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Commissioner

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December 10, 2020

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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 November 2020

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

Enclosed, please find the New York City Water Quality report for the month of **November 2020**. There was no well pumpage to distribution in the Groundwater System this month. Croton water was feeding into distribution for the month of November. 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 June 1, 2020 to November 30, 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 0.50 mg/L, 1S03A (Tunnel 2) was 0.81 mg/L, and 1S03B (Tunnel 3) was 0.54 mg/L. As detailed below, the minimum reading for 1S03B (Tunnel 3) was low due to restricted flow to the online instrument from a clogged strainer and is not representative of the true chlorine levels.

The Croton Filtration Plant was online and continuously feeding the Croton Low Service entry point for the month of November. Pumping to the Croton High Service entry point began on November 18, at 12:22 PM. The minimum daily free chlorine residual value for Croton entry point reading from site 1SCL1 (Low Service) was 0.36 mg/L and from site 1SCH3 (High Service) was 0.53 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.

A total of 1242 distribution samples were tested for free chlorine residual this month. For all monthly distribution sites free chlorine residual ranged from 0.01 to 1.14 mg/L, and averaged 0.61 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 fourth quarter of 2020 was 39 µg/L, and the Locational Running Annual Averages (LRAA) ranged from 30 µg/L to 51 µg/L. These values meet the MCL of 80 µg/L for LRAA and RAA. TTHM quarterly results averaged 34 µg/L.

The System's HAA5 RAA for the fourth quarter of 2020 was 43 µg/L, and the LRAA ranged from 36 µg/L to 51 µg/L. These values meet the MCL of 60 µg/L for LRAA and RAA. HAA5 quarterly results averaged 32 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 797 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 11/23/2020 from Site 41150 (sample station opposite 110-08 Colonial Ave, second sample station south of Horace Harding Expwy, Queens) was positive for total coliform. Resampling on 11/25/2020 was coliform negative at all locations.
- A sample collected on 11/30/2020 from Site 33450 (sample station in front of 135 West 112 Street, second sample station west of St Nicholas Ave, Manhattan) was positive for total coliform. Resampling on 12/2/2020 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 445 distribution Operational samples resulted in one (1) sample testing positive for total coliform. No *E. coli* were detected.

The analyses of 240 Pre-Finished samples resulted in one (1) sample testing positive for total coliform. No *E. coli* were detected.

The analyses of 518 Autosampler Pre-finished samples resulted in no samples testing positive for total coliform and no *E. coli* were detected.

8. Distribution Turbidity Monitoring:

For distribution sites, turbidity ranged from <0.10 to 1.53 NTU and averaged 0.69 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 (132 samples in total), produced monthly average color values of seven (7) units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), 1S03B (Tunnel 3), and four (4) units for sites 1SCL1 (Croton Low Service), 1SCH3 (Croton High 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 13 µg/L to 50 µg/L. Four (4) TTHM entry point samples were collected ranging from 12 µg/L to 43 µg/L. Twenty-two (22) HAA5 distribution samples were collected ranging from 4 µg/L to 48 µg/L. Four (4) HAA5 entry point samples were collected ranging from 10 µg/L to 41 µg/L.

11. Semivolatile and Other Organic Chemicals/parameters:

Quarterly monitoring for the two compounds 1,2-Dibromo-3-chloropropane and 1,2-Dibromoethane by EPA Method 524.3 SIM, determination of micro extractables, was conducted at the three (3) Catskill/Delaware entry points, the Croton Low Service entry point (1SCL1) and Croton High Service (1SCH3) which represented distribution Catskill/Delaware water, and one distribution sampling site (50250) on November 16, 2020. All sample results were below detection.

EPA Method 525.3 monitoring for 112 compounds of specified and unspecified organic parameters was conducted on November 17, 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.

12. Fluoride Monitoring:

Daily analyses of entry point samples (132 samples in total), produced monthly average fluoride levels of 0.72 mg/L for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3), 0.68 mg/L for site 1SCL1 (Croton Low Service), and 0.74 mg/L for site 1SCH3 (Croton High Service). The fluoride levels at the entry points did not exceed the MCL of 2.2 mg/L at any time during the month.

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 – Aldicarb, was conducted at Catskill/Delaware distribution entry point sites 1S07, 1S03A, and 1S03B on October 22, 2020, and Croton entry point 1SCL1 on October 28, 2020. Due to QC failures, resampling for Method 531.2 for Catskill/Delaware sites 1S07, 1S03A, and 1S03B is required. The report for the results from 1SCL1 is pending. All other results were ND. Contract

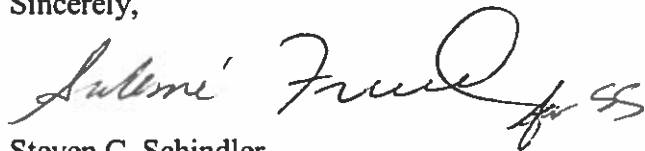
laboratory reports of available data are included as pdf files on the electronic files enclosed with this report.

14. Other Monitoring:

Monitoring for Taste and Odor (T&O) compounds was conducted in November on 45 samples from New Croton Reservoir, Jerome Park Reservoir, and the Croton Filtration Plant. Results, including those pending from October 26 and 27 sampling events, ranged from ND to 12 ng/L for Geosmin, and from ND to 38 ng/L for 2-Methylisoborneol (MIB). Contract laboratory reports of available data are included as pdf files on the electronic files enclosed with this report.

Please feel free to contact me at (845) 340-7701 if you would like to discuss any of this information in greater detail.

Sincerely,



Steven C. Schindler
Director, Water Quality

Enclosure

cc:

by email

Mr. Andrew Brunsten, 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

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(NYC_Micro_Compliance_Resamples_202011.xls)
(NYC_Micro_Operational_202011.pdf)
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(NYC_Monthly_Alldata_202011.xls;Micro)

Coliform Positive Operational Samples

Coliform Resample for Positive Distribution Operational Samples

Distribution Coliform Monitoring when Source Water Turbidity exceeds 1.49 NTU
All Microbiological Results

Free Chlorine Residual (FCR) Reports:

Entry Point FCR On-Line Monitoring Results

(Entry_Shaffl_Ci2_Online_202011_Fig.pdf)
(Croton_Entry_Point_Ci2_Online_202011_Fig.pdf)
(Entry_Shaffl_Ci2_Online_202011_Tbl.pdf)
(Croton_Entry_Shaffl_Ci2_Online_202011_Tbl.pdf)

Daily Minimum FCR at Entry Points

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(NYC_Micro_Summary_FCR_&_HPC_Compliance_202011.xls)
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Summary of FCR of Distribution Samples (Monthly)
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(NYC_Turbidity_Monthly_Summary_202011.xls)
(NYC_Turbidity_Monthly_Alldata_202011.xls)

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(Entry_Point_Color_Monthly_202011.xls)

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(NYC_Fluoride_Monthly_Summary_202011.xls)
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(NYC_TTHM_&_VOC_Rpt_202011.xls)
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(NYC_SOC_Rpt_202011.xls)
(NYC_DBP_Quartrly_Rpt_2020Q4.xls)
(NYC_HAA5_Monthly_Rpt_202011.xls)
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(NYC_VOC_HAA5_525_Rpt_202011.pdf)

Taste & Odor Sampling Reports from EEA Lab

Annual entry point testing results from EEA Lab

Summary of EPA Organic Method Reports

Inorganic (IOC), Specified Organic (SOC), Metals Monitoring:

All parameters for November 2020

(NYC_Monthly_Alldata_202011.xls)

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: 09/18 To: 11/20

| 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 |
|-------|---|---|--|--|
| 9-18 | 30 | 2 | 6.67 | 6.25 |
| 10-18 | 31 | 2 | 6.45 | 6.35 |
| 11-18 | 30 | 0 | 0.00 | 4.30 |
| 12-18 | 31 | 0 | 0.00 | 3.23 |
| 1-19 | 31 | 0 | 0.00 | 2.58 |
| 2-19 | 28 | 0 | 0.00 | 2.21 |
| 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 |

D.W. Robinson

12/3/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 12/2/20

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: November, 2020

| Date | Turbidity (NTU) | | | | | | Total Coliform (Colonies per 100 mL) | Fecal Coliform |
|----------|-----------------|------|------|-------|------|------|---|----------------|
| | 12 AM | 4 AM | 8 AM | 12 PM | 4 PM | 8 PM | | |
| 11/1/20 | 0.70 | 0.70 | 0.70 | 0.85 | 0.80 | 0.80 | E40 | E4 |
| 11/2/20 | 0.90 | 0.80 | 0.85 | 0.95 | 0.70 | 0.70 | E60 | E5 |
| 11/3/20 | 0.80 | 0.80 | 0.80 | 0.85 | 0.70 | 0.80 | E40 | E2 |
| 11/4/20 | 0.70 | 0.70 | 0.80 | 0.75 | 0.90 | 0.75 | E50 | E2 |
| 11/5/20 | 0.90 | 0.85 | 0.85 | 0.85 | 0.90 | 1.1 | E20 | E1 |
| 11/6/20 | 0.85 | 0.90 | 0.80 | 0.95 | 0.85 | 0.85 | E50 | E4 |
| 11/7/20 | 0.75 | 0.85 | 0.75 | 0.80 | 0.80 | 0.80 | <20 | E2 |
| 11/8/20 | 0.85 | 0.85 | 0.80 | 0.75 | 0.75 | 0.75 | E40 | E1 |
| 11/9/20 | 0.75 | 0.75 | 0.75 | 0.85 | 0.80 | 0.80 | E650 | E2 |
| 11/10/20 | 0.85 | 0.75 | 0.75 | 0.75 | 0.80 | 0.80 | <20 | <1 |
| 11/11/20 | 0.85 | 0.80 | 1.2 | 0.90 | 0.80 | 0.95 | E20 | E4 |
| 11/12/20 | 0.90 | 1.1 | 1.0 | 0.95 | 0.85 | 0.80 | E100 | E5 |
| 11/13/20 | 0.80 | 0.85 | 0.75 | 0.70 | 0.75 | 0.70 | E20 | E10 |
| 11/14/20 | 0.70 | 0.70 | 0.75 | 0.75 | 0.75 | 0.75 | <20 | E2 |
| 11/15/20 | 0.65 | 0.70 | 0.75 | 0.75 | 0.75 | 0.75 | E40 | E3 |
| 11/16/20 | 0.70 | 0.85 | 0.85 | 1.0 | 1.0 | 0.85 | E60 | E6 |
| 11/17/20 | 0.80 | 0.85 | 0.85 | 0.80 | 0.75 | 0.80 | E40 | E1 |
| 11/18/20 | 0.80 | 0.75 | 0.75 | 0.70 | 0.75 | 0.80 | E120 | E1 |
| 11/19/20 | 0.70 | 0.65 | 0.75 | 0.75 | 0.90 | 0.95 | E150 | E1 |
| 11/20/20 | 0.95 | 0.90 | 0.90 | 0.85 | 0.80 | 0.80 | E150 | <1 |
| 11/21/20 | 0.80 | 0.85 | 0.90 | 0.85 | 0.75 | 0.70 | E60 | E1 |
| 11/22/20 | 0.85 | 0.80 | 0.75 | 0.90 | 0.75 | 1.0 | E160 | E3 |
| 11/23/20 | 0.75 | 0.90 | 0.95 | 0.85 | 0.90 | 0.90 | <20 | E4 |
| 11/24/20 | 0.75 | 0.75 | 0.80 | 0.75 | 0.75 | 0.70 | E240 | E2 |
| 11/25/20 | 0.70 | 0.70 | 0.70 | 0.70 | 0.75 | 0.80 | E20 | <1 |
| 11/26/20 | 0.80 | 0.75 | 0.75 | 0.75 | 0.85 | 0.90 | E10 | E3 |
| 11/27/20 | 0.75 | 0.75 | 0.80 | 0.70 | 0.75 | 0.75 | E10 | E1 |
| 11/28/20 | 0.75 | 0.75 | 0.75 | 0.80 | 0.85 | 0.80 | E10 | <1 |
| 11/29/20 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | E10 | E2 |
| 11/30/20 | 0.75 | 0.75 | 0.75 | 0.75 | 0.70 | 0.75 | <10 | E1 |

:: 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 No
2. Does the turbidity reading exceed 5 NTU at any time? Yes 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:

J.W. Robinson

12/3/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 12/2/20



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: November 2020

| Date/Time | Site | Analytes Affected | Qualifier |
|----------------|---------|-------------------|---|
| 11/23/20 07:55 | DEL18DT | Turbidity | The duplicate analysis was not within the control limits. |

Analytical Methods

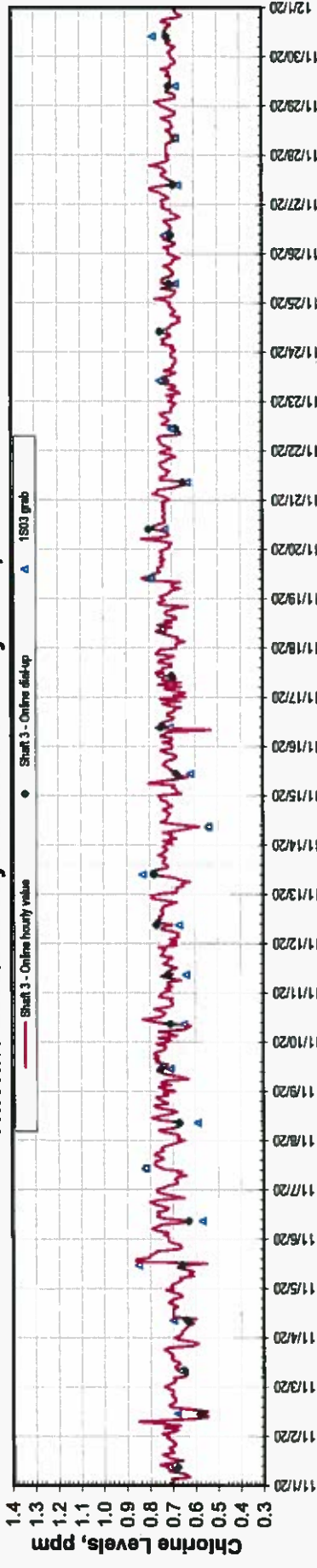
- Coliform, Fecal - SM 9222D (2006)
- Coliform, Total - SM 9222B (2006)
- Turbidity - SM 2130B (01)

ENTRY POINT CHLORINE RESIDUAL
(FAD Requirement)

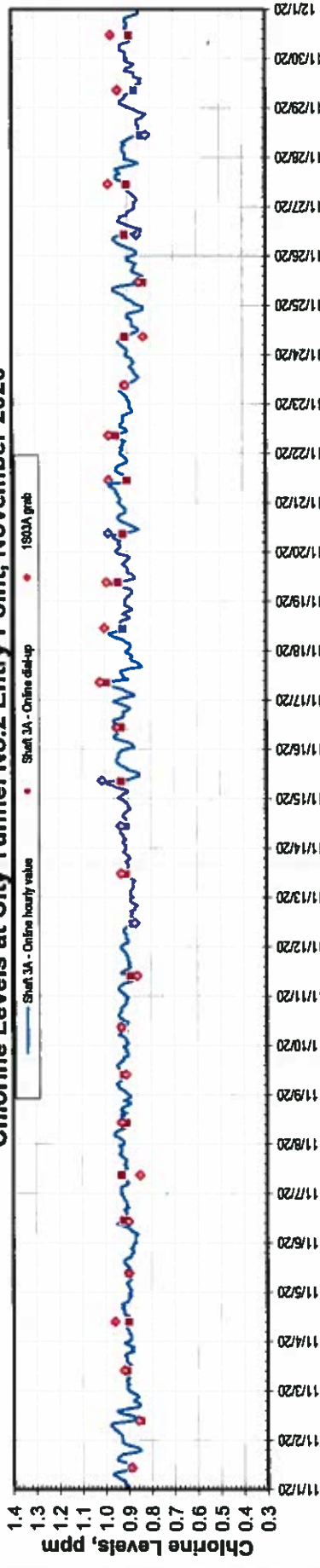
New York City Department of Environmental Protection
Bureau of Water Supply

City Tunnel Entry Point Residual Chlorine Continuous Monitoring Results

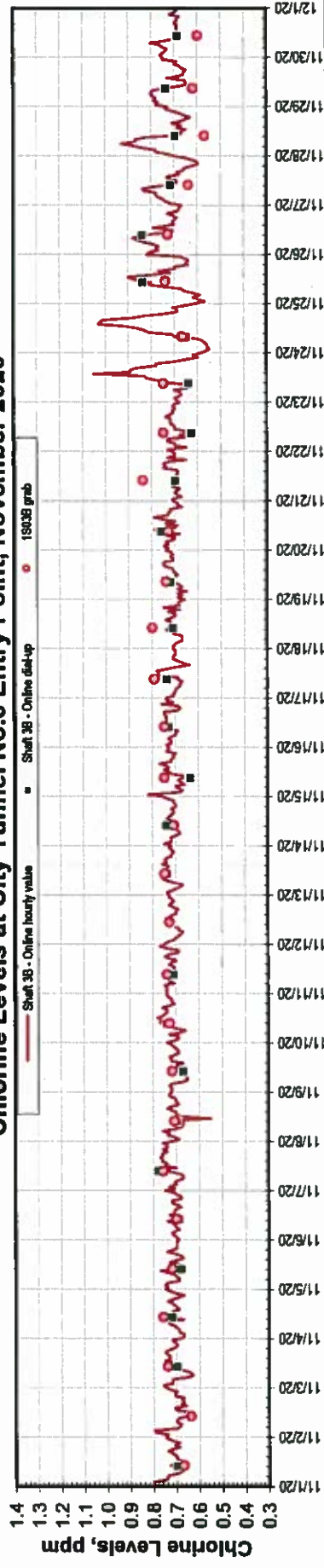
Chlorine Levels at City Tunnel No.1 Entry Point, November 2020



Chlorine Levels at City Tunnel No.2 Entry Point, November 2020



Chlorine Levels at City Tunnel No.3 Entry Point, November 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

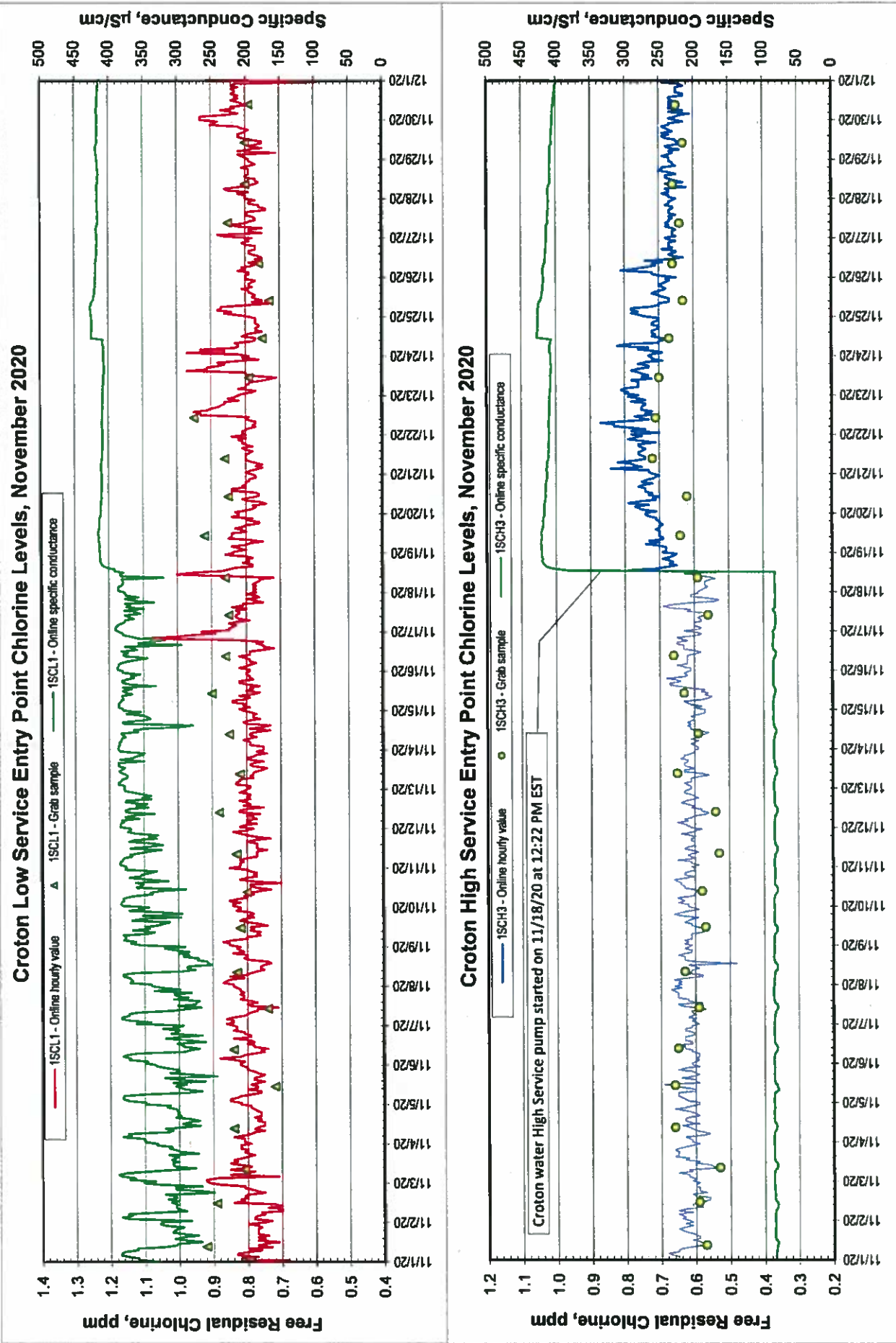
Daily Minimum Chlorine Readings Recorded at Tunnel Entry Shafts for Catskill/Delaware System

| 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 |
| 11/01/20 | 0.62 | | 11/01/20 | 0.84 | | 11/01/20 | 0.67 | |
| 11/02/20 | 0.50 | | 11/02/20 | 0.83 | | 11/02/20 | 0.62 | |
| 11/03/20 | 0.59 | | 11/03/20 | 0.87 | | 11/03/20 | 0.63 | |
| 11/04/20 | 0.60 | | 11/04/20 | 0.88 | | 11/04/20 | 0.66 | |
| 11/05/20 | 0.50 | | 11/05/20 | 0.86 | | 11/05/20 | 0.67 | |
| 11/06/20 | 0.57 | | 11/06/20 | 0.87 | | 11/06/20 | 0.68 | |
| 11/07/20 | 0.64 | | 11/07/20 | 0.90 | | 11/07/20 | 0.66 | |
| 11/08/20 | 0.64 | | 11/08/20 | 0.88 | | 11/08/20 | 0.54 | |
| 11/09/20 | 0.63 | | 11/09/20 | 0.89 | | 11/09/20 | 0.64 | |
| 11/10/20 | 0.61 | | 11/10/20 | 0.89 | | 11/10/20 | 0.65 | |
| 11/11/20 | 0.66 | | 11/11/20 | 0.86 | | 11/11/20 | 0.68 | |
| 11/12/20 | 0.66 | | 11/12/20 | 0.85 | | 11/12/20 | 0.67 | |
| 11/13/20 | 0.61 | | 11/13/20 | 0.87 | | 11/13/20 | 0.65 | |
| 11/14/20 | 0.57 | | 11/14/20 | 0.89 | | 11/14/20 | 0.66 | |
| 11/15/20 | 0.61 | | 11/15/20 | 0.84 | | 11/15/20 | 0.65 | |
| 11/16/20 | 0.50 | | 11/16/20 | 0.87 | | 11/16/20 | 0.68 | |
| 11/17/20 | 0.62 | | 11/17/20 | 0.84 | | 11/17/20 | 0.64 | |
| 11/18/20 | 0.54 | | 11/18/20 | 0.87 | | 11/18/20 | 0.64 | |
| 11/19/20 | 0.64 | | 11/19/20 | 0.86 | | 11/19/20 | 0.65 | |
| 11/20/20 | 0.62 | | 11/20/20 | 0.84 | | 11/20/20 | 0.67 | |
| 11/21/20 | 0.61 | | 11/21/20 | 0.88 | | 11/21/20 | 0.59 | |
| 11/22/20 | 0.61 | | 11/22/20 | 0.88 | | 11/22/20 | 0.62 | |
| 11/23/20 | 0.57 | | 11/23/20 | 0.85 | | 11/23/20 | 0.57 | |
| 11/24/20 | 0.65 | | 11/24/20 | 0.83 | | 11/24/20 | 0.55 | |
| 11/25/20 | 0.66 | | 11/25/20 | 0.81 | | 11/25/20 | 0.57 | |
| 11/26/20 | 0.66 | | 11/26/20 | 0.84 | | 11/26/20 | 0.66 | |
| 11/27/20 | 0.67 | | 11/27/20 | 0.85 | | 11/27/20 | 0.59 | |
| 11/28/20 | 0.66 | | 11/28/20 | 0.82 | | 11/28/20 | 0.61 | |
| 11/29/20 | 0.67 | | 11/29/20 | 0.83 | | 11/29/20 | 0.64 | |
| 11/30/20 | 0.64 | | 11/30/20 | 0.84 | | 11/30/20 | 0.68 | |

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



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 | |
| 11/01/20 | 0.63 | | 11/01/20 | | | |
| 11/02/20 | 0.60 | | 11/02/20 | | | |
| 11/03/20 | 0.68 | | 11/03/20 | | | |
| 11/04/20 | 0.66 | | 11/04/20 | | | |
| 11/05/20 | 0.68 | | 11/05/20 | | | |
| 11/06/20 | 0.69 | | 11/06/20 | | | |
| 11/07/20 | 0.71 | | 11/07/20 | | | |
| 11/08/20 | 0.71 | | 11/08/20 | | | |
| 11/09/20 | 0.71 | | 11/09/20 | | No Croton water. | |
| 11/10/20 | 0.67 | | 11/10/20 | | | |
| 11/11/20 | 0.66 | | 11/11/20 | | | |
| 11/12/20 | 0.74 | | 11/12/20 | | | |
| 11/13/20 | 0.69 | | 11/13/20 | | | |
| 11/14/20 | 0.69 | | 11/14/20 | | | |
| 11/15/20 | 0.67 | | 11/15/20 | | | |
| 11/16/20 | 0.36 | | 11/16/20 | | | |
| 11/17/20 | 0.73 | | 11/17/20 | | | |
| 11/18/20 | 0.61 | | 11/18/20 | 0.54 | Croton water High Service pump started on 11/18/20 at 12:22 PM EST | |
| 11/19/20 | 0.71 | | 11/19/20 | 0.67 | | |
| 11/20/20 | 0.73 | | 11/20/20 | 0.68 | | |
| 11/21/20 | 0.74 | | 11/21/20 | 0.70 | | |
| 11/22/20 | 0.76 | | 11/22/20 | 0.70 | | |
| 11/23/20 | 0.69 | | 11/23/20 | 0.67 | | |
| 11/24/20 | 0.73 | | 11/24/20 | 0.67 | | |
| 11/25/20 | 0.69 | | 11/25/20 | 0.65 | | |
| 11/26/20 | 0.72 | | 11/26/20 | 0.62 | | |
| 11/27/20 | 0.71 | | 11/27/20 | 0.61 | | |
| 11/28/20 | 0.72 | | 11/28/20 | 0.61 | | |
| 11/29/20 | 0.68 | | 11/29/20 | 0.61 | | |
| 11/30/20 | 0.45 | | 11/30/20 | 0.53 | | |

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 uS/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

November 2020

| All Distribution Sites | | | |
|------------------------|------|------|---------|
| Samples | Min | Max | Average |
| 1242 | 0.01 | 1.14 | 0.61 |

Hach DPD Method (analyte is not ELAP certified)

| SAMPLE NUMBER | SAMPLE DATE | SAMPLE SITE | LOCATION TYPE | RESIDUAL CHLORINE | COMMENT |
|---------------|-------------|-------------|---------------|-------------------|---------|
| 31714 | 11/2/20 | 47650 | Reg Stop | 1.14 | Max |
| 32440 | 11/7/20 | 58650 | Reg Stop | 0.01 | 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)

FOURTH QUARTER, 2020

| Site | Location | TTHM (µg/L) ^(a) | | | HAA5 (µg/L) ^(b) | | | | | |
|-------|---|----------------------------|---------------|--------|----------------------------|-----|---------------|--------|------|-----|
| | | Sample Date | 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" | 11/4/20 | 11/4/20 | 29 | 38 | 39 | 11/6/20 | 32 | 45 | 42 |
| 18650 | SS - N/S Dewey Ave, BTW Quincy & Swinton Aves, 12" | 11/4/20 | 11/4/20 | 24 | 30 | 31 | 11/6/20 | 33 | 38 | 38 |
| 23450 | SS - N/S Jefferson Avenue, 2nd SS W/O Lewis Avenue, 20" | 11/4/20 | 11/4/20 | 34 | 37 | 39 | 11/6/20 | 31 | 38 | 36 |
| 24350 | SS - W/S Brighton 11th Street, 2nd SS S/O Cass Place, 12" | 11/4/20 | 11/4/20 | 35 | 37 | 39 | 11/5/20 | 39 | 46 | 44 |
| 31750 | SS - IFO 427 N/S W 26th St, 2nd SS W/O 9th Ave, 12" | 11/4/20 | 11/4/20 | 31 | 40 | 41 | 11/6/20 | 22 | 36 | 31 |
| 31850 | SS - IFO 82 S/S Warren St, 2nd SS E/O Greenwich St, 12" | 11/4/20 | 11/4/20 | 41 | 39 | 43 | 11/10/20 | 38 | 48 | 46 |
| 32350 | SS - IFO 116 E/S Ave C, 2nd SS N/O E 7th St, 12" | 11/4/20 | 11/4/20 | 27 | 41 | 41 | 11/6/20 | 17 | 40 | 33 |
| 33450 | SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12" | 11/4/20 | 11/4/20 | 24 | 38 | 38 | 11/5/20 | 16 | 41 | 34 |
| 33950 | SS - N/S E 104th Street, 2nd SS E/O 3rd Avenue, 12" | 11/4/20 | 11/4/20 | 25 | 38 | 38 | 11/5/20 | 15 | 36 | 29 |
| 37950 | SS - IFO 325 N/S E 12th Street, 2nd SS E/O 2nd Ave, 12" | 11/4/20 | 11/4/20 | 42 | 45 | 49 | 11/5/20 | 34 | 43 | 40 |
| 38250 | SS - IFO 309 N/S E 87th St, 2nd SS W/O 1st Ave, 12" | 11/4/20 | 11/4/20 | 42 | 42 | 46 | 11/5/20 | 38 | 51 | 49 |
| 39650 | SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12" | 11/4/20 | 11/4/20 | 44 | 44 | 47 | 11/5/20 | 36 | 50 | 47 |
| 44350 | SS - IFO 21-55 N/S 34th Ave, 1st SS W/O 24th St, 12" | 11/4/20 | 11/4/20 | 39 | 45 | 48 | 11/10/20 | 38 | 49 | 46 |
| 45250 | SS - E/S Beach 58th St, 2nd SS N/O Beach Channel Drive, 12" | 11/4/20 | 11/4/20 | 32 | 35 | 38 | 11/5/20 | 43 | 45 | 46 |
| 50250 | SS - IFO 937 N/S Victory Blvd, 2nd SS E/O Cheshire Ave, 20" | 11/4/20 | 11/4/20 | 32 | 32 | 35 | 11/6/20 | 40 | 46 | 45 |
| 50750 | SS - E/S Woodhull Ave, 1st SS S/O Alboume Ave, 8" | 11/4/20 | 11/4/20 | 36 | 42 | 44 | 11/6/20 | 32 | 38 | 36 |
| 50850 | SS - IFO 512 W/S Arlene St, 1st SS N/O Dawson Ct, 12" | 11/4/20 | 11/4/20 | 33 | 37 | 39 | 11/10/20 | 36 | 44 | 43 |
| 52050 | SS - IFO 218 W/S Nicholas Ave, 1st SS S/O Charles Ave, 12" | 11/4/20 | 11/4/20 | 38 | 40 | 44 | 11/5/20 | 48 | 48 | 49 |
| 58650 | SS - IFO 510 W/S Main St, 2nd SS S/O HyJan Blvd, 12" | 11/4/20 | 11/4/20 | 50 | 51 | 52 | 11/10/20 | 24 | 38 | 34 |
| 77650 | SS - W/S 207th St, OPP 110-52 E/S 207th St, 6" | 11/4/20 | 11/4/20 | 29 | 31 | 34 | 11/10/20 | 36 | 40 | 40 |
| | | TTHM | | | HAA5 | | | | | |
| | | 24 | | | QUARTERLY MINIMUM | | | 15 | | |
| | | 50 | | | QUARTERLY MAXIMUM | | | 48 | | |
| | | 34 | | | QUARTERLY AVERAGE | | | 32 | | |
| | | 39 | | | SYSTEM-WIDE RAA | | | 43 | | |

^(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 Evaluation 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

11/1/2020 to 11/30/2020

| 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 | 131 | 131 | 0 | 0 | 0.0% |
| Brooklyn | 70 | 193 | 193 | 0 | 0 | 0.0% |
| Manhattan | 57 | 165 | 165 | 1 | 0 | 0.6% |
| Queens *** | 79 | 223 | 223 | 1 | 0 | 0.4% |
| Staten Island | 29 | 85 | 85 | 0 | 0 | 0.0% |
| Ground Water Supply *** | - | - | - | - | - | - |
| Total | 281 | 797 | 797 | 2 | 0 | 0.3% |

- * 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: *Palmer* Date: 12/4/2020
 Director: *[Signature]* Date: 12/7/2020

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
11/1/2020 to 11/30/2020

| Date | Time | Site Number | Boro | Location | Coliform * | E. coli * | Chlorine Residual (mg/L) ** | Remarks |
|------------|-------|-------------|-----------|---|------------|-----------|-----------------------------|-----------------|
| 11/23/2020 | 8:16 | 41150 | Queens | SS - OPP 110-08 W/S Colonial Ave, 2nd SS S/O Horace Harding Expwy, 12 * | 2.0 | <1 | 0.74 | To Be Resampled |
| 11/30/2020 | 11:24 | 33450 | Manhattan | SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12 * | 3.1 | <1 | 0.61 | To Be Resampled |
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* 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: Patten Date: 12/4/2020
Director: [Signature] Date: 12/7/2020

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

11/1/2020 to 11/30/2020

| Date | Time | Site Number | Boro | Location | Coliform * | E. coli * | Chlorine Residual (mg/L) ** | Remarks |
|------------|-------|-------------|-----------|--|------------|-----------|-----------------------------|-------------------|
| 11/25/2020 | 8:05 | 41150 | Queens | SS - W/S Colonial Ave, 1st SS S/O Horace Harding Expwy | <1 | <1 | 0.72 | Upstream |
| 11/25/2020 | 8:23 | 41150 | Queens | SS - OPP 110-08 W/S Colonial Ave, 2nd SS S/O Horace Harding Expwy, 12 " | <1 | <1 | 0.55 | Original Location |
| 11/25/2020 | 8:28 | 41150 | Queens | SS - W/S Colonial Ave, 1st SS N/O 62nd Dr | <1 | <1 | 0.69 | Downstream |
| 12/2/2020 | 9:47 | 33450 | Manhattan | SS - N/S W 112th St, 1st SS W/O St Nicholas Ave, IFO 125 W 12th St. | <1 | <1 | 0.53 | Upstream |
| 12/2/2020 | 10:05 | 33450 | Manhattan | SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12 " | <1 | <1 | 0.51 | Original Location |
| 12/2/2020 | 10:21 | 33450 | Manhattan | SS - N/S W 112th St, 1st SS E/O Adam Clayton Powell Jr Blvd (7th Ave), IFO 137 W 112th St. | <1 | <1 | 0.51 | Downstream |
| | | | | | | | | |
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* 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: Patroni Date: 12/4/2020
 Director: [Signature] Date: 12/7/2020

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

11/1/2020 to 11/30/2020

| 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 | 131 | 131 | 79 | 0 | 0 | - | 0 | 0.0% |
| Brooklyn | 70 | 193 | 193 | 116 | 1 | 0 | - | 0 | 0.0% |
| Manhattan | 57 | 165 | 165 | 101 | 2 | 0 | - | 0 | 0.0% |
| Queens † | 79 | 223 | 223 | 140 | 14 | 0 | - | 0 | 0.0% |
| Staten Island | 29 | 85 | 85 | 55 | 8 | 0 | - | 0 | 0.0% |
| Ground Water Supply † | - | - | - | - | - | - | - | - | - |
| Total | 281 | 797 | 797 | 491 | 25 | 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: Pallen Date: 12/4/2020

Director: [Signature] Date: 12/7/2020

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**

November 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

November 2020

| All Distribution Sites | | | |
|------------------------|-------|------|---------|
| Samples | Min | Max | Average |
| 1242 | <0.10 | 1.53 | 0.69 |

Analytical Method SM 2130 B

| SAMPLE NUMBER | SAMPLE DATE | SAMPLE SITE | LOCATION TYPE | TURBIDITY | COMMENT |
|---------------|-------------|-------------|---------------|-----------|---------|
| 33530 | 11/17/20 | 42100 | Reg Stop | 1.53 | Max |
| 31629 | 11/1/20 | 3SC26 | Reg Stop | <0.10 | Min |
| 34196 | 11/23/20 | 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
November 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 |
|------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Catskill/Delaware 1S03 (Tunnel 1) | 6 | 6 | 7 | 7 | 7 | 6 | 7 | 8 | 6 | 7 | 7 | 7 | 6 | 7 | 9 | 6 | 6 | 8 | 6 | 7 | 7 | 6 | 7 | 6 | 6 | 6 | 6 | 7 | 7 | 6 |
| Catskill/Delaware 1S03A (Tunnel 2) | 7 | 7 | 8 | 8 | 7 | 7 | 7 | 9 | 7 | 7 | 7 | 8 | 7 | 7 | 8 | 7 | 6 | 8 | 7 | 7 | 7 | 6 | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Catskill/Delaware 1S03B (Tunnel 3) | 6 | 7 | 8 | 7 | 6 | 6 | 7 | 8 | 7 | 7 | 7 | 8 | 7 | 7 | 8 | 6 | 6 | 8 | 6 | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 |
| Croton System 1SCL1 (a) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | 3 |
| Croton System 1SCH3 (b) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

Analytical Method SM 2120 B. Apparent color.

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

(a) Croton System online as of 10/27/20 at 1SCL1.

(b) Croton System online as of 11/19/20 at 1SCH3.

| Entry Point | Samples | Minimum | Maximum | Average |
|------------------------------------|---------|---------|---------|---------|
| Catskill/Delaware 1S03 (Tunnel 1) | 30 | 6 | 9 | 7 |
| Catskill/Delaware 1S03A (Tunnel 2) | 30 | 6 | 9 | 7 |
| Catskill/Delaware 1S03B (Tunnel 3) | 30 | 6 | 8 | 7 |
| Croton System 1SCL1 (a) | 30 | 3 | 4 | 4 |
| Croton System 1SCH3 (b) | 12 | 3 | 4 | 4 |

Supervisor 

Director 

Date 12/02/2020

Date 12/13/2020

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

November 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 |
|------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Catskill/Delaware 1S03 (Tunnel 1) | 0.72 | 0.73 | 0.73 | 0.73 | 0.67 | 0.72 | 0.73 | 0.73 | 0.70 | 0.72 | 0.74 | 0.72 | 0.72 | 0.73 | 0.71 | 0.72 | 0.73 | 0.72 | 0.72 | 0.73 | 0.73 | 0.72 | 0.73 | 0.72 | 0.72 | 0.72 | 0.72 | 0.70 | 0.71 | 0.71 |
| Catskill/Delaware 1S03A (Tunnel 2) | 0.72 | 0.74 | 0.73 | 0.73 | 0.71 | 0.73 | 0.74 | 0.72 | 0.71 | 0.73 | 0.74 | 0.71 | 0.72 | 0.73 | 0.73 | 0.73 | 0.73 | 0.71 | 0.72 | 0.73 | 0.73 | 0.72 | 0.73 | 0.71 | 0.73 | 0.72 | 0.74 | 0.70 | 0.70 | 0.71 |
| Catskill/Delaware 1S03B (Tunnel 3) | 0.72 | 0.74 | 0.73 | 0.73 | 0.70 | 0.72 | 0.73 | 0.72 | 0.70 | 0.74 | 0.73 | 0.71 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.71 | 0.73 | 0.73 | 0.73 | 0.72 | 0.73 | 0.71 | 0.73 | 0.72 | 0.72 | 0.70 | 0.71 | 0.71 |
| Croton System 1SCL1 (a) | 0.62 | 0.65 | 0.57 | 0.53 | 0.52 | 0.66 | 0.68 | 0.66 | 0.65 | 0.66 | 0.64 | 0.63 | 0.69 | 0.68 | 0.69 | 0.67 | 0.60 | 0.65 | 0.62 | 0.65 | 0.79 | 0.75 | 0.75 | 0.78 | 0.76 | 0.77 | 0.74 | 0.77 | 0.74 | 0.73 |
| Croton System 1SCH3 (b) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.62 | 0.64 | 0.75 | 0.74 | 0.75 | 0.76 | 0.77 | 0.76 | 0.81 | 0.77 | 0.75 | 0.76 |

Analytical Method SM 4500 FC (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) | 30 | 0.67 | 0.74 | 0.72 |
| Catskill/Delaware 1S03A (Tunnel 2) | 30 | 0.70 | 0.74 | 0.72 |
| Catskill/Delaware 1S03B (Tunnel 3) | 30 | 0.70 | 0.74 | 0.72 |
| Croton System 1SCL1 (a) | 30 | 0.52 | 0.79 | 0.68 |
| Croton System 1SCH3 (b) | 12 | 0.62 | 0.81 | 0.74 |

Supervisor 

Date 12/02/2020

Director 

Date 12/03/2020