NYC Environmental Protection

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April 7, 2022

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Environmental Sciences & Engineering
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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 March 2022

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

Enclosed, please find the New York City Water Quality report for the month of **March 2022**. There was no well pumpage to distribution in the Groundwater System this month. Croton water was feeding into distribution for the month of March. 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 October 1, 2021 to March 31, 2022. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 1.10% 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 1.3 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 0.41 mg/L, 1S03A (Tunnel 2) was 0.53 mg/L, and 1S03B (Tunnel 3) was 0.22 mg/L on 03/29/22, at 1:39 PM ,which was a result of a service water pump losing suction during a 30 minute generator load test at Hillview.

The Croton Filtration Plant was online and continuously feeding the Croton Low Service for the month of March. Daily pumping to the Croton High Service entry point was intermittent and completely off on 03/24/2022 and 03/31/2022. When the High Service pumps were off, distribution Tunnel 3 water reached the High Service entry point. The minimum daily free chlorine residual value for Croton entry points from site 1SCL1 (Low Service) was 0.46 mg/L and from 1SCH3 (High Service) was 0.36 mg/L.

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 1277 distribution samples were tested for free chlorine residual during the month. For all monthly distribution sites free chlorine residual ranged from 0.00 to 0.79 mg/L and averaged 0.37 mg/L.

The first quarter of 2022 chlorine residual running annual average was 0.51 mg/L. This meets the MRDL of 4 mg/L for the quarterly running average of all distribution system samples.

5. *Trihalomethane Monitoring / HAA5 Monitoring* (Section 141.71(b)(6)):
The results for the first quarter of 2022 were included in the report dated March 9, 2022 (For the February 2022 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 829 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, no samples tested positive for total coliform and all samples were negative for *E. coli*.

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 448 distribution Operational samples resulted in no samples testing positive for total coliform or *E. coli*.

The analyses of 248 Pre-Finished samples resulted in twenty-nine (29) samples testing positive for total coliform and none for *E.coli*.

The analyses of 363 Autosampler Pre-finished samples resulted in seventy-one (71) samples testing positive for total coliform and three (3) samples positive for *E. coli*.

8. *Distribution Turbidity Monitoring:*
For distribution sites, turbidity ranged from <0.10 to 3.42 NTU and averaged 0.79 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 (155 samples in total) produced monthly average color values of 7 units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), 1S03B (Tunnel 3), 4 units for site 1SCL1 (Croton Low Service), and 6 units for site 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 and ranged from 17 µg/L to 35 µg/L. Four (4) TTHM entry point samples were collected and ranged

from 13 µg/L to 19 µg/L. Twenty-one (21) HAA5 distribution samples were collected and ranged from 19 µg/L to 39 µg/L. Four (4) HAA5 entry point samples were collected and ranged from 18 µg/L to 28 µg/L.

11. ***Semivolatile and Other Organic Chemicals/parameters:***
EPA Method 525.2 monitoring for 79 compounds of specified and unspecified organic parameters was conducted on February 14, 2020 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 except for hexachlorocyclopentadiene which was detected just at the method reporting limit (MRL) of 0.050 µg/L, at site 31750 at 0.050 µg/L and site 45250 at 0.051 µg/L.

12. ***Fluoride Monitoring:***
Daily analyses of entry point samples (155 samples in total) produced monthly average fluoride levels of 0.67 mg/L for site 1S03 (Tunnel 1), 0.68 mg/L for sites 1S03A (Tunnel 2), 1S03B (Tunnel 3), and 1SCH3 (Croton High Service), and 0.66 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.

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
Ms. Juve Hippolyte, 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)

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: 04/20 To: 03/22
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
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
10-21	31	2	6.45	3.26
11-21	30	0	0.00	3.28
12-21	31	0	0.00	3.26
1-22	31	0	0.00	3.26
2-22	28	0	0.00	3.31
3-22	31	0	0.00	1.10

1. Does the percent of fecal coliform samples with >20 colonies per 100mL over the previous 6 months exceed 10%? ___Yes _X_No

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 4/4/2022 4/5/22

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 04/04/202211:59 am

RAW WATER TURBIDITY
(FAD Requirement)

NYCDEP Division of Watershed Water Quality Operations

Water Systems Operation Report - Catskill/Delaware System

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: March, 2022**

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)
3/1/22	0.80	0.85	0.85	0.85	0.80	0.80	E12	E4
3/2/22	0.80	0.95	0.80	0.75	0.75	0.80	E6	E3
3/3/22	0.75	0.75	0.85	0.80	0.75	0.80	E6	E1
3/4/22	0.80	0.75	0.80	0.75	0.75	0.75	E4	E1
3/5/22	0.75	0.75	0.75	0.70	0.70	0.75	E22	E16
3/6/22	0.70	0.75	0.75	0.80	0.75	0.85	E10	E1
3/7/22	0.80	0.80	0.75	0.80	0.70	0.70	E2	E4
3/8/22	0.70	0.75	0.75	0.80	0.85	0.75	E5	E2
3/9/22	0.80	0.80	0.75	0.70	0.70	0.70	E5	<1
3/10/22	0.70	0.70	0.70	0.75	0.70	0.70	E10	E2
3/11/22	0.75	0.70	0.75	0.75	0.70	0.70	<2	<1
3/12/22	0.75	0.80	0.75	0.75	0.70	0.70	E5	<1
3/13/22	0.75	0.75	0.75	0.70	0.75	0.70	E4	E1
3/14/22	0.80	0.75	0.85	0.75	0.75	0.80	E2	E1
3/15/22	0.75	0.80	0.80	0.75	0.80	0.75	E2	E3
3/16/22	0.75	0.85	0.85	0.80	0.75	0.80	E4	E3
3/17/22	0.80	0.80	0.80	0.90	0.85	0.95	E2	<1
3/18/22	1.0	1.1	1.0	1.1	1.1	1.1	<2	<1
3/19/22	0.85	0.80	0.85	0.80	0.90	0.85	E5	E3
3/20/22	0.85	0.90	0.90	0.85	0.85	0.85	<2	<1
3/21/22	0.80	0.80	0.80	0.80	0.80	0.80	E2	<1
3/22/22	0.80	0.85	0.85	0.75	0.80	0.80	E2	<1
3/23/22	0.85	0.80	0.85	0.85	0.80	0.85	E2	<1
3/24/22	0.85	1.0	1.3	1.0	0.95	0.90	E4	E1
3/25/22	0.90	0.90	0.85	0.90	0.85	0.80	E2	<1
3/26/22	0.85	0.85	0.80	0.75	0.75	0.75	E2	<1
3/27/22	0.75	0.80	0.80	0.85	0.80	0.80	E6	<1
3/28/22	0.80	0.80	0.75	0.75	0.80	0.80	E2	<1
3/29/22	0.80	0.80	0.80	0.80	0.85	0.90	<2	<1
3/30/22	0.85	0.80	0.85	0.85	0.80	0.80	E5	<1
3/31/22	0.80	0.80	0.75	0.85	0.85	0.85	<2	<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:

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations — 4/4/2022

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.

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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: March 2022

Date/Time	Site	Analytes Affected	Qualifier

Analytical Methods

Coliform, Fecal	-	SM 9222D (2015)
Coliform, Total	-	SM 9222B (2015)
Turbidity	-	SM 2130B (01)

ENTRY POINT CHLORINE RESIDUAL
(FAD Requirement)

New York City Department of Environmental Protection
Bureau of Water Supply

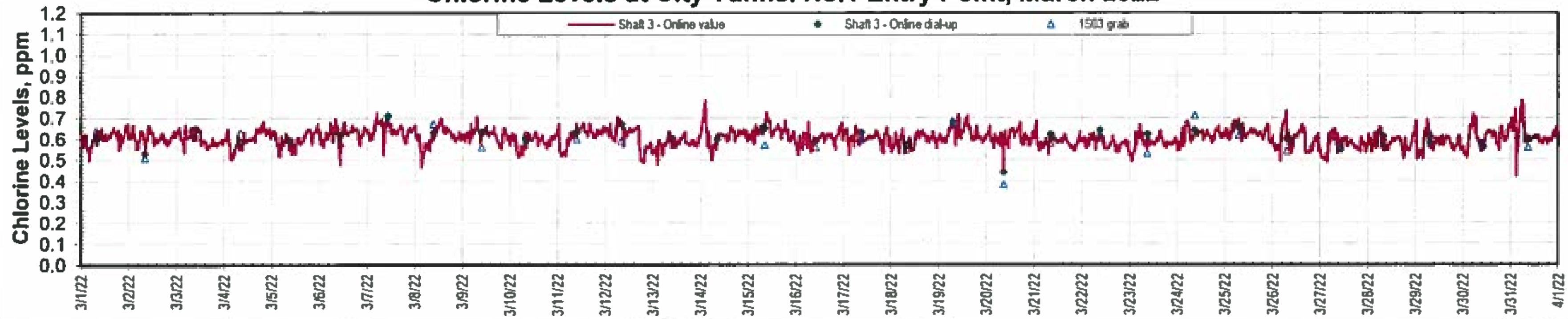
Daily Minimum Chlorine Readings Recorded at Tunnel Entry Shafts for Catskill/Delaware System

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
03/01/22	0.50		03/01/22	0.54		03/01/22	0.58	
03/02/22	0.52		03/02/22	0.58		03/02/22	0.57	
03/03/22	0.53		03/03/22	0.58		03/03/22	0.57	
03/04/22	0.50		03/04/22	0.57		03/04/22	0.57	
03/05/22	0.51		03/05/22	0.57		03/05/22	0.59	
03/06/22	0.48		03/06/22	0.56		03/06/22	0.54	
03/07/22	0.52		03/07/22	0.54		03/07/22	0.43	
03/08/22	0.47		03/08/22	0.57		03/08/22	0.54	
03/09/22	0.55		03/09/22	0.57		03/09/22	0.57	
03/10/22	0.51		03/10/22	0.58		03/10/22	0.57	
03/11/22	0.51		03/11/22	0.57		03/11/22	0.57	
03/12/22	0.48		03/12/22	0.55		03/12/22	0.57	
03/13/22	0.48		03/13/22	0.57		03/13/22	0.51	
03/14/22	0.50		03/14/22	0.59		03/14/22	0.55	
03/15/22	0.56		03/15/22	0.58		03/15/22	0.57	
03/16/22	0.52		03/16/22	0.60		03/16/22	0.58	
03/17/22	0.52		03/17/22	0.58		03/17/22	0.58	
03/18/22	0.52		03/18/22	0.56		03/18/22	0.57	
03/19/22	0.57		03/19/22	0.54		03/19/22	0.56	
03/20/22	0.44		03/20/22	0.55		03/20/22	0.57	
03/21/22	0.52		03/21/22	0.58		03/21/22	0.47	
03/22/22	0.52		03/22/22	0.53		03/22/22	0.58	
03/23/22	0.48		03/23/22	0.56		03/23/22	0.57	
03/24/22	0.54		03/24/22	0.54		03/24/22	0.57	
03/25/22	0.57		03/25/22	0.56		03/25/22	0.52	
03/26/22	0.49		03/26/22	0.58		03/26/22	0.56	
03/27/22	0.48		03/27/22	0.55		03/27/22	0.56	
03/28/22	0.50		03/28/22	0.58		03/28/22	0.57	
03/29/22	0.50		03/29/22	0.57		03/29/22	0.22	Service water pump lost suction during a generator load test at Hillview for 30 minutes which resulted in a minimum chlorine residual of 0.22 ppm at 12:39 PM EST.
03/30/22	0.51		03/30/22	0.57		03/30/22	0.55	
03/31/22	0.41		03/31/22	0.55		03/31/22	0.52	

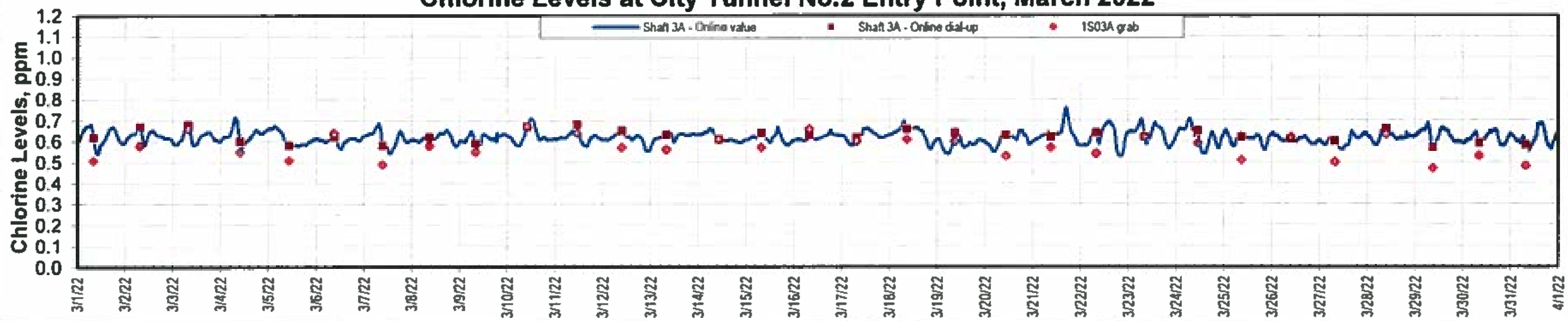
Legend: MinCl_1DL: Shaft 3's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.
MinCl_2DL: Shaft 3A's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.
MinCl_3DL: Shaft 3B's minimum chlorine level measured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

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

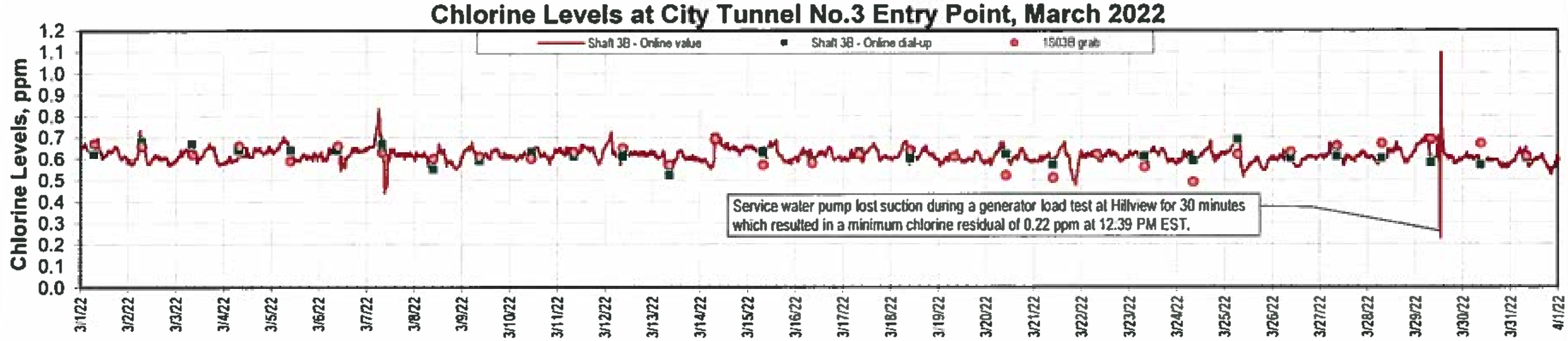
Chlorine Levels at City Tunnel No.1 Entry Point, March 2022



Chlorine Levels at City Tunnel No.2 Entry Point, March 2022



Chlorine Levels at City Tunnel No.3 Entry Point, March 2022



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 11/7/21, all online readings, grab and online dial-up readings were recorded in Eastern Standard Time.

New York City Department of Environmental Protection
Bureau of Water Supply

Daily Minimum Chlorine Readings Recorded at Croton Distribution Entry Points

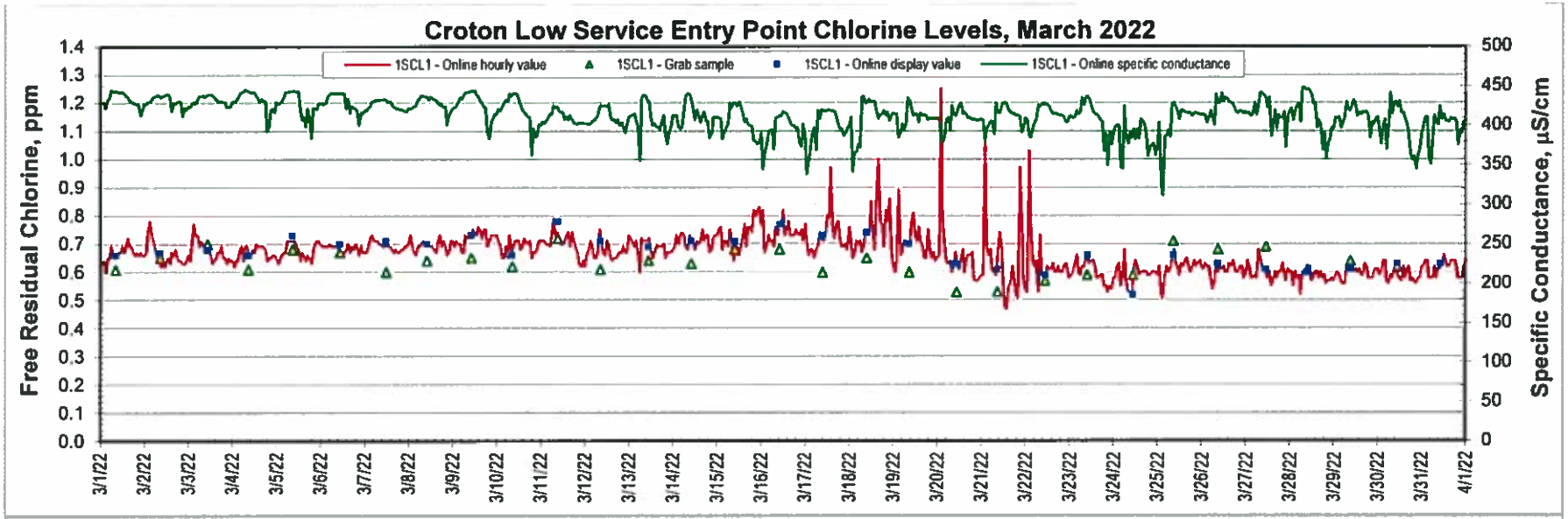
Low Service			High Service		
Date	MinCl_1SCL1	Remark 1	Date	MinCl_1SCH3	Remark 2
03/01/22	0.60		03/01/22	0.40	
03/02/22	0.61		03/02/22	0.45	
03/03/22	0.59		03/03/22	0.43	
03/04/22	0.60		03/04/22	0.41	
03/05/22	0.62		03/05/22	0.43	
03/06/22	0.63		03/06/22	0.41	
03/07/22	0.65		03/07/22	0.43	
03/08/22	0.64		03/08/22	0.43	
03/09/22	0.65		03/09/22	0.45	
03/10/22	0.61		03/10/22	0.37	
03/11/22	0.60		03/11/22	0.38	
03/12/22	0.60		03/12/22	0.37	
03/13/22	0.59		03/13/22	0.41	
03/14/22	0.63		03/14/22	0.39	
03/15/22	0.61		03/15/22	0.41	
03/16/22	0.64		03/16/22	0.43	
03/17/22	0.61		03/17/22	0.44	
03/18/22	0.62		03/18/22	0.37	
03/19/22	0.60		03/19/22	0.37	
03/20/22	0.56		03/20/22	0.37	
03/21/22	0.46		03/21/22	0.41	
03/22/22	0.49		03/22/22	0.36	
03/23/22	0.51		03/23/22	0.42	
03/24/22	0.48		03/24/22		No Croton water
03/25/22	0.50		03/25/22	0.39	
03/26/22	0.53		03/26/22	0.36	
03/27/22	0.52		03/27/22	0.39	
03/28/22	0.51		03/28/22	0.39	
03/29/22	0.53		03/29/22	0.48	
03/30/22	0.52		03/30/22	0.41	
03/31/22	0.54		03/31/22		No Croton water

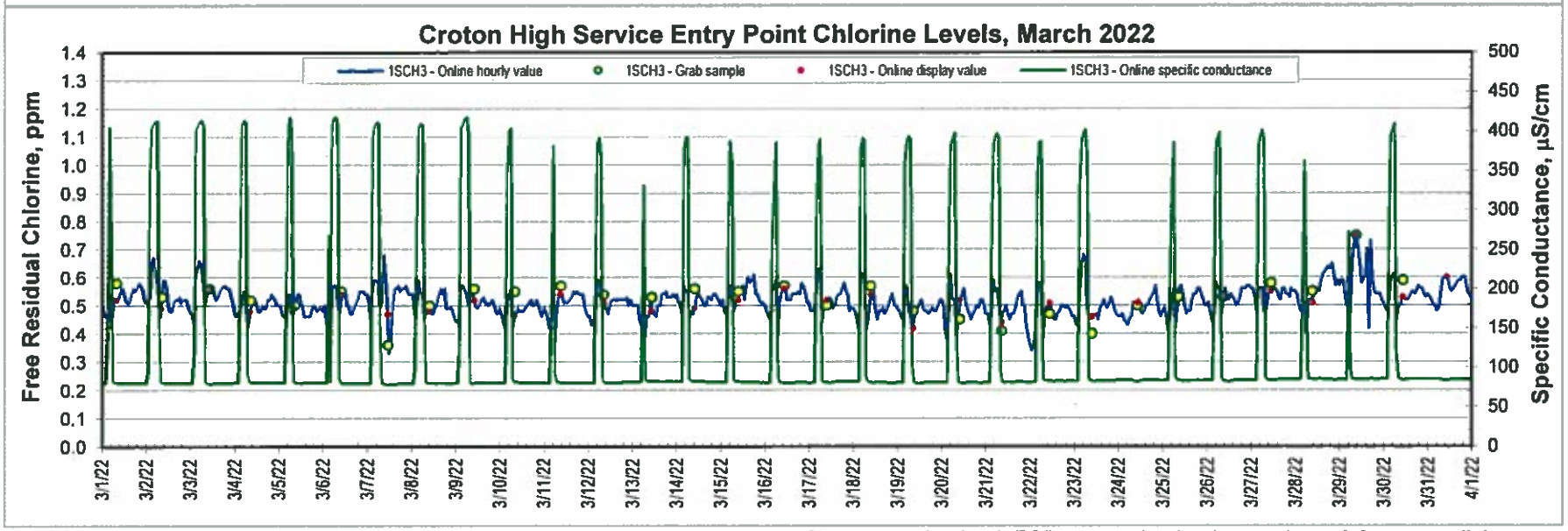
Legend: MinCl_1SCL1: 1SCL1's minimum chlorine level measured and recorded at the location via data logger, in ppm.
MinCl_1SCH3: 1SCH3's minimum chlorine level measured and recorded at the location via data logger, in ppm.

Note: Croton water fed to High Service time period 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 3/13/22, all online readings, grab and online dial-up 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

March 2022

All Distribution Sites			
Samples	Min	Max	Average
1277	0.00	0.79	0.37

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

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
7766	3/11/2022	10750	Reg Stop	0.79	Max
9523	3/27/2022	77750	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

First Quarter 2022

Monthly Average			Quarterly Average				Running Annual Average †
Jan-22	Feb-22	Mar-22	2nd Quarter of 2021	3rd Quarter of 2021	4th Quarter of 2021	1st Quarter of 2022	
0.37	0.36	0.37	0.55	0.59	0.52	0.37	0.51

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

3/1/2022 to 3/31/2022

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	0	0	0.0%
Brooklyn	70	201	201	0	0	0.0%
Manhattan	57	169	169	0	0	0.0%
Queens ***	79	234	234	0	0	0.0%
Staten Island	29	87	87	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	829	829	0	0	0.0%

* 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: 04/04/22

Director: [signature] Date: 4/5/2022

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

3/1/2022 to 3/31/2022

Date	Time	Site Number	Boro	Location	Coliform (MPN/100 mL) *	E. coli (MPN/100 mL) *	Chlorine Residual (mg/L) **	Remarks
				No positive sample this month.				

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

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

Supervisor: Rupa Aggarwal Date: 04/05/22

Director: [signature] Date: 4/5/2022

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

3/1/2022 to 3/31/2022

Date	Time	Site Number	Boro	Location	Coliform (MPN/100 mL) *	E. coli (MPN/100 mL) *	Chlorine Residual (mg/L) **	Remarks
				No positive sample this month.				

* As determined by Colilert Quanti-Tray-18 Method (SM 9223 B).
** As determined by Method SM 4500-Cl^- G (analyte is not ELAP certified).

Supervisor: Rupa Agrawal Date: 04/07/22

Director: [signature] Date: 4/5/2022

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

3/1/2022 to 3/31/2022

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	104	4	0	--	0	0.0%
Brooklyn	70	201	201	157	20	0	--	0	0.0%
Manhattan	57	169	169	136	25	0	--	0	0.0%
Queens †	79	234	234	191	52	1	<1	0	0.0%
Staten Island	29	87	87	77	41	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	281	829	829	665	142	1	<1	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 Aggarwal Date: 04/01/22

Director: [signature] Date: 4/5/2022

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

March 2022

Source water		Distribution site near first service connection			
Date Turb>1.49 NTU	System	Sample Date	Sample Site	Coliform) (MPN /100 mL) *	E.coli (MPN /100 mL) *

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).**

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

March 2022

All Distribution Sites			
Samples	Min	Max	Average
1277	<0.10	3.42	0.79

Analytical Method HM 10258

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
8524	3/18/2022	58850	Reg Stop	3.42	Max
6946	3/3/2022	1SCL1	Reg Stop	<0.10	Min
8623	3/19/2022	1SCL1	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

March 2022

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

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 9/10/2021 at 1SCH3.

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

Supervisor _____ Date 04/05/22

AE 4/6/22
~~Director~~ _____ Date 4/6/2022
Assistant Lab Director

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

March 2022

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)	0.64	0.69	0.69	0.69	0.70	0.69	0.69	0.69	0.60	0.65	0.66	0.70	0.66	0.64	0.66	0.66	0.66	0.67	0.68	0.66	0.67	0.66	0.67	0.69	0.68	0.70	0.67	0.67	0.67	0.68	0.67
Catskill/Delaware 1S03A (Tunnel 2)	0.64	0.69	0.70	0.68	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.71	0.66	0.67	0.67	0.66	0.68	0.68	0.68	0.67	0.67	0.68	0.69	0.69	0.68	0.69	0.67	0.67	0.68	0.68	0.67
Catskill/Delaware 1S03B (Tunnel 3)	0.65	0.69	0.70	0.68	0.70	0.67	0.69	0.69	0.68	0.64	0.68	0.71	0.66	0.67	0.67	0.66	0.68	0.68	0.68	0.67	0.67	0.68	0.70	0.69	0.68	0.70	0.68	0.67	0.66	0.67	0.67
Croton System 1SCL1 [a]	0.64	0.67	0.68	0.69	0.69	0.68	0.67	0.68	0.67	0.69	0.68	0.71	0.69	0.64	0.64	0.65	0.64	0.66	0.64	0.64	0.66	0.66	0.66	0.67	0.64	0.69	0.65	0.65	0.64	0.63	0.67
Croton System 1SCH3 [b]	0.66	0.70	0.70	0.68	0.72	0.69	0.69	0.70	0.62	0.66	0.69	0.70	0.66	0.66	0.68	0.67	0.69	0.69	0.69	0.67	0.69	0.68	0.69	0.70	0.68	0.71	0.68	0.67	0.67	0.69	0.67

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 9/10/2021 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	0.60	0.70	0.67
Catskill/Delaware 1S03A (Tunnel 2)	31	0.64	0.71	0.68
Catskill/Delaware 1S03B (Tunnel 3)	31	0.64	0.71	0.68
Croton System 1SCL1 [a]	31	0.63	0.71	0.66
Croton System 1SCH3 [b]	31	0.62	0.72	0.68

Supervisor _____ Date 04/05/22

AC 4/6/22
~~Director~~ _____ Date 4/6/2022
Assistant Lab Director