from site 1S03 (Tunnel 1) was 0.63 mg/L, 1S03A (Tunnel 2) was 0.82 mg/L, and 1S03B (Tunnel 3) was 0.55 mg/L.

The Croton Filtration Plant was online and continuously feeding the Croton Low Service for the month of September. Pumping to the Croton High Service entry point began on 9/10/21 at 15:52 and continued through the end of the month. When the High Service pump was off, distribution Tunnel 3 water intermittently back fed through the High Service tunnel to the Low Service entry point. The minimum daily free chlorine residual value for Croton entry points from site 1SCL1 (Low Service) was 0.42 mg/L and from 1SCH3 (High Service) was 0.27 mg/L which was a result of losing the dilution pump for ~4 minutes on 9/23/2021.

4. *Distribution System Disinfection Residuals* (Section 141.71(b)(1)(iv) and 141.72(a)(4)):
Requirements met. All free chlorine residuals measured at compliance sites within the distribution system during the month were greater than or equal to 0.01 mg/L, except for one sample that equaled 0.00 mg/L.

A total of 1313 distribution samples were tested for free chlorine residual during the month. For all monthly distribution sites free chlorine residual ranged from 0.00 to 1.19 mg/L and averaged 0.61 mg/L.

The third quarter of 2021 chlorine residual running annual average was 0.59 mg/L. This meets the MRDL of 4 mg/L for the quarterly running average of all systems samples.

5. *Trihalomethane Monitoring / HAA5 Monitoring* (Section 141.71(b)(6)):
Requirements met. The results for the third quarter of 2021 were included in the report dated September 9, 2021 (For the August 2021 reporting period).

6. *Total Coliform Monitoring* (Section 141.71(b)(5)):
Requirements met. The results of monthly coliform monitoring performed in the distribution system are enclosed. A total of 815 compliance samples were tested for total coliform during this period. HPC were all ≤500 CFU/mL, equivalent to a measurable free chlorine residual. Zero percent of the samples had an undetectable free chlorine residual or HPC >500 CFU/mL. This meets the requirements that a free chlorine residual be maintained at representative points in the distribution system, and that no more than 5% of the free chlorine residual samples be undetectable in any two months. During the month, four (4) samples tested positive for total coliform and all samples were negative for *E. coli.*

- A sample collected on 9/1/2021 from Site 39650 (sample station in front of 229 East 49 Street, Manhattan) was positive for total coliform. Resampling on 9/3/2021 was coliform negative at all locations.
- A sample collected on 9/6/2021 from Site 21950 (sample station in front of 992 Nostrand Avenue, Brooklyn) was positive for total coliform. Resampling on 9/8/2021 was coliform negative at all locations.
- A sample collected on 9/20/2021 from Site 13550 (sample station in front of 2015 University Avenue, Bronx) was positive for total coliform. Resampling on 9/22/2021 was coliform negative at all locations.
- A sample collected on 9/21/2021 from Site 14850 (sample station west side Jackson Avenue, first sample station south of St Mary's Street, Bronx) was positive for total coliform. Resampling on 9/23/2021 was coliform negative at all locations.

OTHER WATER QUALITY MONITORING

7. *Microbiological Monitoring:*
Coliform monitoring at distribution sites near first service connections, in response to source water having a turbidity >1.49 NTU, resulted in the samples being negative for total coliform and *E. coli.*

The analyses of 498 distribution Operational samples resulted in three (3) samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 240 Pre-Finished samples resulted in two (2) sample testing positive for total coliform. No *E. coli* were detected.

The analyses of 480 Autosampler Pre-finished samples resulted in eleven (11) samples testing positive for total coliform. No *E. coli* were detected.

8. *Distribution Turbidity Monitoring:*
For distribution sites, turbidity ranged from <0.10 to 3.46 NTU and averaged 0.61 NTU for the month. This meets the MCL of 5 NTU for the monthly average of all distribution samples.

9. *Color Monitoring:*
The MCL of 15 units for color was met for the month. Daily analyses of entry point samples (140 samples in total), produced monthly average color values of 7 units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3), and 4 units for sites 1SCL1 (Croton Low Service) and 1SCH3 (Croton High Service).

10. *Volatile Organic/TTHM/HAA5 Monitoring:*
Monthly Results: Twenty-one (21) distribution and four (4) entry point samples were collected for volatile organic contaminant (VOC) analysis. All VOC samples from distribution sites and entry points were below detection. Twenty-one (21) TTHM distribution samples were collected ranging from 18 µg/L to 56 µg/L. Four (4) TTHM entry point samples were collected ranging from 15 µg/L to 56 µg/L. Twenty-one (21) HAA5 distribution samples were collected ranging from 11 µg/L to 60 µg/L. Four (4) HAA5 entry point samples were collected ranging from 9 µg/L to 51 µg/L.

11. *Semivolatile and Other Organic Chemicals/parameters:*
None conducted this month.

12. *Fluoride Monitoring:*
Daily analyses of entry point samples (140 samples in total), produced monthly average fluoride levels of 0.67 mg/L for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3), 0.73 mg/L for site 1SCL1 (Croton Low Service), and 0.74 mg/L for site 1SCH3 (Croton High Service). The fluoride levels at the entry points did not exceed the MCL of 2.2 mg/L at any time during the month.

Please feel free to contact me at (718) 595-5367 or sfreud@dep.nyc.gov if you would like to discuss any of this information in greater detail.

Sincerely,

Salome Freud
First Deputy Director of Water Quality & Innovation

Enclosure

cc:
by email
Mr. Andrew Brunsden, Inspector General for NYCDEP
Mr. Kenneth Kosinski, NYSDEC
Mr. David Kvinge, Westchester County Water Agency
Mr. Huan Li, NYCDOHMH

Monthly Water Quality Report – **September 2021**

Ms. Millie Magraw, Westchester County Water Agency
Mr. Trevor McProud, NYCDOHMH
Mr. Andy Tse, NYSDOH
Mr. Patrick Foster, NYSDEC – Region 2

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RAW WATER FECAL COLIFORM CONCENTRATIONS
(FAD Requirement)

NYC Environmental Protection

NYCDEP Division of Watershed Water Quality Operations

Catskill/Delaware System Raw Water Fecal Coliform Compliance Report

Hawthorne Laboratory, ELAP Lab ID No. 10771
15 Skyline Drive, Hawthorne, NY 10532

Deputy Chief: David Robinson
914-345-4973

Catskill/Delaware Public Water System at Shaft 18 (DEL18DT) - Raw Water **Period: 10/19 To: 09/21**

Date	Number of Fecal Coliform Samples Examined per Month	Number of Fecal Coliform Samples with >20 colonies per 100 mL	Percent of Monthly Fecal Coliform Samples with >20 colonies per 100 mL	Percent of Monthly Fecal Coliform Samples with >20 colonies per 100 mL for Previous Six Months
10-19	31	0	0.00	0.00
11-19	30	0	0.00	0.00
12-19	31	0	0.00	0.00
1-20	31	0	0.00	0.00
2-20	29	0	0.00	0.00
3-20	31	0	0.00	0.00
4-20	30	0	0.00	0.00
5-20	31	0	0.00	0.00
6-20	30	0	0.00	0.00
7-20	31	0	0.00	0.00
8-20	31	1	3.23	0.54
9-20	30	1	3.33	1.09
10-20	31	0	0.00	1.09
11-20	30	0	0.00	1.09
12-20	31	0	0.00	1.09
1-21	31	0	0.00	1.09
2-21	28	0	0.00	0.55
3-21	31	0	0.00	0.00
4-21	30	0	0.00	0.00
5-21	31	0	0.00	0.00
6-21	30	0	0.00	0.00
7-21	31	0	0.00	0.00
8-21	31	0	0.00	0.00
9-21	30	4	13.33	2.19

D W. Robinson 10/5/21

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 10/5/2021

All results that fall within the scope of the NELAP program meet that program's requirements unless stated in the qualifiers addendum printed at the end of this report.

Report Printed on 10/05/2021 12:45 pm

RAW WATER TURBIDITY
(FAD Requirement)

NYCDEP Division of Watershed Water Quality Operations

Water Systems Operation Report - Catskill/Delaware System

Environmental Protection

Hawthorne Laboratory, ELAP Lab ID No. 10771
15 Skyline Drive, Hawthorne, NY 10532

Deputy Chief: David Robinson
914-345-4973

Catskill/Delaware Public Water System at Shaft 18 (DEL18DT) - Raw Water — **Period: September, 2021**

Date	Turbidity (NTU) 12 AM	4 AM	8 AM	12 PM	4 PM	8 PM	Total Coliform (Colonies per 100 mL)	Fecal Coliform (Colonies per 100 mL)
9/1/21	0.55	0.55	0.55	0.65	0.80	0.65	E100	E3
9/2/21	0.95	0.90	1.4	1.5	1.2	0.85	1100	E82
9/3/21	0.70	0.80	0.80	0.95	0.80	0.85	E340	42
9/4/21	0.85	0.85	0.80	0.90	0.90	0.80	E220	34
9/5/21	0.95	0.80	0.85	0.85	1.1	0.90	E180	26
9/6/21	0.85	0.90	0.90	0.90	0.90	0.85	>=E240	E14
9/7/21	0.95	0.90	0.90	0.95	0.85	1.0	E320	E11
9/8/21	0.90	0.95	0.95	0.90	1.0	0.95	E120	E12
9/9/21	1.0	1.0	0.90	0.90	0.85	0.85	E20	E7
9/10/21	1.1	0.85	0.80	0.75	0.75	0.70	E40	E5
9/11/21	0.80	0.75	0.75	0.65	0.80	0.75	E40	E4
9/12/21	0.70	0.75	0.70	0.75	0.75	0.75	E120	E2
9/13/21	0.75	0.75	0.70	0.85	0.75	0.90	E40	E3
9/14/21	0.80	0.80	0.75	0.65	0.65	0.65	E100	E3
9/15/21	0.65	0.65	0.65	0.75	0.70	0.75	E150	E4
9/16/21	0.70	0.70	0.70	0.65	0.65	0.65	E120	E3
9/17/21	0.60	0.65	0.65	0.70	0.65	0.65	E80	<1
9/18/21	0.60	0.65	0.65	0.55	0.55	0.60	E20	<1
9/19/21	0.55	0.55	0.55	0.55	0.55	0.55	E100	E2
9/20/21	0.55	0.55	0.55	0.55	0.55	0.55	E100	E1
9/21/21	0.55	0.60	0.55	0.55	0.65	0.65	<20	E1
9/22/21	0.60	0.55	0.60	0.55	0.50	0.60	E40	E2
9/23/21	0.55	0.55	0.60	0.60	0.60	0.65	<20	E2
9/24/21	0.65	0.60	0.60	0.55	0.60	0.60	E40	E3
9/25/21	0.55	0.50	0.55	0.55	0.50	0.55	E60	E5
9/26/21	0.55	0.55	0.55	0.55	0.60	0.55	E140	E3
9/27/21	0.60	0.60	0.55	0.50	0.50	0.55	<20	E2
9/28/21	0.55	0.55	0.55	0.60	0.60	0.60	E20	E3
9/29/21	0.60	0.60	0.65	0.55	0.60	0.60	E60	E3
9/30/21	0.55	0.60	0.60	0.65	0.60	0.60	E40	<1

.: Aqueduct Shutdown, CONF: Confluent Growth (+ indicates positive coliform growth), LE: Lab Error, FE: Field Error, E: estimated count based on non-ideal plate, >=: plate count may be biased low based on heavy growth, >: observed count replaced with dilution based value

1. Does a raw water turbidity M & R violation exist? ___ Yes X__ No
2. Does the turbidity reading exceed 5 NTU at any time? ___ Yes X__ No
   If yes, check for MCL violation, and notify state by the end of the next business day.
3. Minimum number of microbiological samples required per week: __5__
4. A daily microbiological sample is required every day the raw water turbidity exceeds 1 NTU.

Additional Comments:

D W Robinson 10/5/21

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 10/5/2021

All results that fall within the scope of the NELAP program meet that program's requirements unless stated in the qualifiers addendum printed at the end of this report.

Report Printed on 10/05/202112:45 pm

NYC Environmental Protection

NYCDEP Division of Watershed Water Quality Operations

Water Systems Operation Report - Qualifiers and Methods Addendum

Hawthorne Laboratory, ELAP Lab ID No. 10771
15 Skyline Drive, Hawthorne, NY 10532

Deputy Chief: David Robinson
914-345-4973

Data Qualifiers and Additional Notes

Period: September 2021

Date/Time	Site	Analytes Affected	Qualifier
9/20/21 10:29	DEL18DT	Total Coliform	The duplicate analysis was not within the control limits.
9/30/21 11:55	DEL18DT	Turbidity	This sample has been bracketted with a QC standard that expired on 9/30/21.
9/30/21 15:55	DEL18DT	Turbidity	This sample has been bracketted with a QC standard that expired on 9/30/21.
9/30/21 19:55	DEL18DT	Turbidity	This sample has been bracketted with a QC standard that expired on 9/30/21.
9/30/21 23:55	DEL18DT	Turbidity	This sample has been bracketted with a QC standard that expired on 9/30/21.

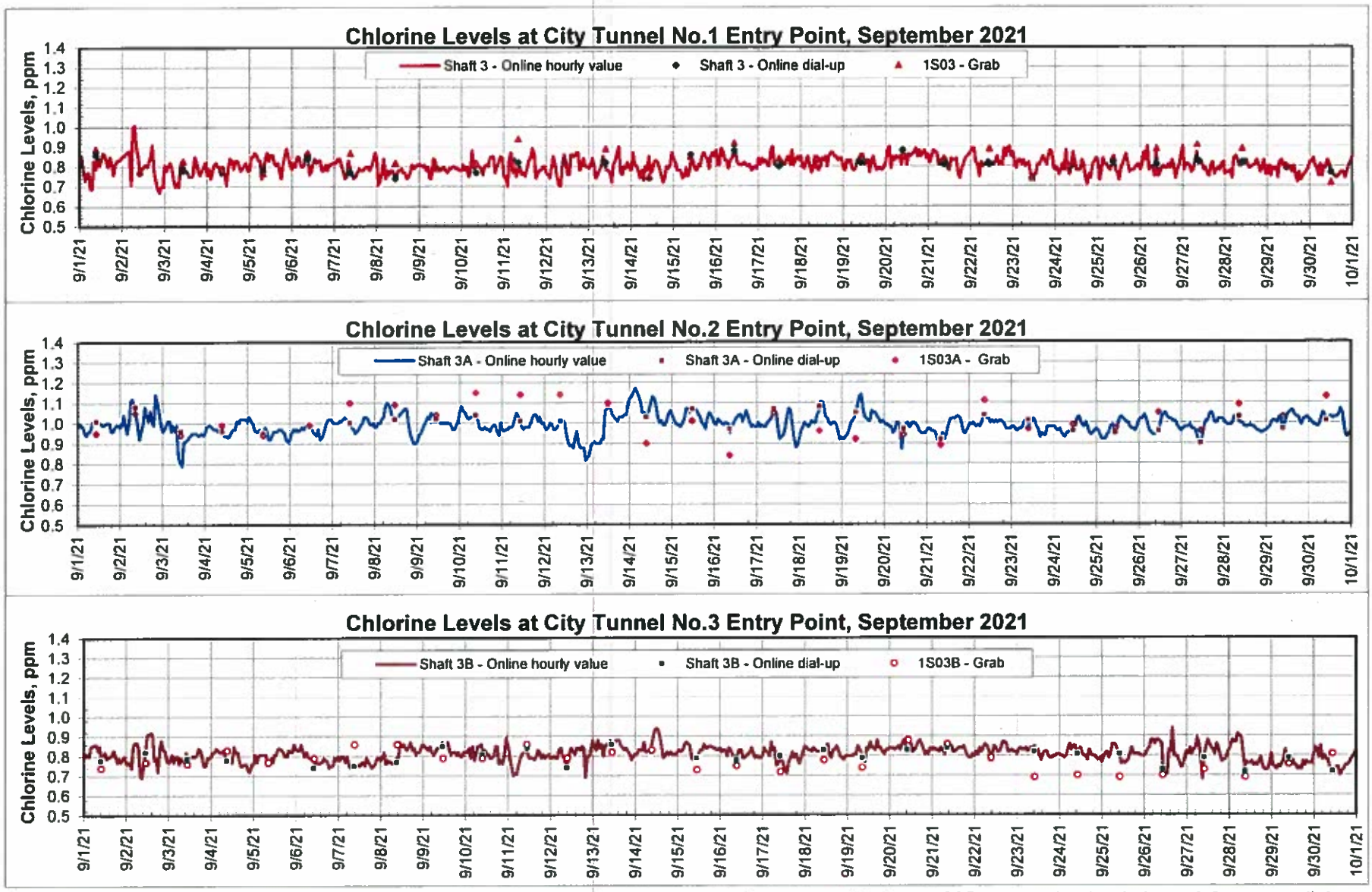
Analytical Methods

Coliform, Fecal	-	SM 9222D (2006)
Coliform, Total	-	SM 9222B (2006)
Turbidity	-	SM 2130B (01)

ENTRY POINT CHLORINE RESIDUAL
(FAD Requirement)

New York City Department of Environmental Protection
Bureau of Water Supply

City Tunnel Entry Point Residual Chlorine Continuous Monitoring Results



Note: Continuous monitoring of free chlorine residual (FCR) at distribution entry points was maintained. FCR was maintained above 0.2 ppm at all times.

Since 3/14/2021 grab and online dial-up readings were recorded in Eastern Daylight Time.

New York City Department of Environmental Protection
Bureau of Water Supply

Daily Minimum Chlorine Readings Recorded at Tunnel Entry Shafts for Catskill/Delaware System

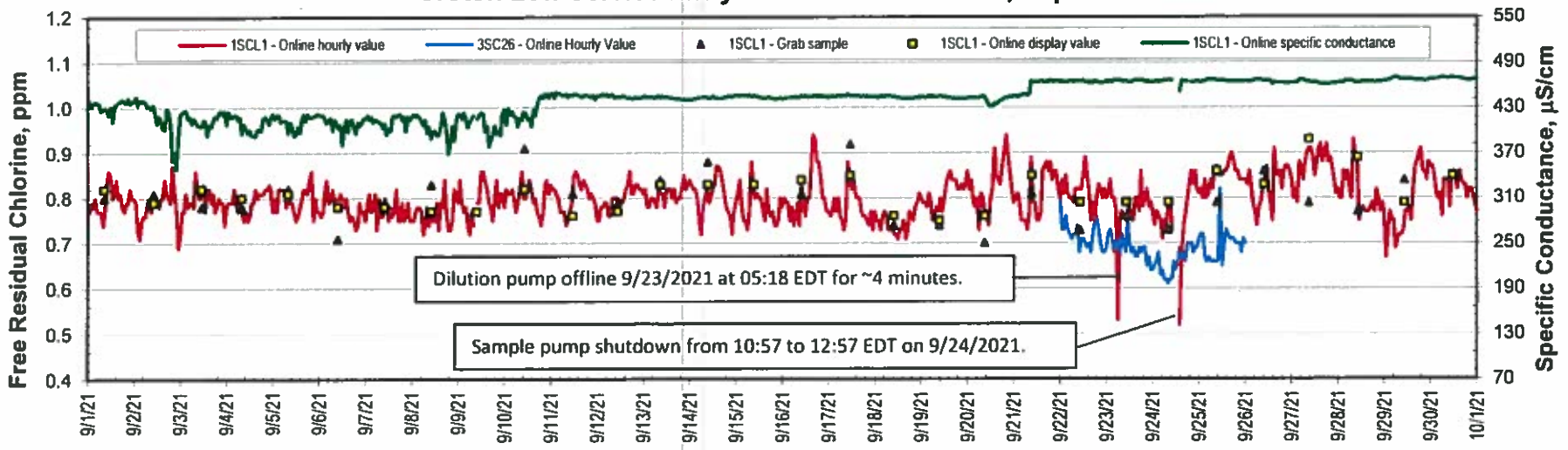
Tunnel No.1 (Catskill) at Shaft 3			Tunnel No.2 (Delaware) at Shaft 3A			Tunnel No.3 (Cat/Del) at Shaft 3B		
Date	MinCl_1DL	Remark 1	Date	MinCl_2DL	Remark 2	Date	MinCl_3DL	Remark 3
09/01/21	0.63		09/01/21	0.94		09/01/21	0.76	
09/02/21	0.63		09/02/21	0.92		09/02/21	0.55	
09/03/21	0.68		09/03/21	0.91		09/03/21	0.74	
09/04/21	0.68		09/04/21	0.93		09/04/21	0.71	
09/05/21	0.72		09/05/21	0.90		09/05/21	0.74	
09/06/21	0.74		09/06/21	0.90		09/06/21	0.73	
09/07/21	0.70		09/07/21	0.94		09/07/21	0.71	
09/08/21	0.70		09/08/21	0.89		09/08/21	0.74	
09/09/21	0.68		09/09/21	0.93		09/09/21	0.79	
09/10/21	0.72		09/10/21	0.94		09/10/21	0.72	
09/11/21	0.69		09/11/21	0.96		09/11/21	0.68	
09/12/21	0.67		09/12/21	0.82		09/12/21	0.63	
09/13/21	0.69		09/13/21	0.85		09/13/21	0.78	
09/14/21	0.70		09/14/21	0.98		09/14/21	0.77	
09/15/21	0.72		09/15/21	0.97		09/15/21	0.78	
09/16/21	0.76		09/16/21	0.95		09/16/21	0.76	
09/17/21	0.78		09/17/21	0.86		09/17/21	0.68	
09/18/21	0.74		09/18/21	0.92		09/18/21	0.78	
09/19/21	0.66		09/19/21	0.92		09/19/21	0.77	
09/20/21	0.74		09/20/21	0.84		09/20/21	0.80	
09/21/21	0.74		09/21/21	0.90		09/21/21	0.78	
09/22/21	0.75		09/22/21	0.96		09/22/21	0.78	
09/23/21	0.69		09/23/21	0.93		09/23/21	0.77	
09/24/21	0.71		09/24/21	0.93		09/24/21	0.77	
09/25/21	0.72		09/25/21	0.92		09/25/21	0.75	
09/26/21	0.67		09/26/21	0.94		09/26/21	0.68	
09/27/21	0.74		09/27/21	0.90		09/27/21	0.67	
09/28/21	0.74		09/28/21	0.94		09/28/21	0.72	
09/29/21	0.72		09/29/21	0.97		09/29/21	0.72	
09/30/21	0.72		09/30/21	0.93		09/30/21	0.70	

Legend: MinCl_1DL: Shaft 3's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.
MinCl_2DL: Shaft 3A's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.
MinCl_3DL: Shaft 3B's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.

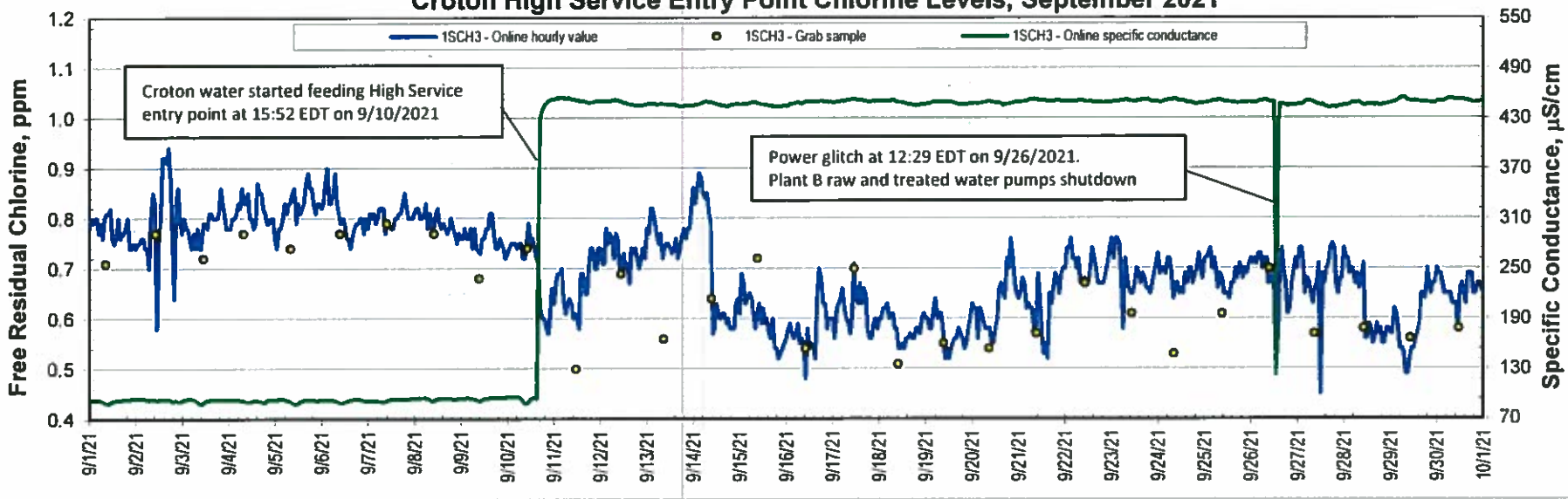
New York City Department of Environmental Protection
Bureau of Water Supply

Croton Distribution Entry Point Residual Chlorine Continuous Monitoring Results

Croton Low Service Entry Point Chlorine Levels, September 2021



Croton High Service Entry Point Chlorine Levels, September 2021



Note: Continuous monitoring of free chlorine residual (FCR) at distribution entry points was maintained. FCR was maintained at or above 0.2 ppm at all times. Since 3/14/21, all grab and online display readings were recorded in Eastern Daylight Saving Time.

New York City Department of Environmental Protection
Bureau of Water Supply

Daily Minimum Chlorine Readings Recorded at Croton Distribution Entry Points

Low Service			High Service		
Date	MinCl_1SCL1	Remark 1	Date	MinCl_1SCH3	Remark 2
09/01/21	0.64		09/01/21		
09/02/21	0.67		09/02/21		
09/03/21	0.70		09/03/21		
09/04/21	0.70		09/04/21		
09/05/21	0.64		09/05/21		No Croton water
09/06/21	0.70		09/06/21		
09/07/21	0.64		09/07/21		
09/08/21	0.68		09/08/21		
09/09/21	0.60		09/09/21		
09/10/21	0.71		09/10/21	0.56	Croton water started feeding into High Service entry point at 15:52 EDT on 9/10/2021
09/11/21	0.64		09/11/21	0.54	
09/12/21	0.64		09/12/21	0.65	
09/13/21	0.67		09/13/21	0.69	
09/14/21	0.66		09/14/21	0.57	
09/15/21	0.63		09/15/21	0.45	
09/16/21	0.64		09/16/21	0.48	
09/17/21	0.69		09/17/21	0.54	
09/18/21	0.69		09/18/21	0.52	
09/19/21	0.72		09/19/21	0.50	
09/20/21	0.71		09/20/21	0.52	
09/21/21	0.71		09/21/21	0.52	
09/22/21	0.71		09/22/21	0.64	
09/23/21	0.47		09/23/21	0.27	Dilution pump offline 9/23/2021 at 05:18 EDT for ~4 minutes
09/24/21	0.42	Sample pump shutdown at 10:57 to 13:57 EDT on 9/24/2021.	09/24/21	0.61	
09/25/21	0.69		09/25/21	0.63	
09/26/21	0.64		09/26/21	0.46	
09/27/21	0.74		09/27/21	0.44	
09/28/21	0.66		09/28/21	0.51	
09/29/21	0.62		09/29/21	0.44	
09/30/21	0.73		09/30/21	0.58	

Legend: MinCl_1SCL1: 1SCL1's minimum chlorine level measured and recorded at the location via data logger, in ppm.
MinCl_1SCH3: 1SCH3's minimum chlorine level measured and recorded at the location via data logger, in ppm.
Note: Croton water fed to High Service was determined by specific conductance greater than 150 µS/cm.

DISTRIBUTION SYSTEM DISINFECTION RESIDUAL

(FAD Requirement)

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Residual Chlorine (mg/L) Distribution Samples

September 2021

All Distribution Sites			
Samples	Min	Max	Average
1313	0.00	1.19	0.61

Analytical Method SM 4500-Cl^- G (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
28696	9/10/2021	18900	Reg Stop	1.19	Max
30967	9/29/2021	13600	Reg Stop	1.19	Max
30968	9/29/2021	18450	Reg Stop	1.19	Max
29049	9/13/2021	23900	Reg Stop	0.00	Min

A FCR is to be maintained at representative points in the distribution system and no more than 5% of the samples can be undetectable in any two months.

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Residual Chlorine (mg/L) Averages of Distribution Samples

Third Quarter 2021

Monthly Average			Quarterly Average				Running Annual Average †
Jul-21	Aug-21	Sep-21	4th Quarter of 2020	1st Quarter of 2021	2nd Quarter of 2021	3rd Quarter of 2021	
0.59	0.58	0.61	0.61	0.60	0.55	0.59	0.59

Analytical Method SM 4500-Cl^- G (analyte is not ELAP certified)

† The Running Annual Average of all distribution sites is calculated four times a year (at the end of every quarter) by taking the average of the quarterly average of this quarter and the three previous quarters, and is not to exceed the MRDL of 4.0 mg/L.

TOTAL COLIFORM MONITORING
(FAD Requirement)

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Summary of Results for Microbiological Quality
Compliance Samples

9/1/2021 to 9/30/2021

Location	Number of Sampling Points	Number of Samples Collected	Number of Samples Tested	Number of Samples with Positive Coliform *	Number of Samples with Positive E. coli *	Percent of Samples with Positive Coliform **
Bronx	46	138	138	2	0	1.4%
Brooklyn	70	197	197	1	0	0.5%
Manhattan	57	170	170	1	0	0.6%
Queens ***	79	227	227	0	0	0.0%
Staten Island	29	83	83	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	815	815	4	0	0.5%

* As determined by Colilert Quanti-Tray-18 Method (SM 9223 B).

** If more than 5.0 % of all monthly TCR compliance samples are positive for total coliform, a Level I Assessment must be conducted.

*** There was no groundwater sample this month because no well was in operation to distribution.

Supervisor: Rupa Aggarwal Date: 10/07/21

Director: [signature] Date: 10/06/2021

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Results for Microbiological Quality
Positive Compliance Samples
9/1/2021 to 9/30/2021

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
9/1/2021	10:30	39650	Manhattan	SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12 "	1.0	<1	0.32	To Be Resampled
9/6/2021	9:48	21950	Brooklyn	SS - IFO 992 W/S Nostrand Ave, 2nd SS S/O Sullivan Pl, 12 "	6.4	<1	0.72	To Be Resampled
9/20/2021	9:51	13550	Bronx	SS - IFO 2015 W/S University Ave, 1st SS S/O W 180th St, 12 "	1.0	<1	0.57	To Be Resampled
9/21/2021	11:00	14850	Bronx	SS - W/S Jackson Ave, 1st SS S/O St Mary's St, 20 "	65.9	<1	0.63	To Be Resampled

* As determined by Colilert Quanti-Tray-18 Method (SM 9223 B). Results expressed in "MPN/100 mL."

** As determined by Method SM 4500-Cl^- G (analyte is not ELAP certified).

Supervisor: Rupe Agrawal Date: 10/07/21

Director: [signature] Date: 10/06/2021

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Results for Microbiological Quality
Resamples for Positive Compliance Samples

9/1/2021 to 9/30/2021

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
9/3/2021	8:56	39650	Manhattan	SS - N/S E 49th St, 1st SS E/O 3rd Ave, IFO 217 E 49th St.	<1	<1	0.24	Upstream
9/3/2021	9:27	39650	Manhattan	SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12 "	<1	<1	0.17	Original Location
9/3/2021	9:49	39650	Manhattan	SS - N/S E 49th St, 1st SS W/O 2nd Ave	<1	<1	0.21	Downstream
9/8/2021	9:21	21950	Brooklyn	SS - IFO 986 W/S Nostrand Ave, 1st SS S/O Sullivan Pl.,	<1	<1	0.76	Upstream
9/8/2021	9:35	21950	Brooklyn	SS - IFO 992 W/S Nostrand Ave, 2nd SS S/O Sullivan Pl, 12 "	<1	<1	0.73	Original Location
9/8/2021	9:48	21950	Brooklyn	SS - IFO 1000 W/S Nostrand Ave, 1st SS N/O Empire Blvd	<1	<1	0.69	Downstream
9/22/2021	9:36	13550	Bronx	SS - W/S University Ave, 1st SS N/O W 180th St	<1	<1	0.61	Upstream
9/22/2021	10:01	13550	Bronx	SS - IFO 2015 W/S University Ave, 1st SS S/O W 180th St, 12 "	<1	<1	0.63	Original Location
9/22/2021	10:14	13550	Bronx	SS - W/S University Ave, 1st SS N/O W 179th St, IFO 2001 University Ave.	<1	<1	0.64	Downstream
9/23/2021	8:44	14850	Bronx	SS - W/S Jackson Ave, BTW St Mary's & E 144th Sts, OPP 390 Jackson Ave. (IFO Park)	<1	<1	0.77	Upstream
9/23/2021	8:57	14850	Bronx	SS - W/S Jackson Ave, 1st SS S/O St Mary's St, 20 "	<1	<1	0.76	Original Location
9/23/2021	9:11	14850	Bronx	SS - W/S Jackson Ave, 1st SS N/O E 142nd St, OPP 364 Jackson Ave.	<1	<1	0.87	Downstream

* As determined by Colilert Quanti-Tray-18 Method (SM 9223 B). Results expressed in "MPN/100 mL."
** As determined by Method SM 4500-Cl^- G (analyte is not ELAP certified).

Supervisor: Rupert Aggarwal Date: 10/05/21

Director: [signature] Date: 10/06/2021

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Results for Microbiological Quality
Free Chlorine Residual and Heterotrophic Plate Count
Compliance Samples

9/1/2021 to 9/30/2021

Location	Number of Sampling Points	Number of Samples Collected	Number of Samples Tested (Free Chlorine Residual)	Number of Samples Tested (Heterotrophic Plate Count)	Number of Samples with Free Chlorine Residual *		Range of Heterotrophic Plate Count (CFU/mL) for Free Chlorine Residual of 0.00 mg/L **	Number of Samples with Free Chlorine Residual of 0.00 mg/L and HPC > 500 CFU/mL	Percent of Samples with Free Chlorine Residual of 0.00 mg/L and HPC > 500 CFU/mL ***
					< 0.20 mg/L	0.00 mg/L			
Bronx	46	138	138	99	1	0	--	0	0.0%
Brooklyn	70	197	197	141	5	0	--	0	0.0%
Manhattan	57	170	170	127	13	0	--	0	0.0%
Queens †	79	227	227	171	41	0	--	0	0.0%
Staten Island	29	83	83	62	6	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	281	815	815	600	66	0	--	0	0.0%

* Free chlorine residual is determined by Method SM 4500-Cl^- G (analyte is not ELAP certified).
** Heterotrophic plate count is determined by Method SM 9215 B, PCA medium, 35°C, 48hrs. HPC result ≤ 500 CFU/mL is equivalent to a measurable FCR.
*** No more than 5 % of FCR samples shall be undetectable in any 2 consecutive months.

† There was no groundwater sample this month because no well was in operation to distribution.

Supervisor: Rupa Agarwal Date: 10/05/21

Director: Date: 10/06/2021

MICROBIOLOGICAL MONITORING

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Coliform Monitoring Results at Sample Sites near the First Service Connection When Source Water Turbidity Exceeds 1.49 NTU

September 2021

Source water		Distribution site near first service connection			
Date Turb>1.49 NTU	System	Sample Date	Sample Site	Coliform *	E.coli *
9/2/2021	DEL 18	9/3/2021	12150	<1	<1

No official four-hour turbidity readings from Cat-Del source water were greater than 1.5 NTU this month.

*** As determined by Colilert Quanti-Tray-18 Method (SM 9223B). Results expressed in "MPN /100mL."**

DISTRIBUTION TURBIDITY MONITORING

REPORT

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY, DISTRIBUTION LAB (NYSDOH ELAP #10770; USEPA #NY01351)

Turbidity (NTU) Distribution Samples

September 2021

All Distribution Sites			
Samples	Min	Max	Average
1313	<0.10	3.46	0.61

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
29546	9/17/2021	76300	Reg Stop	3.46	Max
28379	9/7/2021	3SC26	Reg Stop	<0.10	Min
28909	9/12/2021	1SCH3	Reg Stop	<0.10	Min

The monthly average of all distribution samples is not to exceed 5 NTU.

COLOR MONITORING

REPORT

NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY DISTRIBUTION LABORATORY (NYSDOH ELAP #10770; USEPA #NY01351)

Color (U) for Distribution Entry Points

September 2021

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Catskill/Delaware 1S03 (Tunnel 1)	6	7	7	7	7	6	7	6	7	7	6	7	7	6	6	7	7	7	7	5	6	8	7	6	7	6	6	6	7	7
Catskill/Delaware 1S03A (Tunnel 2)	6	6	8	7	7	6	8	7	7	8	6	7	7	7	7	7	8	7	6	5	6	8	7	7	7	6	6	6	7	6
Catskill/Delaware 1S03B (Tunnel 3)	7	6	7	6	7	6	7	7	7	8	6	7	7	6	6	7	8	6	6	5	6	8	7	7	7	6	6	6	7	6
Croton System 1SCL1 [a]	4	4	3	4	4	4	3	4	4	3	4	4	4	4	4	4	3	4	4	4	4	3	3	4	3	4	4	4	3	4
Croton System 1SCH3 [b]											4	3	4	4	4	4	3	4	4	4	4	3	3	4	3	4	4	4	3	4

Analytical Method SM 2120 B. Apparent color.

The average of two consecutive samples from the same site is not to exceed the MCL of 15 color units.

[a] Croton System online as of 10/27/2020 at 1SCL1.

[b] Croton System online as of 15:52 EDT on 9/10/2021 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	30	5	8	7
Catskill/Delaware 1S03A (Tunnel 2)	30	5	8	7
Catskill/Delaware 1S03B (Tunnel 3)	30	5	8	7
Croton System 1SCL1 [a]	30	3	4	4
Croton System 1SCH3 [b]	20	3	4	4

Supervisor _____ Date 10/08/21

Director _____ Date 10/8/2021

FLUORIDE MONITORING

REPORT

NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY DISTRIBUTION LABORATORY (NYSDOH ELAP #10770; USEPA #NY01351)

Fluoride (mg/L) for Distribution Entry Points
September 2021

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Catskill/Delaware 1S03 (Tunnel 1)	0.68	0.67	0.66	0.70	0.71	0.69	0.68	0.68	0.70	0.71	0.71	0.70	0.68	0.69	0.71	0.68	0.66	0.66	0.65	0.59	0.61	0.64	0.65	0.66	0.68	0.67	0.67	0.66	0.66	0.70
Catskill/Delaware 1S03A (Tunnel 2)	0.70	0.69	0.67	0.71	0.71	0.68	0.68	0.69	0.71	0.71	0.71	0.70	0.67	0.69	0.72	0.69	0.63	0.64	0.64	0.33	0.63	0.68	0.67	0.69	0.70	0.66	0.68	0.66	0.66	0.70
Catskill/Delaware 1S03B (Tunnel 3)	0.69	0.67	0.67	0.70	0.70	0.69	0.67	0.68	0.70	0.71	0.72	0.69	0.68	0.69	0.71	0.68	0.66	0.66	0.64	0.55	0.62	0.65	0.66	0.67	0.69	0.68	0.67	0.67	0.67	0.69
Croton System 1SCL1 [a]	0.74	0.78	0.72	0.76	0.74	0.71	0.72	0.71	0.72	0.76	0.77	0.71	0.72	0.73	0.77	0.72	0.73	0.75	0.76	0.73	0.69	0.76	0.77	0.75	0.73	0.73	0.71	0.72	0.73	0.63
Croton System 1SCH3 [b]											0.75	0.72	0.73	0.74	0.76	0.71	0.72	0.76	0.76	0.72	0.69	0.78	0.76	0.75	0.74	0.72	0.72	0.73	0.73	0.73

Analytical Method SM 4500 F C (97)

The average of two consecutive samples from the same distribution entry point site is not to exceed the MCL of 2.2 ppm.

[a] Croton System online as of 10/27/2020 at 1SCL1.

[b] Croton System online as of 15:52 EDT on 9/10/2021 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	30	0.59	0.71	0.67
Catskill/Delaware 1S03A (Tunnel 2)	30	0.33	0.72	0.67
Catskill/Delaware 1S03B (Tunnel 3)	30	0.55	0.72	0.67
Croton System 1SCL1 [a]	30	0.63	0.78	0.73
Croton System 1SCH3 [b]	20	0.69	0.78	0.74

Supervisor _____ Date 10/08/21

Director _____ Date 10/8/2021