



*Vincent Sapienza, P.E.*  
Commissioner

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October 9, 2020

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New York City Department of Health and Mental Hygiene  
Environmental Sciences & Engineering  
42-09 28<sup>th</sup> Street, 14<sup>th</sup> 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, 24<sup>th</sup> Floor  
New York, New York 10007-1866

**RE: Monthly Water Quality Report for September 2020**

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

Enclosed, please find the New York City Water Quality report for the month of **September 2020**. There was no well pumpage to distribution in the Groundwater System this month. Croton water was not feeding into distribution for the month of September 2020. In addition to the following list of compliance reports, electronic files containing compliance and non-compliance data for this month are being emailed to you.

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

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

The reports are summarized as follows:

## FAD REQUIREMENTS

### 1. *Raw Water Fecal Coliform Concentrations (Section 141.71(a)(1)):*

**Requirements met.** The Delaware Aqueduct effluent from Kensico Reservoir exhibited fecal coliform concentrations in water prior to disinfection at levels less than or equal to 20 CFU/100 mL in at least 90% of the samples collected in the six-month period from April 1, 2020 to September 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 0.95 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 0.59 mg/L, 1S03A (Tunnel 2) was 0.92 mg/L, and 1S03B (Tunnel 3) was 0.62 mg/L.

The Croton Filtration Plant was offline and thus there was no operational Croton entry point for the month of September.

### 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 0.0 mg/L.

A total of 1209 distribution samples were tested for free chlorine residual this month. For all monthly distribution sites free chlorine residual ranged from 0.00 to 1.22 mg/L, and averaged 0.63 mg/L.

The third 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 third quarter of 2020 were included in the report dated September 10, 2020 (for the August 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 819 compliance samples were tested for total coliform during this period. HPC were all  $\leq 500$  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, seven (7) samples tested positive for total coliform, and all samples were negative for *E. coli*.

- A sample collected on 09/11/2020 from Site 20850 (sample station east side Union Ave, first sampling station north of Frost St, in front of 568 Union Ave, Brooklyn) was positive for total coliform. Resampling on 09/13/2020 was coliform negative at all locations.
- A sample collected on 09/11/2020 from Site 24250 (sample station west side of 20<sup>th</sup> Ave, first sample station south of 58<sup>th</sup> St, Brooklyn) was positive for total coliform. Resampling on 09/13/2020 was coliform negative at all locations.
- A sample collected on 09/15/2020 from Site 41350 (sample station west side Menahan St, first sample station north of Onderdonk Ave, Queens) was positive for total coliform. Resampling on 09/17/2020 was coliform negative at all locations.
- A sample collected on 09/24/2020 from Site 79150 (sample station in front of 127-11 east side Farmers Blvd, Queens) was positive for total coliform. Resampling from the downstream location (sample station east side of Farmers Blvd, third sample station north of Merrick Blvd) on 09/26/2020 was positive for total coliform. Resampling on 09/28/2020 was coliform negative at all locations.
- A sample collected on 09/27/2020 from Site 16150 (sample station west side Bronxdale Ave, 2<sup>nd</sup> sample station south of Rhineland Ave, Bronx) was positive for total coliform. Resampling on 09/29/2020 was coliform negative at all locations.
- A sample collected on 09/27/2020 from Site 39950 (sample station in front of 601 west side West End Ave, Manhattan) was positive for total coliform. Resampling on 09/29/2020 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 390 distribution Operational samples resulted in three (3) samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 240 Pre-Finished samples resulted in nineteen (19) samples testing positive for total coliform and one (1) for *E. coli*.

The analyses of 596 Autosampler Pre-finished samples resulted in thirty-four (34) samples testing positive for total coliform and one (1) for *E. coli*.

**8. Distribution Turbidity Monitoring:**

For distribution sites, turbidity ranged from 0.43 to 1.92 NTU and averaged 0.66 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 were met at each Catskill/Delaware entry point for the month. Daily analyses of entry point samples (90 samples in total), produced monthly average color value of seven (7) units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3).

**10. Volatile Organic/TTHM/HAA5 Monitoring:**

**Monthly Results:** Twenty (20) distribution and three (3) 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 37 µg/L to 71 µg/L. Three (3) TTHM entry point samples were collected ranging from 32 µg/L to 49 µg/L. Twenty (20) HAA5 distribution samples were collected ranging from 18 µg/L to 54 µg/L. Three (3) HAA5 entry point samples were collected ranging from 32 µg/L to 39 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 September 21, 2020 at the three (3) Catskill/Delaware entry points (1S07, 1S03A, and 1S03B), at the Croton High Service entry point (1SCH3) which represented distribution Catskill/Delaware water, and six (6) distribution points. All semi-volatile organic contaminant samples from distribution sites and entry points were below detection limits.

**12. Fluoride Monitoring:**

Daily analyses of entry point samples (90 samples in total), produced monthly average fluoride levels of 0.73 mg/L for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3). The fluoride levels at the entry points did not exceed the MCL of 2.2 mg/L at any time during the month.

**13. Other Monitoring:**

Monitoring for Taste and Odor (T&O) compounds were conducted in September on 29 samples from New Croton Reservoir. Results ranged from ND to 9.5 ng/L for Geosmin and from ND to 32 ng/L for 2-Methylisoborneol (MIB). Contract laboratory data reports are included as pdf 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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### Microbiological Reports:

Summary of Coliform Compliance Samples  
Coliform Positive Compliance Samples  
Coliform Resample for Positive Compliance Samples  
Summary of Coliform Operational Samples

(NYC\_Micro\_Summary\_Compliance\_202009.xls)  
(NYC\_Micro\_Compliance\_Positives\_202009.xls)  
(NYC\_Micro\_Compliance\_Resamples\_202009.xls)  
(NYC\_Micro\_Operational\_202009.pdf)  
(NYC\_Micro\_Summary\_Operational\_202009.xls)  
(NYC\_Micro\_Operational\_202009.pdf)  
(NYC\_Micro\_Operational\_Positives\_202009.xls)  
(NYC\_Micro\_Operational\_202009.pdf)  
(NYC\_Micro\_Operational\_Resamples\_202009.xls)  
(NYC\_EP\_Coliform\_For\_Source\_Turb\_GT\_149\_202009.snp)  
(NYC\_Monthly\_Alldata\_202009.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  
Daily Minimum FCR at Entry Points

(Entry\_Shaft\_Ci2\_Online\_202009\_Fig.pdf)  
(Entry\_Shaft\_Ci2\_Online\_202009\_Tbl.pdf)  
(Croton\_Entry\_Shaft\_Ci2\_Online\_202009\_Tbl.pdf)  
(NYC\_Micro\_Summary\_FCR & HPC\_Compliance\_202009.xls)  
(NYC\_Micro\_Summary\_FCR & HPC\_Operational\_202009.xls)  
(NYC\_Micro\_Operational\_202009.pdf)

FCR and Heterotrophic Plate Count (HPC) Compliance Samples  
FCR and HPC of Operational Samples

Summary of FCR of Distribution Samples (Quarterly)  
Summary of FCR of Distribution Samples (Monthly)  
FCR of all Distribution Sites

(NYC\_FCR\_Quarterly\_Summary\_2020Q3.xls)  
(NYC\_FCR\_Monthly\_Summary\_202009.xls)  
(NYC\_FCR\_Monthly\_Alldata\_202009.xls)

### Turbidity Reports:

Summary of Turbidity of Distribution Samples  
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(NYC\_Turbidity\_Monthly\_Summary\_202009.xls)  
(NYC\_Turbidity\_Monthly\_Alldata\_202009.xls)

### Color Reports:

Color for Entry Point Samples

(Entry\_Point\_Color\_Monthly\_202009.xls)

### Fluoridation Reports:

Summary of Fluoride Levels of Distribution Samples  
Fluoride Daily Entry Point Report for Surface Water Systems  
Fluoride of all Distribution Sites

(NYC\_Fluoride\_Monthly\_Summary\_202009.xls)  
(Entry\_Point\_Fluoride\_Monthly\_202009.xls)  
(NYC\_Fluoride\_Monthly\_Alldata\_202009.xls)

### Volatile Organic Contaminant (VOC) and Disinfection By-products (DBP) Reports:

Total Trihalomethanes (TTHM) & VOC Monthly Report  
Semivolatiles of EPA Method 525 Monthly Report  
Haloacetic Acids (HAA5) Monthly Report

(NYC\_TTHM & VOC\_Rpt\_202009.xls)  
(NYC\_SOC\_Rpt\_202008.xls)  
(NYC\_HAA5\_Monthly\_Rpt\_202009.xls)

Taste & Odor Sampling Reports from EEA Lab

(891542\_T&O\_Sample\_20200908.pdf, 892557\_T&O\_Sample\_20200914.pdf, 893978\_T&O\_Sample\_20200921.pdf, 894312\_T&O\_Sample\_20200922.pdf, 895206\_T&O\_Sample\_20200928.pdf, 895421\_T&O\_Sample\_20200929.pdf)  
(NYC\_VOC\_HAA5\_525\_Rpt\_202009.pdf)

Summary of EPA Organic Method Reports

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

All parameters for September 2020

(NYC\_Monthly\_Alldata\_202009.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: 07/18 To: 09/20
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
7-18	31	0	0.00	0.00
8-18	31	0	0.00	0.00
9-18	30	2	6.67	2.15
10-18	31	2	6.45	3.23
11-18	30	0	0.00	2.60
12-18	31	0	0.00	2.17
1-19	31	0	0.00	2.17
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

*David Robinson*

10/5/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations

10/1/2020

***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

### Gatskill/Delaware Public Water System at Shaft 18 (DÉL18DT) - Raw Water Period: September, 2020

Date	Turbidity (NTU)						Total Coliform (Colonies per 100 mL)	Fecal Coliform
	12 AM	4 AM	8 AM	12 PM	4 PM	8 PM		
9/1/20	0.70	0.65	0.65	0.70	0.65	0.70	<20	E6
9/2/20	0.70	0.65	0.65	0.65	0.65	0.70	E50	E3
9/3/20	0.70	0.70	0.75	0.75	0.75	0.70	E60	E1
9/4/20	0.75	0.70	0.70	0.80	0.75	0.75	<20	E3
9/5/20	0.75	0.75	0.70	0.75	0.80	0.80	<20	E1
9/6/20	0.80	0.75	0.75	0.80	0.80	0.75	<20	E1
9/7/20	0.80	0.75	0.70	0.70	0.70	0.75	E60	<1
9/8/20	0.75	0.70	0.65	0.65	0.70	0.70	<20	E1
9/9/20	0.70	0.75	0.75	0.70	0.65	0.65	E40	E1
9/10/20	0.65	0.75	0.70	0.75	0.90	0.80	E150	E1
9/11/20	0.80	0.75	0.65	0.70	0.60	0.60	E40	E2
9/12/20	0.60	0.60	0.65	0.65	0.65	0.65	E40	<1
9/13/20	0.65	0.65	0.65	0.70	0.75	0.80	E50	<1
9/14/20	0.80	0.80	0.70	0.65	0.70	0.70	<20	<1
9/15/20	0.70	0.65	0.70	0.70	0.70	0.70	E140	E3
9/16/20	0.70	0.70	0.70	0.70	0.70	0.75	E50	E1
9/17/20	0.70	0.70	0.70	0.70	0.70	0.70	E80	E1
9/18/20	0.75	0.75	0.75	0.65	0.95	0.70	E40	E2
9/19/20	0.65	0.70	0.70	0.75	0.75	0.70	E20	E1
9/20/20	0.70	0.75	0.75	0.80	0.90	0.80	E60	E1
9/21/20	0.80	0.75	0.80	0.70	0.75	0.75	E60	E1
9/22/20	0.70	0.70	0.70	0.65	0.70	0.65	E100	<1
9/23/20	0.65	0.65	0.70	0.70	0.70	0.75	E20	E1
9/24/20	0.70	0.80	0.70	0.75	0.75	0.75	E300	<1
9/25/20	0.70	0.75	0.65	0.70	0.65	0.70	E40	<1
9/26/20	0.65	0.60	0.65	0.60	0.65	0.70	E40	<1
9/27/20	0.65	0.65	0.65	0.65	0.60	0.65	E140	<1
9/28/20	0.65	0.65	0.60	0.65	0.75	0.70	E60	<1
9/29/20	0.75	0.65	0.65	0.65	0.65	0.60	<20	E1
9/30/20	0.70	0.60	0.70	0.65	0.65	0.75	E140	43

∴ 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:

*D. W. Robinson*

*10/5/20*

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations

10/1/2020

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

Report Printed on 10/01/2020 3:46 pm



# NYCDEP Division of Watershed Water Quality Operations

## Water Systems Operation Report - Qualifiers and Methods Addendum

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

Deputy Chief: David Robinson  
914-345-4973

### Data Qualifiers and Additional Notes

Period: **September 2020**

Date/Time	Site	Analytes Affected	Qualifier
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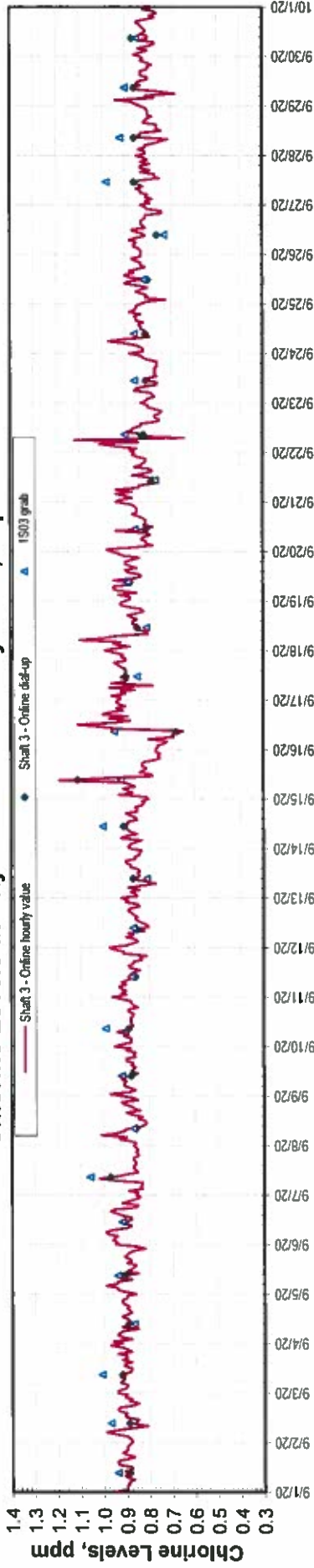
### Analytical Methods

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

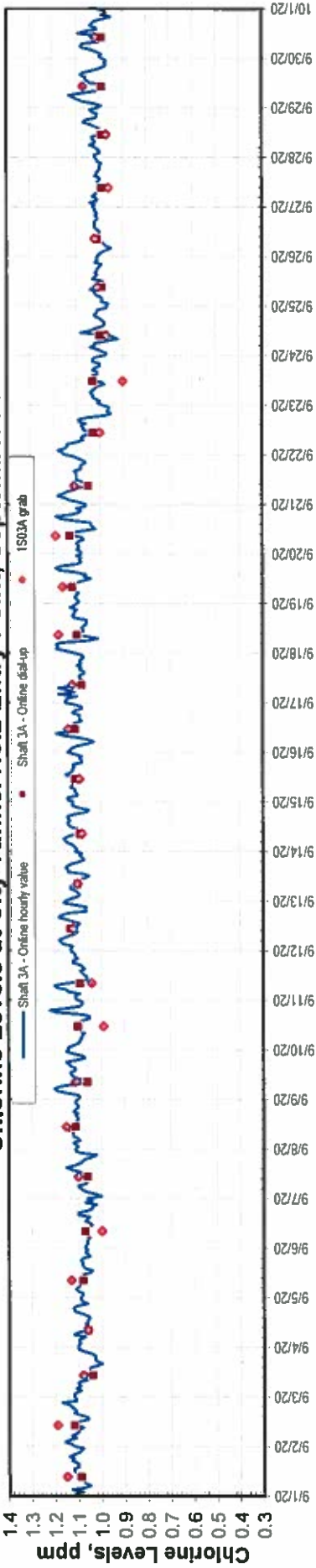
***ENTRY POINT CHLORINE RESIDUAL***  
***(FAD Requirement)***

City Tunnel Entry Point Residual Chlorine Continuous Monitoring Results

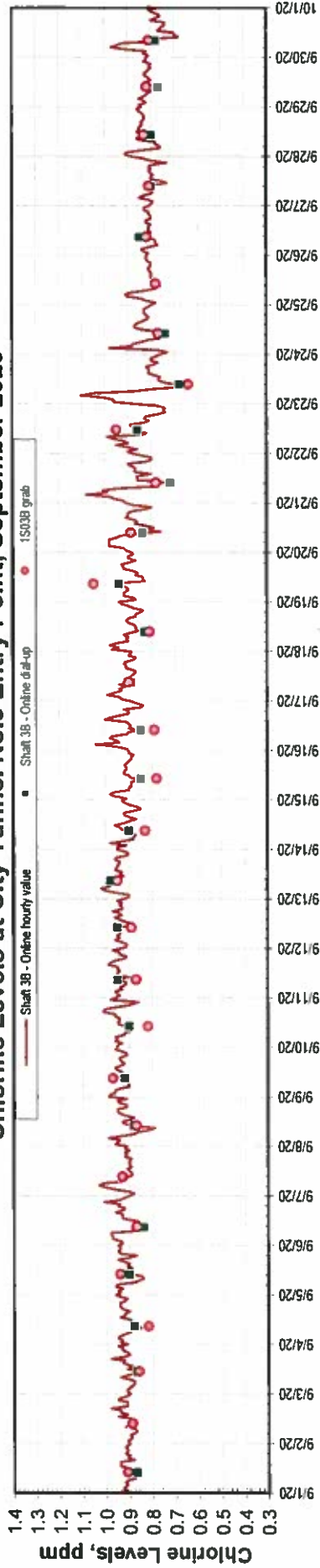
Chlorine Levels at City Tunnel No.1 Entry Point, September 2020



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



Chlorine Levels at City Tunnel No.3 Entry Point, September 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 3/8/2020, all online readings, grab and online dial-up readings were recorded in Eastern Daylight Saving Time.

New York City Department of Environmental Protection  
Bureau of Water Supply

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

Tunnel No.1 (Catskill) at Shaft 3			Tunnel No.2 (Delaware) at Shaft 3A			Tunnel No.3 (Cat/Del) at Shaft 3B		
Date	MinCl_1DL	Remark 1	Date	MinCl_2DL	Remark 2	Date	MinCl_3DL	Remark 3
09/01/20	0.85		09/01/20	1.05		09/01/20	0.85	
09/02/20	0.76		09/02/20	1.06		09/02/20	0.85	
09/03/20	0.83		09/03/20	0.99		09/03/20	0.86	
09/04/20	0.81		09/04/20	1.02		09/04/20	0.84	
09/05/20	0.78		09/05/20	1.01		09/05/20	0.81	
09/06/20	0.83		09/06/20	1.00		09/06/20	0.80	
09/07/20	0.81		09/07/20	1.00		09/07/20	0.86	
09/08/20	0.80		09/08/20	1.08		09/08/20	0.75	
09/09/20	0.83		09/09/20	1.05		09/09/20	0.89	
09/10/20	0.85		09/10/20	1.03		09/10/20	0.85	
09/11/20	0.81		09/11/20	1.02		09/11/20	0.89	
09/12/20	0.78		09/12/20	1.06		09/12/20	0.86	
09/13/20	0.76		09/13/20	1.04		09/13/20	0.87	
09/14/20	0.76		09/14/20	1.04		09/14/20	0.83	
09/15/20	0.72		09/15/20	1.07		09/15/20	0.84	
09/16/20	0.59		09/16/20	1.03		09/16/20	0.81	
09/17/20	0.74		09/17/20	1.06		09/17/20	0.86	
09/18/20	0.76		09/18/20	1.01		09/18/20	0.83	
09/19/20	0.82		09/19/20	1.04		09/19/20	0.80	
09/20/20	0.76		09/20/20	0.99		09/20/20	0.73	
09/21/20	0.76		09/21/20	1.04		09/21/20	0.71	
09/22/20	0.63		09/22/20	0.95		09/22/20	0.73	
09/23/20	0.73		09/23/20	0.96		09/23/20	0.62	
09/24/20	0.76		09/24/20	0.92		09/24/20	0.70	
09/25/20	0.72		09/25/20	0.94		09/25/20	0.70	
09/26/20	0.72		09/26/20	0.95		09/26/20	0.76	
09/27/20	0.73		09/27/20	0.98		09/27/20	0.70	
09/28/20	0.69		09/28/20	0.98		09/28/20	0.75	
09/29/20	0.66		09/29/20	0.97		09/29/20	0.76	
09/30/20	0.74		09/30/20	0.95		09/30/20	0.67	

Legend: MinCl\_1DL: Shaft 3's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.  
MinCl\_2DL: Shaft 3A's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.  
MinCl\_3DL: Shaft 3B's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.



New York City Department of Environmental Protection  
Bureau of Water Supply

Daily Minimum Chlorine Readings Recorded at Croton Distribution Entry Points

Low Service				High Service		
Date	MinCl_1SCL1	Remark 1	Date	MinCl_1SCH3	Remark 2	
09/01/20			09/01/20			
09/02/20			09/02/20			
09/03/20			09/03/20			
09/04/20			09/04/20			
09/05/20			09/05/20			
09/06/20			09/06/20			
09/07/20			09/07/20			
09/08/20			09/08/20			
09/09/20			09/09/20			
09/10/20			09/10/20			
09/11/20			09/11/20			
09/12/20			09/12/20			
09/13/20			09/13/20			
09/14/20			09/14/20			
09/15/20		No Croton water.	09/15/20		No Croton water.	
09/16/20			09/16/20			
09/17/20			09/17/20			
09/18/20			09/18/20			
09/19/20			09/19/20			
09/20/20			09/20/20			
09/21/20			09/21/20			
09/22/20			09/22/20			
09/23/20			09/23/20			
09/24/20			09/24/20			
09/25/20			09/25/20			
09/26/20			09/26/20			
09/27/20			09/27/20			
09/28/20			09/28/20			
09/29/20			09/29/20			
09/30/20			09/30/20			

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**

**September 2020**

All Distribution Sites			
Samples	Min	Max	Average
1209	0.00	1.22	0.63

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
25379	9/8/20	12550	Reg Stop	1.22	Max
26771	9/20/20	77150	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.

***TOTAL COLIFORM MONITORING***  
***(FAD Requirement)***

REPORT

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

Summary of Results for Microbiological Quality  
 Compliance Samples

9/1/2020 to 9/30/2020

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	134	134	1	0	0.7%
Brooklyn	70	201	201	2	0	1.0%
Manhattan	57	167	167	1	0	0.6%
Queens ***	79	233	233	3	0	1.3%
Staten Island	29	84	84	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	819	819	7	0	0.9%

\* As determined by Colifert 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: 10/05/2020

Director: *SPH* Date: 10/5/2020

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  
 9/1/2020 to 9/30/2020

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
9/11/2020	11:07	20850	Brooklyn	SS - E/S Union Ave, 1st SS N/O Frost St, IFO 568 Union Ave20 "	>200.5	<1	0.79	To Be Resampled
9/11/2020	7:52	24250	Brooklyn	SS - W/S 20th Ave, 1st SS S/O 58th St, 12 "	>200.5	<1	0.78	To Be Resampled
9/15/2020	8:20	41350	Queens	SS - W/S Menahan St, 1st SS N/O Onderdonk Ave, 12 "	20.7	<1	0.59	To Be Resampled
9/24/2020	9:08	79150	Queens	SS - IFO 127-11 E/S Farmers Blvd (Keyspan), 2nd SS N/O Merrick Blvd	15.0	<1	0.05	To Be Resampled
9/26/2020	7:51	79150	Queens	SS - E/S Farmers Blvd, 3rd SS N/O Merrick Blvd	16.4	<1	0.03	To Be Resampled
9/27/2020	8:19	16150	Bronx	SS - W/S Bronxdale Ave, 2nd SS S/O Rhineland Ave, 12 "	19.2	<1	0.70	To Be Resampled
9/27/2020	8:54	39950	Manhattan	SS - IFO 601 W/S West End Ave, 1st SS N/O W 89th St, 12 "	1.0	<1	0.35	To Be Resampled

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

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

Supervisor: Falleri Date: 10/05/2020

Director: APR Date: 10/5/2020

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

9/1/2020 to 9/30/2020

Date	Time	Site Number	Baro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
9/13/2020	8:26	20850	Brooklyn	SS - E/S Union Ave, 1st SS S/O Richardson St	<1	<1	0.81	Upstream
9/13/2020	8:39	20850	Brooklyn	SS - E/S Union Ave, 1st SS N/O Frost St, IFO 568 Union Ave20 *	<1	<1	0.71	Original Location
9/13/2020	8:55	20850	Brooklyn	SS - E/S Union Ave, BTW Withers & Frost Sis	<1	<1	0.72	Downstream
9/13/2020	7:29	24250	Brooklyn	SS - W/S 20th Ave, 1st N/O 59th St	<1	<1	0.76	Upstream
9/13/2020	7:45	24250	Brooklyn	SS - W/S 20th Ave, 1st SS S/O 58th St, 12 *	<1	<1	0.75	Original Location
9/13/2020	8:00	24250	Brooklyn	SS - W/S 20th Ave, 1st SS S/O 57th St	<1	<1	0.72	Downstream
9/17/2020	8:32	41350	Queens	SS - IFO 18-71 W/S Menahan St, 1st SS S/O Woodward Ave	<1	<1	0.49	Upstream
9/17/2020	8:44	41350	Queens	SS - W/S Menahan St, 1st SS N/O Onderdonk Ave, 12 *	<1	<1	0.56	Original Location
9/17/2020	8:54	41350	Queens	SS - W/S Menahan St, 1st SS S/O Onderdonk Ave	<1	<1	0.56	Downstream
9/26/2020	7:07	79150	Queens	SS - E/S Farmers Blvd, 1st SS N/O Merrick Blvd	<1	<1	0.08	Upstream
9/26/2020	7:24	79150	Queens	SS - IFO 127-11 E/S Farmers Blvd (Keyspan), 2nd SS N/O Merrick Blvd	<1	<1	0.10	Original Location
9/26/2020	7:51	79150	Queens	SS - E/S Farmers Blvd, 3rd SS N/O Merrick Blvd	16.4	<1	0.03	Downstream
9/28/2020	9:19	79150	Queens	SS - E/S Farmers Blvd, 1st SS N/O Merrick Blvd	<1	<1	0.42	Upstream
9/28/2020	9:35	79150	Queens	SS - IFO 127-11 E/S Farmers Blvd (Keyspan), 2nd SS N/O Merrick Blvd	<1	<1	0.38	Original Location
9/28/2020	9:59	79150	Queens	SS - E/S Farmers Blvd, 3rd SS N/O Merrick Blvd	<1	<1	0.06	Downstream

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

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

Supervisor: Patricia J... Date: 10/05/2020

Director: [Signature] Date: 10/5/2020



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

9/1/2020 to 9/30/2020

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	134	134	94	1	0	-	0	0.0%
Brooklyn	70	201	201	137	5	0	-	0	0.0%
Manhattan	57	167	167	120	8	0	-	0	0.0%
Queens †	79	233	233	178	41	1	<1	0	0.0%
Staten Island	29	84	84	63	9	0	-	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	-	-	-
Total	281	819	819	592	64	1	<1	0	0.0%

\* Free chlorine residual is determined by Hach DPD Method (analyte is not ELAP certified).

\*\* Heterotrophic plate count is determined by method SM 9215 B, PCA medium, 35°C, 48hrs. HPC result ≤ 500 CFU/mL is equivalent to a measurable FCR.

\*\*\* No more than 5 % of FCR samples shall be undetectable in any 2 consecutive months.

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

Supervisor: Patricia J... Date: 10/05/2020

Director: [Signature] Date: 10/5/2020



***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**

**September 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 Collilert Quanti-Tray-18 Method (SM 9223B). Results expressed in "MPN /100mL."

***DISTRIBUTION TURBIDITY MONITORING***

**REPORT**

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

**Turbidity (NTU) Distribution Samples**

**September 2020**

All Distribution Sites			
Samples	Min	Max	Average
1209	0.43	1.92	0.66

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
24691	9/2/20	50750	Reg Stop	0.43	Min
24692	9/2/20	50850	Reg Stop	0.43	Min
26601	9/17/20	76300	Sub	1.92	Max

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

***COLOR MONITORING***

REPORT

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

Color (U) for Distribution Entry Points  
 September 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)	7	6	7	7	7	7	7	6	8	7	7	7	6	7	8	6	7	7	7	7	6	7	6	8	7	8	7	7	7	6
Catskill/Delaware 1S03A (Tunnel 2)	7	6	7	7	7	7	7	7	7	7	6	7	6	7	7	6	7	7	6	6	7	7	6	6	7	7	7	7	7	7
Catskill/Delaware 1S03B (Tunnel 3)	7	6	6	7	7	7	7	6	7	7	7	7	6	7	8	6	7	7	5	7	7	7	6	7	7	7	7	7	7	6
Croton System 1SCL1 (a)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Croton System 1SCH3 (b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Analytical Method SM 2120 B. Apparent color.


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

(a) Croton System offline as of 12/24/19 at 1SCL1.

(b) Croton System offline as of 12/4/19 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	30	6	8	7
Catskill/Delaware 1S03A (Tunnel 2)	30	6	7	7
Catskill/Delaware 1S03B (Tunnel 3)	30	5	8	7
Croton System 1SCL1 (a)	-	-	-	-
Croton System 1SCH3 (b)	-	-	-	-

Supervisor  Date 10/06/2020

Director  Date 10/18/2020

***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

September 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)	0.70	0.74	0.73	0.72	0.72	0.72	0.72	0.75	0.73	0.73	0.75	0.73	0.75	0.69	0.74	0.70	0.73	0.74	0.71	0.72	0.73	0.73	0.74	0.73	0.74	0.74	0.74	0.73	0.74	0.75	0.74	
Catskill/Delaware 1S03A (Tunnel 2)	0.70	0.72	0.72	0.71	0.73	0.72	0.72	0.74	0.74	0.72	0.73	0.73	0.74	0.69	0.71	0.71	0.74	0.74	0.72	0.73	0.73	0.73	0.75	0.73	0.74	0.75	0.74	0.74	0.74	0.76	0.74	
Catskill/Delaware 1S03B (Tunnel 3)	0.70	0.73	0.72	0.72	0.73	0.72	0.72	0.75	0.73	0.71	0.74	0.73	0.74	0.69	0.72	0.70	0.73	0.74	0.72	0.73	0.72	0.73	0.74	0.74	0.74	0.74	0.73	0.73	0.76	0.73	0.73	
Croton System 1SCL1 (a)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Croton System 1SCH3 (b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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 offline as of 12/24/19 at 1SCL1.

(b) Croton System offline as of 12/4/19 at 1SCH3.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	30	0.69	0.75	0.73
Catskill/Delaware 1S03A (Tunnel 2)	30	0.69	0.76	0.73
Catskill/Delaware 1S03B (Tunnel 3)	30	0.69	0.76	0.73
Croton System 1SCL1 (a)	-	-	-	-
Croton System 1SCH3 (b)	-	-	-	-

Supervisor 

Date 10/08/2020

Director 

Date 10/18/2020