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January 11, 2021

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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 December 2020

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

Enclosed, please find the New York City Water Quality report for the month of **December 2020**. There was no well pumpage to distribution in the Groundwater System this month. Croton water was feeding into distribution for the month of December. 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 July 1, 2020 to December 31, 2020. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 1.09% 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 1.2 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 value for entry point readings for the Catskill/Delaware System from sites 1S03 (Tunnel 1) was 0.52 mg/L, 1S03A (Tunnel 2) was 0.72 mg/L, and 1S03B (Tunnel 3) was 0.58 mg/L.

The Croton Filtration Plant was online and continuously feeding the Croton Low Service and High Service entry points for the month of December. The minimum daily free chlorine residual value for Croton entry point reading from site 1SCL1 (Low Service) was 0.54 mg/L and from site 1SCH3 (High Service) was 0.33 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 0.06 mg/L.

A total of 1311 distribution samples were tested for free chlorine residual this month. For all monthly distribution sites free chlorine residual ranged from 0.06 to 1.14 mg/L, and averaged 0.60 mg/L.

The fourth quarter of 2020 chlorine residual running annual average was 0.58 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 fourth quarter of 2020 were included in the report dated December 10, 2020 (for the November 2020 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 825 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, two (2) samples tested positive for total coliform, and all samples were negative for *E. coli*.

- A sample collected on 12/05/2020 from Site 34650 (sample station in front of 1066 St Nicholas Avenue, Manhattan) was positive for total coliform. Resampling on 12/07/2020 was coliform negative at all locations.
- A sample collected on 12/30/2020 from Site 33850 (sample station in front of 155 East 85th Street, Manhattan) was positive for total coliform. Resampling on 01/01/2021 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 of these samples were negative for total coliform and *E. coli*.

The analyses of 486 distribution Operational samples resulted in two (2) samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 248 Pre-Finished samples resulted in no samples testing positive for total coliform and no *E. coli* were detected.

The analyses of 450 Autosampler Pre-finished samples resulted in five (5) samples testing positive for total coliform. No *E. coli* were detected.

8. *Distribution Turbidity Monitoring:*
For distribution sites, turbidity ranged from <0.10 to 1.16 NTU and averaged 0.60 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 6 units for sites 1S03 (Tunnel 1), 7 units for sites 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 (20) distribution and five (5) entry point samples were collected for volatile organic contaminant (VOC) analysis. All VOC samples from distribution sites and entry points were below detection. Twenty (20) TTHM distribution samples were collected ranging from 15 µg/L to 45 µg/L. Five (5) TTHM entry point samples were collected ranging from 7.0 µg/L to 25 µg/L. Twenty (20) HAA5 distribution samples were collected ranging from 8.4 µg/L to 41 µg/L. Five (5) HAA5 entry point samples were collected ranging from 4.5 µg/L to 30 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 December 7, 2020 at the three (3) Catskill/Delaware entry points (1S07, 1S03A, and 1S03B), at the Croton Low Service and High Service entry points (1SCL1 and 1SCH3), and six (6) distribution points. All semi-volatile organic contaminant samples were below detection limits.

12. ***Fluoride Monitoring:***
Daily analyses of entry point samples (155 samples in total), produced monthly average fluoride levels of 0.71 mg/L for sites 1S03 (Tunnel 1) and 1S03B (Tunnel 3), 0.72 mg/L for site 1S03A (Tunnel 2), and, 0.78 mg/L for sites 1SCL1 (Croton Low Service), and 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.

13. Annual Monitoring
Annual and quadrennial sampling for 125 compounds including dioxin, diquat and paraquat, endothall, glyphosate, asbestos, radionuclides – gross alpha and uranium, Method 551.1 – dibromochloropropane and ethylene dibromide, Method 505 – organochlorine pesticides/PCBs, Method 515.4 –chlorophenoxyherbicides, Method 525.2 – semivolatiles, and Method 531.2 – Aldicarbs, was conducted on October 28, 2020 at Croton entry point 1SCL1. All results were ND.

Due to QC failures on the October 22, 2020 samples, resampling for Method 531.2 for Catskill/Delaware sites 1S07, 1S03A, and 1S03B was conducted on December 14, 2020. All results were ND.

Additionally, sampling for 68 compounds under Method 524.2 was conducted at all four entry point sites 1S07, 1S03A, 1S03B, and 1SCL1 on December 29, 2020. Other than the expected levels of detection of TTHMs, all other parameters were ND. Contract laboratory reports of available data are included as pdf files on the electronic files enclosed with this report.

14. Other Monitoring:
Monitoring for Taste and Odor (T&O) compounds was conducted in December on 60 samples from New Croton Reservoir, Jerome Park Reservoir, and the Croton Filtration Plant. Results, including those pending from the November 23 sampling event, ranged from ND to 11 ng/L for Geosmin and from 7.5 to 60 ng/L for 2-Methylisoborneol (MIB). Contract laboratory reports of available data are included as pdf files with the electronic files enclosed with this report.

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

Sincerely,

Salome Freud
Deputy Director of Distribution Water Quality Operations

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. Steven Zahn, NYSDEC – Region 2

bcc:
Electronic file:

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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: 10/18 To: 12/20
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
10-18	31	2	6.45	6.25
11-18	30	0	0.00	3.23
12-18	31	0	0.00	2.15
1-19	31	0	0.00	1.61
2-19	28	0	0.00	1.32
3-19	31	0	0.00	1.10
4-19	30	0	0.00	0.00
5-19	31	0	0.00	0.00
6-19	30	0	0.00	0.00
7-19	31	0	0.00	0.00
8-19	31	0	0.00	0.00
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

D.W. Robinson 1/5/21

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 1/4/2021

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 01/04/2021 3:32 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: December, 2020**

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)
12/1/20	0.80	0.80	0.65	0.95	0.75	0.80	<5	<1
12/2/20	0.80	0.80	0.85	0.75	0.75	0.75	E60	E1
12/3/20	0.85	0.75	0.80	0.75	0.75	0.80	E5	E2
12/4/20	0.70	0.80	0.80	0.75	0.80	0.75	E10	E1
12/5/20	0.75	0.70	0.75	0.70	0.70	0.70	E10	E1
12/6/20	0.70	0.70	0.70	0.85	0.80	0.75	E55	E1
12/7/20	0.85	0.85	0.80	0.70	0.70	0.70	E15	<1
12/8/20	0.70	0.75	0.70	0.65	0.80	0.85	E5	E1
12/9/20	0.70	0.75	0.75	0.80	0.70	0.65	E20	E1
12/10/20	0.75	0.75	0.75	0.75	0.75	0.75	E4	<1
12/11/20	0.80	0.75	0.80	0.75	0.80	0.75	E4	<1
12/12/20	0.70	0.70	0.75	0.70	0.65	0.70	E2	<1
12/13/20	0.65	0.70	0.70	0.70	0.70	0.75	E2	E3
12/14/20	0.70	0.75	0.75	0.65	0.80	0.70	<2	E1
12/15/20	0.70	0.75	0.70	0.70	0.70	0.75	E10	E1
12/16/20	0.75	0.70	0.75	0.95	0.70	0.70	E16	<1
12/17/20	0.70	0.75	0.70	0.65	0.65	0.65	46	E3
12/18/20	0.70	0.65	0.70	0.70	0.70	0.65	E35	E3
12/19/20	0.75	0.80	0.75	0.80	0.80	0.80	E8	E2
12/20/20	0.80	0.80	0.80	0.70	0.70	0.80	E40	E1
12/21/20	0.75	0.85	0.85	0.90	0.70	0.75	E18	<1
12/22/20	0.70	0.70	0.70	0.75	0.75	0.75	E10	E1
12/23/20	0.80	0.80	0.70	0.70	0.70	0.75	E28	E3
12/24/20	0.70	0.70	0.70	0.75	0.70	0.70	E20	<1
12/25/20	0.65	0.80	0.65	0.60	1.2	0.85	E14	E1
12/26/20	0.75	0.75	0.80	1.0	0.90	0.90	E18	E5
12/27/20	0.90	0.90	0.85	0.90	0.85	0.90	E14	E7
12/28/20	0.85	0.75	0.75	0.80	0.75	0.80	E20	E2
12/29/20	0.75	0.80	0.80	0.75	0.90	0.95	42	E6
12/30/20	0.85	0.80	0.80	0.75	0.80	0.85	E34	E7
12/31/20	0.85	0.80	0.85	0.65	0.65	0.65	E18	<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:

DW Robinson 1/5/21

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 1/4/2021

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.

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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: December 2020

Date/Time	Site	Analytes Affected	Qualifier
12/10/20 07:56	DEL18DT	Turbidity	Due to an error in analytical procedure, more than 10 samples were analyzed between QC.
12/10/20 07:56	DEL18DT	Turbidity	Analytical procedure error. Ran 20NTU std instead of sample.
12/9/20 11:55	DEL18DT	Turbidity	Due to an error in analytical procedure, more than 10 samples were analyzed between QC.
12/9/20 19:56	DEL18DT	Turbidity	Due to an error in analytical procedure, more than 10 samples were analyzed between QC.
12/9/20 23:55	DEL18DT	Turbidity	Due to an error in analytical procedure, more than 10 samples were analyzed between QC.
12/9/20 15:57	DEL18DT	Turbidity	Due to an error in analytical procedure, more than 10 samples were analyzed between QC.
12/10/20 03:55	DEL18DT	Turbidity	Due to an error in analytical procedure, more than 10 samples were analyzed between QC.

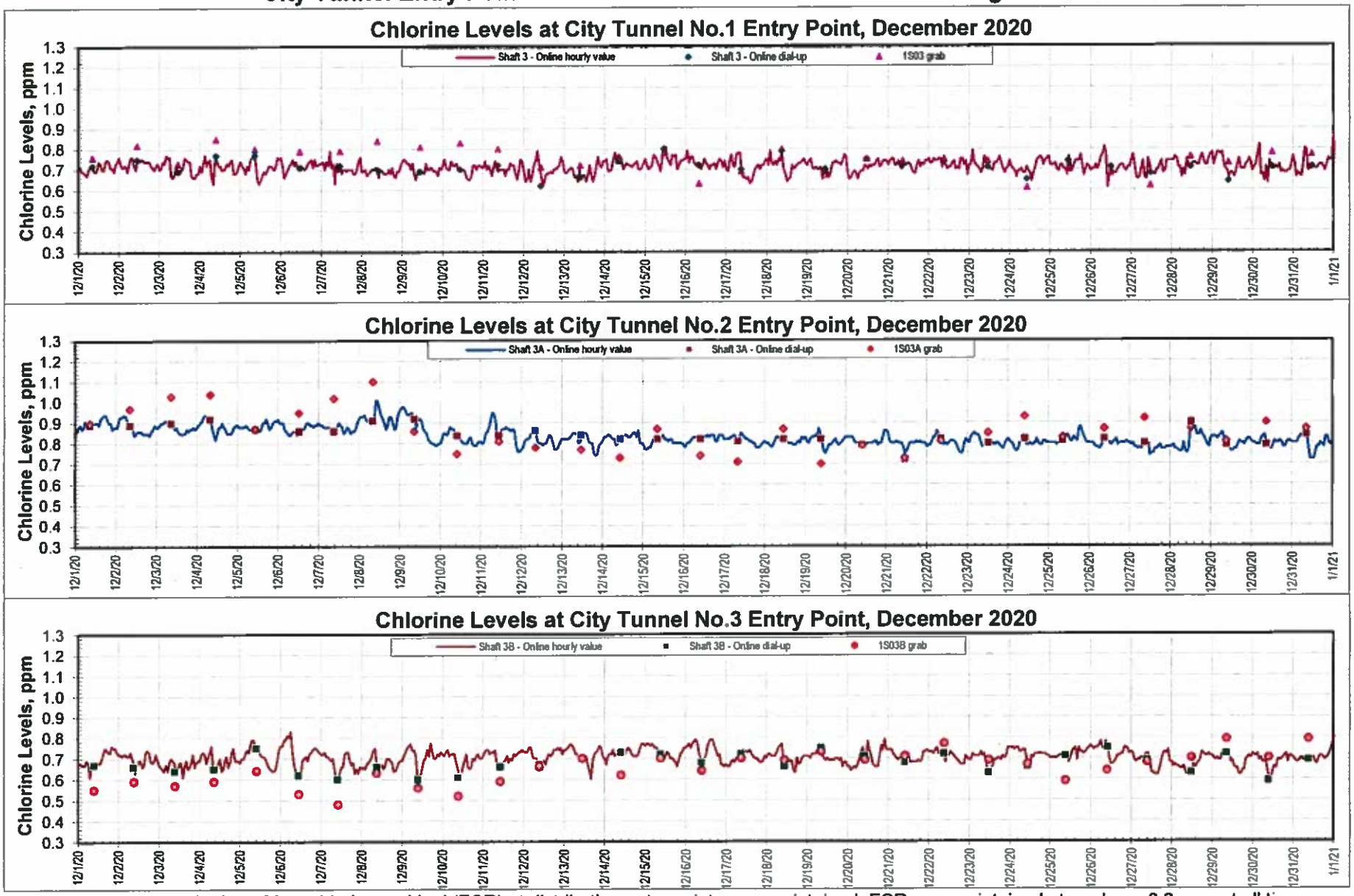
Analytical Methods

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 at or above 0.2 ppm at all times. Since 11/1/20, 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 Tunnel Entry Shafts for Catskill/Delaware System

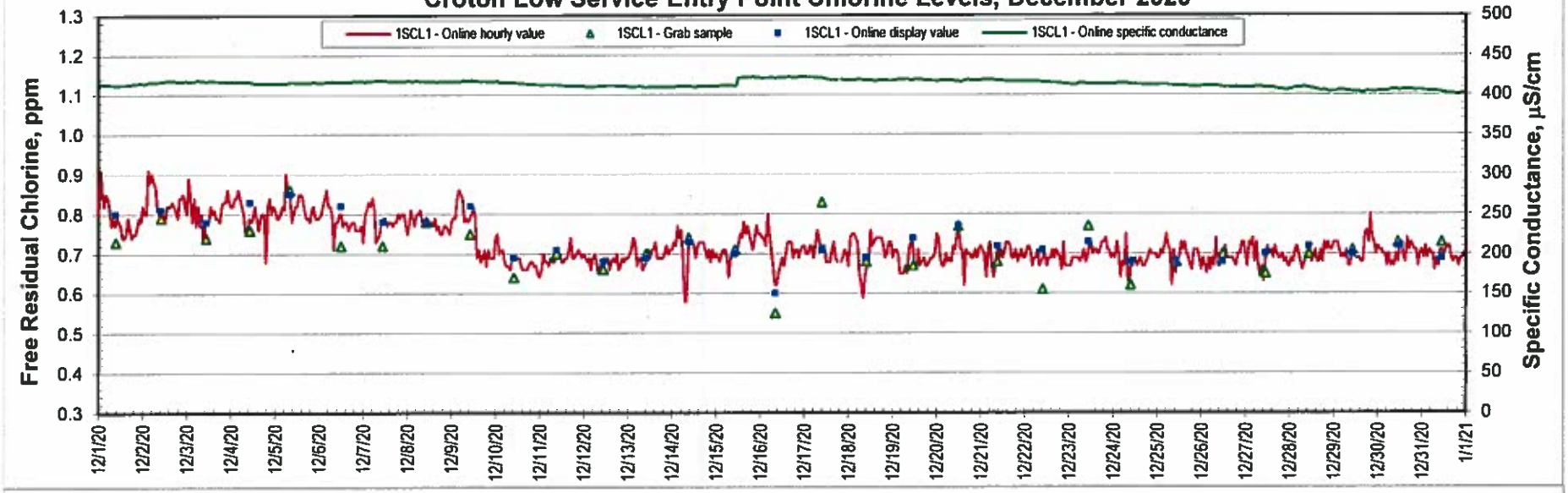
Tunnel No.1 (Catskill) at Shaft 3			Tunnel No.2 (Delaware) at Shaft 3A			Tunnel No.3 (Cat/Del) at Shaft 3B		
Date	MinCl_1DL	Remark 1	Date	MinCl_2DL	Remark 2	Date	MinCl_3DL	Remark 3
12/01/20	0.67		12/01/20	0.84		12/01/20	0.61	
12/02/20	0.69		12/02/20	0.84		12/02/20	0.62	
12/03/20	0.65		12/03/20	0.82		12/03/20	0.60	
12/04/20	0.61		12/04/20	0.82		12/04/20	0.62	
12/05/20	0.61		12/05/20	0.84		12/05/20	0.63	
12/06/20	0.66		12/06/20	0.83		12/06/20	0.62	
12/07/20	0.59		12/07/20	0.84		12/07/20	0.60	
12/08/20	0.64		12/08/20	0.86		12/08/20	0.63	
12/09/20	0.63		12/09/20	0.78		12/09/20	0.60	
12/10/20	0.64		12/10/20	0.79		12/10/20	0.61	
12/11/20	0.63		12/11/20	0.76		12/11/20	0.65	
12/12/20	0.59		12/12/20	0.76		12/12/20	0.62	
12/13/20	0.62		12/13/20	0.74		12/13/20	0.59	
12/14/20	0.64		12/14/20	0.78		12/14/20	0.67	
12/15/20	0.66		12/15/20	0.76		12/15/20	0.66	
12/16/20	0.68		12/16/20	0.78		12/16/20	0.66	
12/17/20	0.63		12/17/20	0.77		12/17/20	0.65	
12/18/20	0.63		12/18/20	0.78		12/18/20	0.63	
12/19/20	0.64		12/19/20	0.74		12/19/20	0.65	
12/20/20	0.65		12/20/20	0.77		12/20/20	0.63	
12/21/20	0.66		12/21/20	0.72		12/21/20	0.67	
12/22/20	0.66		12/22/20	0.74		12/22/20	0.66	
12/23/20	0.67		12/23/20	0.76		12/23/20	0.63	
12/24/20	0.63		12/24/20	0.75		12/24/20	0.65	
12/25/20	0.64		12/25/20	0.79		12/25/20	0.68	
12/26/20	0.59		12/26/20	0.78		12/26/20	0.65	
12/27/20	0.63		12/27/20	0.72		12/27/20	0.61	
12/28/20	0.64		12/28/20	0.74		12/28/20	0.60	
12/29/20	0.63		12/29/20	0.76		12/29/20	0.59	
12/30/20	0.54		12/30/20	0.75		12/30/20	0.58	
12/31/20	0.52		12/31/20	0.72		12/31/20	0.66	

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.

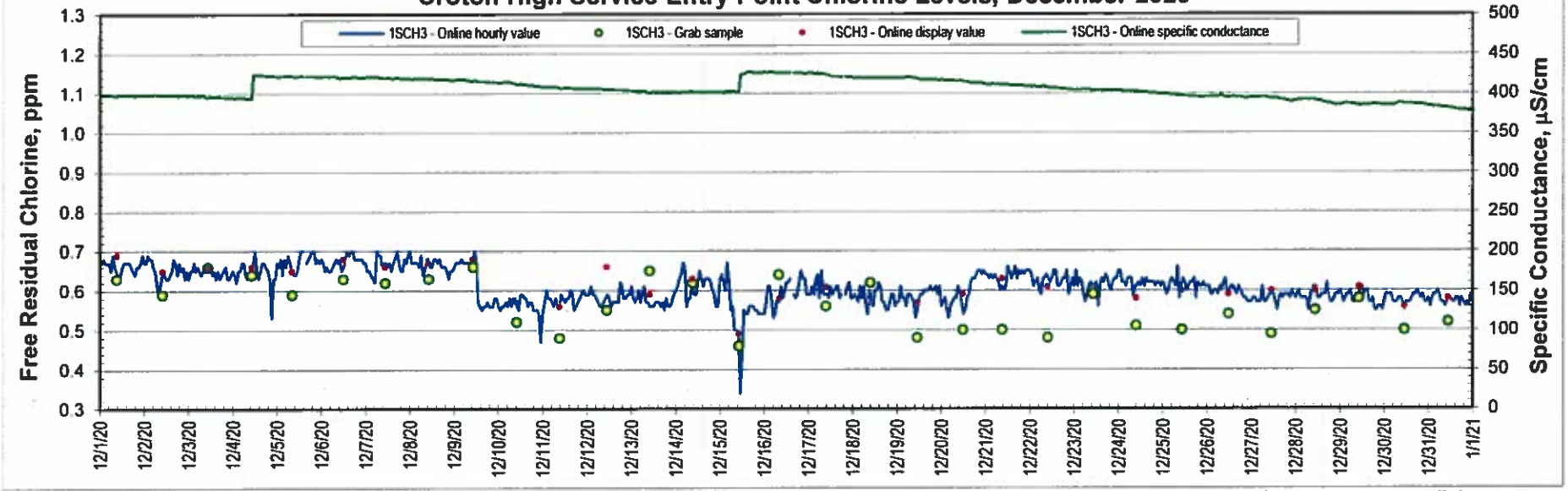
New York City Department of Environmental Protection
Bureau of Water Supply

Croton Distribution Entry Point Residual Chlorine Continuous Monitoring Results

Croton Low Service Entry Point Chlorine Levels, December 2020



Croton High Service Entry Point Chlorine Levels, December 2020



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 11/1/20, 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
12/01/20	0.73		12/01/20	0.61	
12/02/20	0.75		12/02/20	0.58	
12/03/20	0.71		12/03/20	0.59	
12/04/20	0.66		12/04/20	0.51	
12/05/20	0.71		12/05/20	0.61	
12/06/20	0.71		12/06/20	0.63	
12/07/20	0.69		12/07/20	0.62	
12/08/20	0.73		12/08/20	0.62	
12/09/20	0.66		12/09/20	0.53	
12/10/20	0.58		12/10/20	0.47	
12/11/20	0.62		12/11/20	0.54	
12/12/20	0.60		12/12/20	0.54	
12/13/20	0.63		12/13/20	0.54	
12/14/20	0.54		12/14/20	0.53	
12/15/20	0.64		12/15/20	0.33	
12/16/20	0.56		12/16/20	0.50	
12/17/20	0.65		12/17/20	0.55	
12/18/20	0.58		12/18/20	0.52	
12/19/20	0.62		12/19/20	0.52	
12/20/20	0.56		12/20/20	0.52	
12/21/20	0.62		12/21/20	0.59	
12/22/20	0.57		12/22/20	0.34	
12/23/20	0.60		12/23/20	0.44	
12/24/20	0.61		12/24/20	0.54	
12/25/20	0.60		12/25/20	0.50	
12/26/20	0.58		12/26/20	0.56	
12/27/20	0.60		12/27/20	0.53	
12/28/20	0.54		12/28/20	0.52	
12/29/20	0.63		12/29/20	0.54	
12/30/20	0.59		12/30/20	0.54	
12/31/20	0.60		12/31/20	0.52	

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.

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

December 2020

All Distribution Sites			
Samples	Min	Max	Average
1311	0.06	1.14	0.60

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
35827	12/8/20	12550	Reg Stop	1.14	Max
35530	12/5/20	34650	Reg Stop	0.06	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.

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

12/1/2020 to 12/31/2020

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	200	200	0	0	0.0%
Manhattan	57	177	177	2	0	1.1%
Queens ***	79	229	229	0	0	0.0%
Staten Island	29	84	84	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	825	825	2	0	0.2%

* 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: 01/04/21

Director: Date: 1/4/2021

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
12/1/2020 to 12/31/2020

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
12/5/2020	9:11	34650	Manhattan	SS - IFO 1066 E/S St Nicholas Ave, BTW W 163rd & W 164th Sts, 12 "	1.0	<1	0.06	To Be Resampled
12/30/2020	10:29	33850	Manhattan	SS - IFO 155 N/S E 85th St, 1st SS E/O Lexington Ave, 12 "	2.0	<1	0.32	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: 01/04/21

Director: Date: 1/4/2021

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

12/1/2020 to 12/31/2020

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
12/7/2020	8:29	34650	Manhattan	SS - E/S St Nicholas Ave, BTW W 164th & W 165th Sts, IFO 1086 St. Nicholas Ave.	<1	<1	0.14	Upstream
12/7/2020	8:51	34650	Manhattan	SS - IFO 1066 E/S St Nicholas Ave, BTW W 163rd & W 164th Sts, 12 "	<1	<1	0.13	Original Location
12/7/2020	9:18	34650	Manhattan	SS - E/S St Nicholas Ave, BTW W 162nd & W 163rd Sts	<1	<1	0.42	Downstream
1/1/2021	9:34	33850	Manhattan	SS - N/S E 85th St, 1st SS W/O Lexington Ave	<1	<1	0.36	Upstream
1/1/2021	10:01	33850	Manhattan	SS - IFO 155 N/S E 85th St, 1st SS E/O Lexington Ave, 12 "	<1	<1	0.34	Original Location
1/1/2021	10:26	33850	Manhattan	SS - N/S E 85th St, 1st SS W/O 3rd Ave, IFO 185 E. 85th St.	<1	<1	0.34	Downstream

* 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: 01/04/21

Director: Date: 1/4/2021

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

12/1/2020 to 12/31/2020

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	Percent of Samples with Free Chlorine Residual of 0.00 mg/L and HPC > 500 ***
					< 0.20 mg/L	0.00 mg/L			
Bronx	46	135	135	95	0	0	--	0	0.0%
Brooklyn	70	200	200	141	0	0	--	0	0.0%
Manhattan	57	177	177	132	10	0	--	0	0.0%
Queens †	79	229	229	163	3	0	--	0	0.0%
Staten Island	29	84	84	60	2	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	281	825	825	591	15	0	--	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 Agarwal Date: 01/04/21

Director: Date: 1/4/2021

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

December 2020

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

December 2020

All Distribution Sites			
Samples	Min	Max	Average
1311	<0.10	1.16	0.60

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
38292	12/31/20	76950	Reg Stop	1.16	Max
35830	12/8/20	1S04	Reg Stop	<0.10	Min
35832	12/8/20	1SCL1	Reg Stop	<0.10	Min
35839	12/8/20	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

December 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)	7	7	7	6	7	6	6	7	6	7	6	6	6	7	7	7	6	7	6	6	6	7	6	6	7	7	6	7	6	6	7
Catskill/Delaware 1S03A (Tunnel 2)	8	7	7	7	8	7	6	7	6	8	7	7	7	8	11	7	7	7	6	6	6	7	7	6	7	7	7	7	6	6	8
Catskill/Delaware 1S03B (Tunnel 3)	7	7	7	6	7	7	6	7	7	8	8	6	6	7	9	7	7	6	6	7	6	7	7	6	7	7	6	7	6	6	7
Croton System 1SCL1 [a]	3	3	3	4	3	4	4	3	4	3	4	3	4	3	4	3	4	4	4	4	4	4	3	4	3	3	4	3	3	4	3
Croton System 1SCH3 [b]	3	4	3	4	3	4	4	3	4	4	4	4	4	3	4	3	4	4	3	4	4	4	3	4	3	3	4	3	3	4	3

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 online as of 11/19/20 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	6	7	6
Catskill/Delaware 1S03A (Tunnel 2)	31	6	11	7
Catskill/Delaware 1S03B (Tunnel 3)	31	6	9	7
Croton System 1SCL1 [a]	31	3	4	4
Croton System 1SCH3 [b]	31	3	4	4

Supervisor _____ Date 01/04/2021

Director _____ Date 1/5/2021

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

December 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)	0.71	0.70	0.72	0.70	0.72	0.69	0.70	0.70	0.72	0.69	0.72	0.72	0.73	0.73	0.71	0.72	0.73	0.73	0.73	0.72	0.70	0.71	0.72	0.72	0.70	0.72	0.71	0.70	0.72	0.70	0.70
Catskill/Delaware 1S03A (Tunnel 2)	0.71	0.70	0.73	0.71	0.72	0.70	0.70	0.71	0.72	0.69	0.72	0.73	0.72	0.73	0.70	0.72	0.73	0.72	0.74	0.72	0.71	0.71	0.72	0.73	0.71	0.74	0.72	0.71	0.71	0.70	0.70
Catskill/Delaware 1S03B (Tunnel 3)	0.70	0.70	0.73	0.71	0.72	0.69	0.71	0.71	0.72	0.69	0.72	0.73	0.72	0.73	0.72	0.72	0.74	0.72	0.74	0.72	0.71	0.71	0.72	0.72	0.70	0.72	0.71	0.71	0.72	0.70	0.70
Croton System 1SCL1 [a]	0.75	0.76	0.77	0.76	0.78	0.74	0.76	0.78	0.79	0.76	0.79	0.80	0.80	0.81	0.74	0.79	0.78	0.81	0.81	0.82	0.79	0.78	0.80	0.80	0.77	0.80	0.80	0.78	0.80	0.77	0.77
Croton System 1SCH3 [b]	0.76	0.77	0.79	0.77	0.77	0.74	0.75	0.77	0.79	0.75	0.78	0.80	0.79	0.80	0.75	0.79	0.81	0.80	0.80	0.78	0.78	0.78	0.79	0.79	0.76	0.81	0.81	0.77	0.79	0.78	0.77

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 online as of 11/19/20 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	0.69	0.73	0.71
Catskill/Delaware 1S03A (Tunnel 2)	31	0.69	0.74	0.72
Catskill/Delaware 1S03B (Tunnel 3)	31	0.69	0.74	0.71
Croton System 1SCL1 [a]	31	0.74	0.82	0.78
Croton System 1SCH3 [b]	31	0.74	0.81	0.78

Supervisor _____ Date 1/4/21

Director _____ Date 1/5/21