NYC Environmental Protection

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Septemeber 9, 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 August 2021

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

Enclosed, please find the New York City Water Quality report for the month of **August 2021**. There was no well pumpage to distribution in the Groundwater System this month. Croton water was feeding into distribution for the month of August. 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 March 1, 2021 to August 31, 2021. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 0.00% 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 0.80 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 0.59 mg/L, 1S03A (Tunnel 2) was 0.88 mg/L, and 1S03B (Tunnel 3) was 0.67 mg/L.

The Croton Filtration Plant was online and continuously feeding the Croton Low Service for the month of August, except for 12 hours and 30 minutes from 20:37 on 8/29/21 to 08:57 on 8/30/21, as a result of a power upset. The Croton High Service entry point was offline for August. When the High Service pump is off or the Croton Filtration Plant is off-line, distribution Tunnel 3 water intermittently back feeds through the High Service tunnel to the Low Service entry point. The minimum daily free chlorine residual value for Croton entry point from site 1SCL1 (Low Service) was 0.03 mg/L for 10 minutes from 20:58 to 21:09 on 8/29/21 EDT.

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 1302 distribution samples were tested for free chlorine residual during the month. For all monthly distribution sites free chlorine residual ranged from 0.00 to 1.11 mg/L and averaged 0.58 mg/L.

5. *Trihalomethane Monitoring / HAA5 Monitoring* (Section 141.71(b)(6)):
Requirements met. The System's TTHM System-Wide Running Average (RAA) for the third quarter of 2021 was 38 µg/L, and the Locational Running Annual Averages (LRAA) ranged from 22 µg/L to 48 µg/L. These values meet the MCL of 80 µg/L for RAA and LRAA. TTHM quarterly results averaged 56 µg/L.

The System's HAA5 RAA for the third quarter of 2021 was 40 µg/L, and the LRAA ranged from 14 µg/L to 54 µg/L. These values meet the MCL of 60 µg/L for RAA and LRAA. HAA5 quarterly results averaged 43 µg/L.

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 841 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, three (3) samples tested positive for total coliform and all samples were negative for *E. coli*.

- A sample collected on 8/15/2021 from Site 77050 (sample station in front of Queens Village Library at 93-40 217th Street, Queens) was positive for total coliform. Resampling on 8/17/2021 was coliform negative at all locations.
- A sample collected on 8/17/2021 from Site 46850 (sample station in front of 63-01 Eliot Avenue, Queens) was positive for total coliform. Resampling on 8/19/2021 was coliform negative at all locations.
- A sample collected on 8/31/2021 from Site 78450 (sample station in front of 88-18 Hollis Court Boulevard, Queens) was positive for total coliform. Resampling on 9/2/2021 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, was not required this month, but all these samples were negative for total coliform and *E. coli*.

The analyses of 461 distribution Operational samples resulted in four (4) samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 248 Pre-Finished samples resulted in one (1) sample testing positive for total coliform. No *E. coli* were detected.

The analyses of 495 Autosampler Pre-finished samples resulted in two (2) samples testing positive for total coliform and one (1) sample testing positive for *E. coli*.

8. *Distribution Turbidity Monitoring:*
For distribution sites, turbidity ranged from <0.10 to 1.28 NTU and averaged 0.56 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 (124 samples in total), produced monthly average color values of 6 units for sites 1S03 (Tunnel 1) and 1S03B (Tunnel 3), 7 units for site 1S03A (Tunnel 2), and 4 units for site 1SCL1 (Croton Low Service).

10. *Volatile Organic/TTHM/HAA5 Monitoring:*
Monthly Results: Twenty-two (22) 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-two (22) TTHM distribution samples were collected ranging from 33 µg/L to 70 µg/L. Four (4) TTHM entry point samples were collected ranging from 32 µg/L to 61 µg/L. Twenty-two (22) HAA5 distribution samples were collected ranging from 17 µg/L to 64 µg/L. Four (4) HAA5 entry point samples were collected ranging from 15 µg/L to 47 µg/L.

11. *Semivolatile and Other Organic Chemicals/parameters:*
EPA Method 525.3 monitoring for 112 compounds of specified and unspecified organic parameters was conducted on August 23, 2021 at the three (3) Catskill/Delaware entry points (1S07, 1S03A, and 1S03B), at the Croton Low Service entry point (1SCL1) and Croton High Service entry point (1SCH3) which represented distribution Catskill/Delaware water, and six (6) distribution points. All semi-volatile organic contaminant samples were below detection limits.

12. *Fluoride Monitoring:*
Daily analyses of entry point samples (124 samples in total), produced monthly average fluoride levels of 0.70 mg/L for sites 1S03 (Tunnel 1) and 1S03B (Tunnel 3), 0.71 mg/L for site 1S03A (Tunnel 2), and 0.73 mg/L for site 1SCL1 (Croton Low Service). The fluoride levels at the entry points did not exceed the MCL of 2.2 mg/L at any time during the month.

13. Other Monitoring:
Fourth quarter monitoring for perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) by EPA Method 537 and for 1,4-Dioxane by EPA Method 522 for the Catskill/Delaware System entry point sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3), and the Croton entry point sites 1SCL1 (Low Service) was conducted on August 5, 2021. All results were ND except site 1SCL1 where PFOA was detected at a concentration of 2.3 ppt and perfluorohexanoic acid was detected at a concentration of 2.0 ppt. Available contract laboratory data reports are included as electronic files with this report. This concludes the one year monitoring requirement for these compounds.

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

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
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: 09/19 To: 08/21**

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
9-19	30	0	0.00	0.00
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

JSampson for DRobinson 9/7/21

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 9/3/2021

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 09/03/202112:03 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: August, 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)
8/1/21	0.70	0.75	0.70	0.60	0.60	0.65	E80	E1
8/2/21	0.60	0.55	0.65	0.55	0.60	0.60	E100	E3
8/3/21	0.60	0.60	0.60	0.75	0.70	0.70	E150	E1
8/4/21	0.70	0.65	0.65	0.60	0.60	0.50	E200	E1
8/5/21	0.55	0.65	0.60	0.60	0.60	0.65	E60	<1
8/6/21	0.60	0.70	0.60	0.60	0.65	0.60	E100	<1
8/7/21	0.60	0.65	0.60	0.60	0.50	0.60	E120	E1
8/8/21	0.60	0.60	0.60	0.60	0.60	0.60	E40	E1
8/9/21	0.60	0.60	0.65	0.60	0.65	0.60	E40	E1
8/10/21	0.70	0.70	0.55	0.55	0.55	0.65	E240	<1
8/11/21	0.55	0.55	0.55	0.60	0.60	0.65	E40	<1
8/12/21	0.60	0.65	0.65	0.65	0.65	0.65	E80	E1
8/13/21	0.70	0.65	0.70	0.65	0.60	0.60	E20	E5
8/14/21	0.65	0.65	0.65	0.65	0.70	0.60	E20	<1
8/15/21	0.60	0.60	0.60	0.70	0.60	0.60	E50	E1
8/16/21	0.60	0.65	0.60	0.65	0.65	0.65	E40	E1
8/17/21	0.55	0.60	0.65	0.60	0.65	0.60	<20	<1
8/18/21	0.55	0.65	0.60	0.60	0.60	0.65	E350	<1
8/19/21	0.60	0.70	0.70	0.70	0.65	0.65	E50	E1
8/20/21	0.60	0.70	0.70	0.55	0.55	0.70	E160	E4
8/21/21	0.70	0.65	0.55	0.55	0.60	0.60	E100	E2
8/22/21	0.50	0.60	0.55	0.65	0.60	0.60	E80	E2
8/23/21	0.60	0.55	0.55	0.65	0.55	0.65	E140	E4
8/24/21	0.65	0.65	0.65	0.70	0.75	0.70	E220	E10
8/25/21	0.70	0.75	0.75	0.75	0.80	0.70	E100	<1
8/26/21	0.65	0.70	0.75	0.65	0.70	0.60	E80	<1
8/27/21	0.65	0.65	0.65	0.65	0.65	0.65	E200	E1
8/28/21	0.65	0.70	0.70	0.60	0.60	0.55	E100	E4
8/29/21	0.65	0.60	0.60	0.60	0.60	0.60	E100	E8
8/30/21	0.55	0.60	0.60	0.60	0.60	0.60	E140	E3
8/31/21	0.60	0.60	0.60	0.50	0.55	0.50	E300	E2

.: 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:

JSampson for DRobinson

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 9/3/2021

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 09/03/202111:57 am

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: August 2021

Date/Time	Site	Analytes Affected	Qualifier
8/9/21 10:08	DEL18DT	Total Coliform	QC blank contamination. End Control Funnel 9

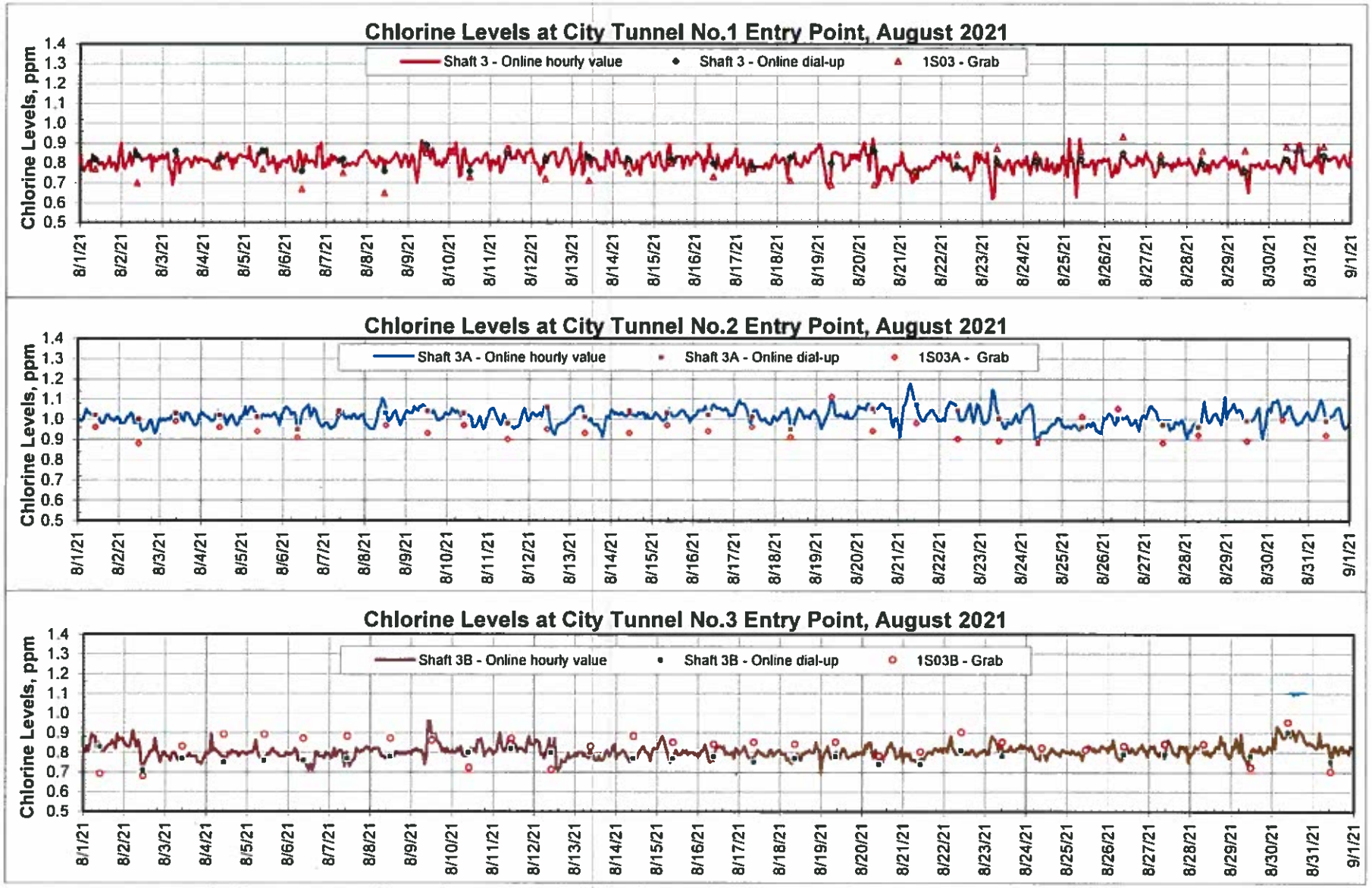
Analytical Methods

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
08/01/21	0.74		08/01/21	0.97		08/01/21	0.79	
08/02/21	0.72		08/02/21	0.93		08/02/21	0.67	
08/03/21	0.62		08/03/21	0.96		08/03/21	0.73	
08/04/21	0.76		08/04/21	0.96		08/04/21	0.75	
08/05/21	0.68		08/05/21	0.97		08/05/21	0.74	
08/06/21	0.74		08/06/21	0.94		08/06/21	0.70	
08/07/21	0.75		08/07/21	0.95		08/07/21	0.72	
08/08/21	0.74		08/08/21	0.94		08/08/21	0.76	
08/09/21	0.69		08/09/21	0.99		08/09/21	0.73	
08/10/21	0.71		08/10/21	0.93		08/10/21	0.76	
08/11/21	0.67		08/11/21	0.95		08/11/21	0.78	
08/12/21	0.61		08/12/21	0.91		08/12/21	0.70	
08/13/21	0.66		08/13/21	0.91		08/13/21	0.74	
08/14/21	0.71		08/14/21	0.98		08/14/21	0.74	
08/15/21	0.74		08/15/21	0.97		08/15/21	0.75	
08/16/21	0.71		08/16/21	1.01		08/16/21	0.75	
08/17/21	0.67		08/17/21	0.96		08/17/21	0.73	
08/18/21	0.71		08/18/21	0.94		08/18/21	0.68	
08/19/21	0.63		08/19/21	0.94		08/19/21	0.75	
08/20/21	0.68		08/20/21	0.90		08/20/21	0.74	
08/21/21	0.70		08/21/21	0.93		08/21/21	0.74	
08/22/21	0.70		08/22/21	0.98		08/22/21	0.74	
08/23/21	0.59		08/23/21	0.95		08/23/21	0.77	
08/24/21	0.70		08/24/21	0.88		08/24/21	0.74	
08/25/21	0.61		08/25/21	0.91		08/25/21	0.73	
08/26/21	0.69		08/26/21	0.94		08/26/21	0.76	
08/27/21	0.70		08/27/21	0.90		08/27/21	0.74	
08/28/21	0.72		08/28/21	0.91		08/28/21	0.77	
08/29/21	0.63		08/29/21	0.89		08/29/21	0.72	
08/30/21	0.71		08/30/21	0.97		08/30/21	0.80	
08/31/21	0.73		08/31/21	0.94		08/31/21	0.73	

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.

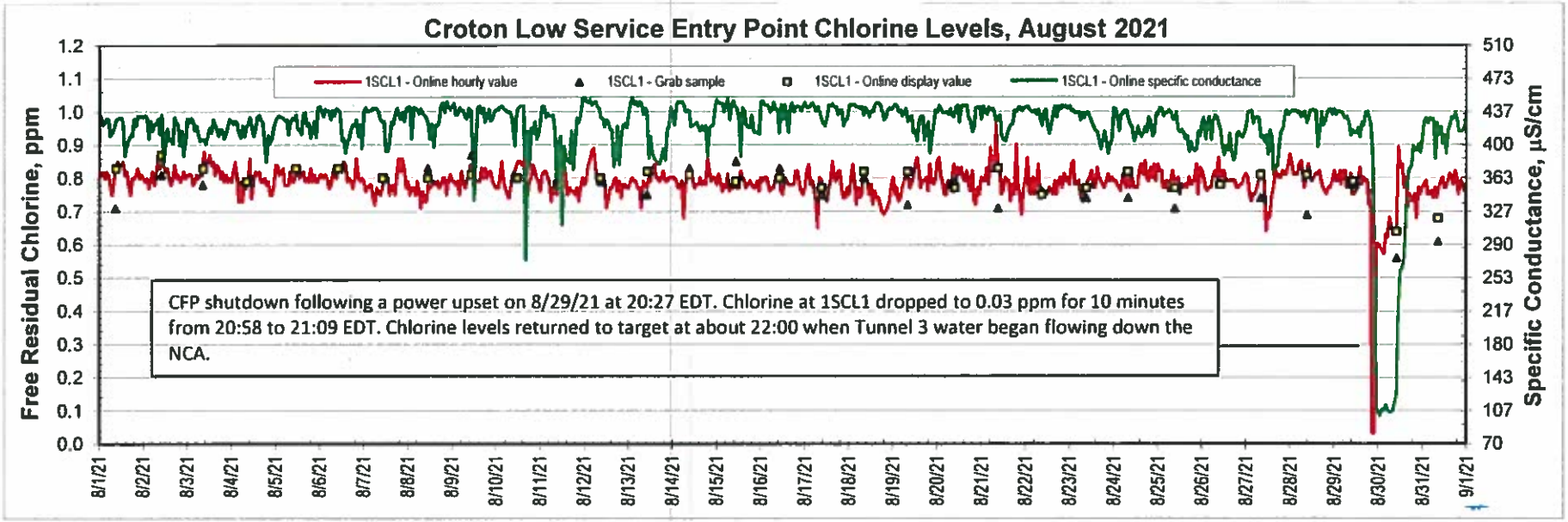
New York City Department of Environmental Protection
Bureau of Water Supply

Daily Minimum Chlorine Readings Recorded at Croton Distribution Entry Points

Low Service			High Service		
Date	MinCl_1SCL1	Remark 1	Date	MinCl_1SCH3	Remark 2
08/01/21	0.73		08/01/21		
08/02/21	0.73		08/02/21		
08/03/21	0.76		08/03/21		
08/04/21	0.71		08/04/21		
08/05/21	0.73		08/05/21		
08/06/21	0.72		08/06/21		
08/07/21	0.71		08/07/21		
08/08/21	0.69		08/08/21		
08/09/21	0.73		08/09/21		
08/10/21	0.68		08/10/21		
08/11/21	0.62		08/11/21		
08/12/21	0.68		08/12/21		
08/13/21	0.71		08/13/21		
08/14/21	0.68		08/14/21		
08/15/21	0.71		08/15/21		
08/16/21	0.66		08/16/21		
08/17/21	0.65		08/17/21		No Croton Water
08/18/21	0.61		08/18/21		
08/19/21	0.68		08/19/21		
08/20/21	0.61		08/20/21		
08/21/21	0.64		08/21/21		
08/22/21	0.60		08/22/21		
08/23/21	0.72		08/23/21		
08/24/21	0.69		08/24/21		
08/25/21	0.62		08/25/21		
08/26/21	0.70		08/26/21		
08/27/21	0.60		08/27/21		
08/28/21	0.73		08/28/21		
08/29/21	0.03	CFP shutdown following a power upset on 8/29/21 at 20:27 EDT. Chlorine at 1SCL1 dropped to 0.03 ppm for 10 minutes from 20:58 to 21:09 EDT.	08/29/21		
08/30/21	0.54		08/30/21		
08/31/21	0.66		08/31/21		

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.

New York City Department of Environmental Protection
Bureau of Water Supply
Croton Distribution Entry Point Residual Chlorine Continuous Monitoring Results



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.

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

August 2021

All Distribution Sites			
Samples	Min	Max	Average
1302	0.00	1.11	0.58

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
26140	8/19/21	1S03A	Sub	1.11	Max
25440	8/13/21	78050	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.

VOLATILE ORGANIC / THM / HAA MONITORING
(FAD Requirement)

REPORT

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

SUMMARY OF DISINFECTION BY-PRODUCTS ANALYSES (µg/L)

THIRD QUARTER, 2021

Site	Location	Sample Date	TTHM (µg/L) [a]				HAA5 (µg/L) [b]			
			Analysis Date	Result	LRAA	OEL	Analysis Date	Result	LRAA	OEL
15150	SS - IFO 1420 E/S Grand Concourse, 1st SS S/O E 171st St, 12"	8/3/21	8/3/21	63	35	43	8/5/21	39	33	34
18650	SS - N/S Dewey Ave, BTW Quincy & Swinton Aves, 12"	8/3/21	8/3/21	42	32	36	8/5/21	42	40	43
23450	SS - N/S Jefferson Avenue, 2nd SS W/O Lewis Avenue, 20"	8/3/21	8/3/21	44	35	37	8/5/21	48	43	47
24350	SS - W/S Brighton 11th Street, 2nd SS S/O Cass Place, 12"	8/3/21	8/3/21	63	41	48	8/5/21	55	52	56
31750	SS - IFO 427 N/S W 26th St, 2nd SS W/O 9th Ave, 12"	8/3/21	8/3/21	62	32	40	8/5/21	49	26	33
31850	SS - IFO 82 S/S Warren St, 2nd SS E/O Greenwich St, 12"	8/3/21	8/3/21	66	45	51	8/4/21	44	46	47
32350	SS - IFO 116 E/S Ave C, 2nd SS N/O E 7th St, 12"	8/3/21	8/3/21	47	28	33	8/5/21	25	20	22
33450	SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12"	8/3/21	8/3/21	36	22	25	8/4/21	19	15	15
33950	SS - N/S E 104th Street, 2nd SS E/O 3rd Avenue, 12"	8/3/21	8/3/21	40	24	28	8/4/21	17	14	15
37950	SS - IFO 325 N/S E 12th Street, 2nd SS E/O 2nd Ave, 12"	8/3/21	8/3/21	69	47	54	8/5/21	40	45	47
38250	SS - IFO 309 N/S E 87th St, 2nd SS W/O 1st Ave, 12"	8/3/21	8/3/21	59	43	47	8/5/21	43	44	46
39650	SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12"	8/3/21	8/3/21	70	46	52	8/10/21	36	44	44
44350	SS - IFO 21-55 N/S 34th Ave, 1st SS W/O 24th St, 12"	8/3/21	8/3/21	70	45	53	8/4/21	41	47	48
45250	SS - E/S Beach 58th St, 2nd SS N/O Beach Channel Drive, 12"	8/3/21	8/3/21	52	40	45	8/5/21	50	51	53
50250	SS - IFO 937 N/S Victory Blvd, 2nd SS E/O Cheshire Ave, 20"	8/3/21	8/3/21	46	36	39	8/5/21	64	54	60
50750	SS - E/S Woodhull Ave, 1st SS S/O Albourne Ave, 8"	8/3/21	8/3/21	58	43	49	8/10/21	52	47	52
50850	SS - IFO 512 W/S Arlene St, 1st SS N/O Dawson Ct, 12"	8/3/21	8/3/21	59	41	48	8/10/21	48	47	50
52050	SS - IFO 218 W/S Nicholas Ave, 1st SS S/O Charles Ave, 12"	8/3/21	8/3/21	51	40	43	8/10/21	55	52	54
58650	SS - IFO 510 W/S Main St, 2nd SS S/O Hylan Blvd, 12"	8/3/21	8/3/21	66	48	52	8/10/21	41	43	47
77650	SS - W/S 207th St, OPP 110-52 E/S 207th St, 6"	8/3/21	8/3/21	47	34	38	8/5/21	51	44	47

TTHM			HAA5
	36	QUARTERLY MINIMUM	17	
	70	QUARTERLY MAXIMUM	64	
	56	QUARTERLY AVERAGE	43	
	38	SYSTEM-WIDE RAA	40	

[a] : analyzed by EPA Method 524.3

[b] : analyzed by EPA Method 552.3

LRAA: The Locational Running Annual Average (LRAA) is calculated by taking the value of this quarter and the three previous consecutive quarters.

RAA: The System-wide Running Annual Average (RAA) is calculated by taking the average of the Quarterly Average of this quarter and the three previous consecutive quarters.

OEL: The Operational Evalution Level (OEL) is calculated by averaging 2 times this quarter's value and the two previous consecutive quarters.

Both the LRAA and the System-wide RAA is not to exceed 80 µg/L for TTHM and 60 µg/L for HAA5.

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

8/1/2021 to 8/31/2021

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	135	135	0	0	0.0%
Brooklyn	70	203	203	0	0	0.0%
Manhattan	57	172	172	0	0	0.0%
Queens ***	79	241	241	3	0	1.2%
Staten Island	29	90	90	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	841	841	3	0	0.4%

* 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: Rupe Aggarwal Date: 09/07/21

Director: Date: 9/8/2021

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
8/1/2021 to 8/31/2021

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
8/15/2021	11:58	77050	Queens	SS - IFO 93-40 E/S 217th St, S/O 94th Ave (IFO - Queens Village Library)	83.1	<1	0.04	To Be Resampled
8/17/2021	8:05	46850	Queens	SS - IFO 63-01 NW/S Eliot Ave, BTW 63rd & 64th Sts, 12 "	101.3	<1	0.59	To Be Resampled
8/31/2021	12:39	78450	Queens	SS - IFO 88-18 W/S Hollis Court Blvd, 2nd SS S/O Hillside Ave	1.0	<1	0.06	To Be Resampled

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

** As determined by Hach DPD Method (analyte is not ELAP certified).

Supervisor: Rupa Aggarwal Date: 09/07/21

Director: Date: 9/8/2021

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

8/1/2021 to 8/31/2021

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
8/17/2021	8:25	77050	Queens	SS - W/S 217th St, S/O 93rd Ave	<1	<1	0.22	Upstream
8/17/2021	8:41	77050	Queens	SS - IFO 93-40 E/S 217th St, S/O 94th Ave (IFO - Queens Village Library)	<1	<1	0.20	Original Location
8/17/2021	8:59	77050	Queens	SS - E/S 217th St, 2nd SS S/O 94th Ave, OPP 94-14 217th St	<1	<1	0.06	Downstream
8/19/2021	8:15	46850	Queens	SS - IFO 62-03 NW/S Eliot Ave, BTW 62nd & 63rd Sts	<1	<1	0.61	Upstream
8/19/2021	8:23	46850	Queens	SS - IFO 63-01 NW/S Eliot Ave, BTW 63rd & 64th Sts, 12 "	<1	<1	0.53	Original Location
8/19/2021	8:30	46850	Queens	SS - IFO 64-03 NW/S Eliot Ave, BTW 64th & 65th Sts	<1	<1	0.54	Downstream
9/2/2021	7:21	78450	Queens	SS - W/S Hollis Court Blvd, 1st SS S/O Hillside Ave	<1	<1	0.02	Upstream
9/2/2021	7:40	78450	Queens	SS - IFO 88-18 W/S Hollis Court Blvd, 2nd SS S/O Hillside Ave	<1	<1	0.05	Original Location
9/2/2021	8:01	78450	Queens	SS - IFO 89-72 W/S Hollis Court Blvd, BTW 89th & 90th Aves	<1	<1	0.04	Downstream

* As determined by Colifert Quanti-Tray-18 Method (SM 9223 B). Results expressed in "MPN/100 mL."
** As determined by Hach DPD Method (analyte is not ELAP certified).

Supervisor: Rupa Aggarwal Date: 09/07/21

Director: [signature] Date: 9/8/2021

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

8/1/2021 to 8/31/2021

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	135	135	95	1	0	--	0	0.0%
Brooklyn	70	203	203	147	8	0	--	0	0.0%
Manhattan	57	172	172	125	4	0	--	0	0.0%
Queens †	79	241	241	190	58	1	<1	0	0.0%
Staten Island	29	90	90	69	10	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	281	841	841	626	81	1	<1	0	0.0%

* Free chlorine residual is determined by Hach DPD Method (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 Aggarwal Date: 09/07/21

Director: Date: 9/8/2021

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

August 2021

Source water		Distribution site near first service connection			
Date Turb>1.49 NTU	System	Sample Date	Sample Site	Coliform *	E.coli *

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

August 2021

All Distribution Sites			
Samples	Min	Max	Average
1302	<0.10	1.28	0.56

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
24194	8/4/21	10850	Reg Stop	1.28	Max
23803	8/1/21	3SC26	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

August 2020

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	31
Catskill/Delaware 1S03 (Tunnel 1)	6	5	7	5	7	7	7	6	6	6	5	7	6	6	6	7	7	7	6	6	6	7	7	6	5	7	6	6	6	6	7
Catskill/Delaware 1S03A (Tunnel 2)	6	6	7	6	7	7	7	7	6	6	6	7	6	6	7	8	6	8	7	7	6	7	6	7	6	7	6	6	6	6	7
Catskill/Delaware 1S03B (Tunnel 3)	6	6	6	6	7	6	7	6	7	6	5	7	6	6	7	8	6	8	6	6	6	7	7	6	6	7	6	7	6	6	8
Croton System 1SCL1 [a]	4	4	4	4	3	4	3	4	4	4	4	3	4	4	4	3	4	4	4	4	4	3	3	4	4	4	4	4	4	6	3
Croton System 1SCH3 [b]																															

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 10/27/20 at 1SCL1.

[b] Croton System offline as of 5/28/21 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	5	7	6
Catskill/Delaware 1S03A (Tunnel 2)	31	6	8	7
Catskill/Delaware 1S03B (Tunnel 3)	31	5	8	6
Croton System 1SCL1 [a]	31	3	6	4
Croton System 1SCH3 [b]				

Supervisor _____ Date 09/07/2021

Director _____ Date 9/7/2021

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

August 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	31
Catskill/Delaware 1S03 (Tunnel 1)	0.74	0.72	0.71	0.72	0.72	0.71	0.72	0.71	0.72	0.71	0.71	0.71	0.70	0.71	0.71	0.72	0.71	0.69	0.71	0.70	0.68	0.67	0.70	0.72	0.72	0.71	0.72	0.71	0.59	0.61	0.66
Catskill/Delaware 1S03A (Tunnel 2)	0.74	0.72	0.71	0.71	0.73	0.73	0.72	0.71	0.71	0.72	0.71	0.71	0.70	0.70	0.71	0.72	0.71	0.68	0.71	0.70	0.69	0.68	0.72	0.72	0.73	0.71	0.72	0.72	0.67	0.68	0.69
Catskill/Delaware 1S03B (Tunnel 3)	0.74	0.71	0.71	0.72	0.73	0.72	0.71	0.71	0.71	0.71	0.71	0.69	0.70	0.70	0.72	0.72	0.71	0.69	0.71	0.69	0.69	0.68	0.71	0.71	0.72	0.71	0.72	0.72	0.62	0.64	0.67
Croton System 1SCL1 [a]	0.75	0.75	0.73	0.76	0.72	0.71	0.72	0.71	0.71	0.71	0.71	0.74	0.73	0.72	0.75	0.75	0.73	0.72	0.75	0.72	0.72	0.73	0.73	0.75	0.75	0.73	0.75	0.77	0.74	0.54	0.72
Croton System 1SCH3 [b]																															

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 10/27/20 at 1SCL1.

[b] Croton System offline as of 5/28/21 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	0.59	0.74	0.70
Catskill/Delaware 1S03A (Tunnel 2)	31	0.67	0.74	0.71
Catskill/Delaware 1S03B (Tunnel 3)	31	0.62	0.74	0.70
Croton System 1SCL1 [a]	31	0.54	0.77	0.73
Croton System 1SCH3 [b]				

Supervisor _____ Date 09/07/2021

Director _____ Date 9/7/2021