NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
Bureau of Water Supply
prush@dep.nyc.gov

59-17 Junction Boulevard
Flushing, NY 11373
T: (845) 340-7800
F: (845) 334-7175

July 8, 2020

Li Huang, P.E.
New York City Department of Health and Mental Hygiene
Environmental Sciences & Engineering
42-09 28th Street, 14th Floor CN# 56
Long Island City, NY 11101

Patrick Palmer
New York State Department of Health
Bureau of Water Supply Protection, NYC Watershed Section
Empire State Plaza, Corning Tower, Room 1198
Albany, NY 12237

Katie Lynch
United States Environmental Protection Agency
Clean Water Division - New York City Water Supply Protection Program
290 Broadway, 24th Floor
New York, New York 10007-1866

RE: Monthly Water Quality Report for June 2020

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

Enclosed, please find the New York City Water Quality report for the month of **June 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 June 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 January 1, 2020 to June 30, 2020. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 0.00% for the Catskill/Delaware System for this time period.

2. *Raw Water Turbidity* (Section 141.71(a)(2)):
Requirements met. The raw water leaving Kensico Reservoir via the Delaware Aqueduct in compliance samples collected at DEL18DT, just prior to disinfection, exhibited turbidity levels less than or equal to 5 NTU on an ongoing basis during the month. The highest reported turbidity value was 0.90 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 0.58 mg/L, 1S03A (Tunnel 2) was 0.75 mg/L, and 1S03B (Tunnel 3) was 0.53 mg/L.

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

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 1118 distribution samples were tested for free chlorine residual this month. For all monthly distribution sites free chlorine residual ranged from 0.01 to 1.06 mg/L, and averaged 0.48 mg/L.

The second quarter of 2020 chlorine residual running annual average was 0.57 mg/L. This meets the MRDL of 4 mg/L for the quarterly running annual average of all systems samples.

5. *Trihalomethane Monitoring / HAA5 Monitoring* (Section 141.71(b)(6)):
Requirements met. The results for the second quarter of 2020 were included in the report dated June 9, 2020 (for the May 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 818 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, four (4) samples tested positive for total coliform, and all samples were negative for *E. coli*.

- A sample collected on 06/21/2020 from Site 24750 (sample station in front of 1660 E 13th Street) was positive for total coliform. Repeat sampling on 06/23/2020 was coliform negative at all locations.
- A sample collected on 06/23/2020 from Site 77150 (sample station north side Linden Blvd, first sample station west of 230th Street) was positive for total coliform. Repeat sampling collected on 06/25/2020 was positive at the upstream sample station (north side Linden Blvd, first sample station east of 230th Street) for total coliform. Repeat sampling conducted 06/27/2020 was coliform negative at all locations.
- A sample collected on 06/24/2020 from Site 34350 (sample station in front of 1016 6th Ave) was positive for total coliform. Repeat sampling on 06/26/2020 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 300 distribution Operational samples resulted in two (2) samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 240 Pre-Finished samples resulted in ten (10) samples testing positive for total coliform, one (1) of which also tested positive for *E. coli* at 1 MPN/100mL. The *E. coli* positive sample was collected on 6/2/2020 at site 3, located at Hillview Reservoir Downtake No.1. A follow up investigation found no QC failures or issues in the laboratory or field.

The analyses of Autosampler Pre-finished samples were suspended under the COVID-19 Reduced Monitoring Plan.

8. Distribution Turbidity Monitoring:
For distribution sites, turbidity ranged from 0.51 to 9.20 NTU and averaged 0.80 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 six (6) units for sites 1S03 (Tunnel 1) and 1S03A (Tunnel 2), and seven (7) units for site 1S03B (Tunnel 3).

10. ***Volatile Organic/TTHM/HAA5 Monitoring:***
Monthly Results: Twenty (20) distribution and three (3) entry point samples were analyzed for volatile organic contaminants (VOC). All VOC's were below detection in all samples. Twenty (20) distribution samples were analyzed for TTHM and ranged from 33 µg/L to 70 µg/L. Three (3) entry point samples were analyzed for TTHM and ranged from 26 µg/L to 48 µg/L. Twenty (20) distribution samples were analyzed for HAA5 and ranged from 33 µg/L to 72 µg/L. Three (3) entry point samples were analyzed for HAA5 and ranged from 42 µg/L to 54 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 June 15, 2020 at the three (3) Catskill/Delaware entry points (1S07, 1S03A, and 1S03B), at 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.

Quarterly monitoring for the two compounds 1,2-Dibromo-3-chloropropane and 1,2-Dibromoethane by EPA Method 524.3 SIM, determination of microextractables, was conducted at four (4) entry points including Croton High Service (1SCH3), which represented distribution Catskill/Delaware water, and one distribution sampling site (50250) on June 25, 2020. A sample was also collected from the Croton Low Service entry point (1SCL1) of the water, being produce as part of the Croton Filtration Plant's Granular Activated Carbon (GAC) Commissioning,that was running to waste. All sites were below detection.

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) and 1S03A (Tunnel 2), and 0.74 mg/L for site 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 was conducted in June on 27 samples from New Croton Reservoir, Jerome Park Reservoir, and the Croton Low Service entry point, as part of the Croton Filtration Plant GAC Commissioning. Results ranged from ND to 5.6 ng/L for Geosmin, and from ND to 13 ng/L for 2-Methylisoborneol (MIB). Other parameters, 2,4,6-Trichloroanisole (TCA), 2-isobutyl-3-methoxy pyrazine (IBMP), and 2-isopropyl-3-methoxy pyrazine (IPMP) were ND. Contract laboratory reports of available data are included as pdf files in the electronic files provided 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,

Salome Thuel for SS

Steven C. Schindler
Director, Water Quality

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

TABLE OF CONTENTS FOR DATA FILES

June 2020 Monthly Water Quality Report

Microbiological Reports:	
Summary of Coliform Compliance Samples	*(NYC_Micro_Summary_Compliance_202006.xls)*
Coliform Positive Compliance Samples	*(NYC_Micro_Compliance_Positives_202006.xls)*
Coliform Resample for Positive Compliance Samples	*(NYC_Micro_Compliance_Resamples_202006.xls)*
Summary of Coliform Operational Samples	*(NYC_Micro_Operational_202006.pdf)* *(NYC_Micro_Summary_Operational_202006.xls)*
Coliform Positive Operational Samples	*(NYC_Micro_Operational_202006.pdf)* *(NYC_Micro_Operational_Positives_202006.xls)*
Coliform Resample for Positive Distribution Operational Samples	*(NYC_Micro_Operational_202006.pdf)* *(NYC_Micro_Operational_Resamples_202006.xls)*
Distribution Coliform Monitoring when Source Water Turbidity exceeds 1.49 NTU	*(NYC_EP_Coliform_For_Source_Turb_GT_149_202006.snp)*
All Microbiological Results	*(NYC_Monthly_Alldata_202006.xls\Micro)*
Free Chlorine Residual (FCR) Reports:	
Entry Point FCR On-Line Monitoring Results	*(Entry_Shaft_Cl2_Onln_202006_Fig.pdf)*
Daily Minimum FCR at Entry Points	*(Entry_Shaft_Cl2_Onln_202006_Tbl.pdf)* *(Croton_Entry_Shaft_Cl2_Online_202006_Tbl.pdf)*
FCR and Heterotrophic Plate Count (HPC) Compliance Samples	*(NYC_Micro_Summary_FCR_&_HPC_Compliance_202006.xls)*
FCR and HPC of Operational Samples	*(NYC_Micro_Summary_FCR_&_HPC_Operational_202006.xls)* *(NYC_Micro_Operational_202006.pdf)*
Summary of FCR of Distribution Samples (Quarterly)	*(NYC_FCR_Quarterly_Summary_2020Q2.xls)*
Summary of FCR of Distribution Samples (Monthly)	*(NYC_FCR_Monthly_Summary_202006.xls)*
FCR of all Distribution Sites	*(NYC_FCR_Monthly_Alldata_202006.xls)*
Turbidity Reports:	
Summary of Turbidity of Distribution Samples	*(NYC_Turbidity_Monthly_Summary_202006.xls)*
Turbidity of all Distribution Sites	*(NYC_Turbidity_Monthly_Alldata_202006.xls)*
Color Reports:	
Color for Entry Point Samples	*(Entry_Point_Color_Monthly_202006.xls)*
Fluoridation Reports:	
Summary of Fluoride Levels of Distribution Samples	*(NYC_Fluoride_Monthly_Summary_202006.xls)*
Fluoride Daily Entry Point Report for Surface Water Systems	*(Entry_Point_Fluoride_Monthly_202006.xls)*
Fluoride of all Distribution Sites	*(NYC_Fluoride_ Monthly_Alldata_202006.xls)*
Volatile Organic Contaminant (VOC) and Disinfection By-products (DBP) Reports:	
Total Trihalomethanes (TTHM) & VOC Monthly Report	*(NYC_TTHM_&_VOC_Rpt_202006.xls)*
Semivolatiles of EPA Method 525 Monthly Report	*(NYC_SOC_Rpt_202006.xls)*
Microextractables of EPA Method 524.3/SIM Report	*(NYC_524_3-SIM_Rpt_202006.xls)*
Haloacetic Acids (HAA5) Monthly Report	*(NYC_HAA5_Monthly_Rpt_202006.xls)*
Taste & Odor Sampling Reports from EEA Lab	*(873959_T&O_Sample_20200601.pdf, 875016_T&O_Sample_20200604.pdf, 875217_T&O_Sample_20200606.pdf, 876548_T&O_Sample_20200609.pdf, 876327_T&O_Sample_20200611.pdf, 876547_T&O_Sample_20200615.pdf, 877970_T&O_Sample_20200622.pdf, 878100_T&O_Sample_20200623.pdf, 878885_T&O_Sample_20200629.pdf, 879178_T&O_Sample_20200630.pdf)*
Summary of EPA Organic Method Reports	*(NYC_VOC_HAA5_525_Rpt_202006.pdf)*
Inorganic (IOC), Specified Organic (SOC), Metals Monitoring:	
All parameters for June 2020	*(NYC_Monthly_Alldata_202006.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: 04/18 To: 06/20
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
4-18	30	0	0.00	0.00
5-18	31	0	0.00	0.00
6-18	30	0	0.00	0.00
7-18	31	0	0.00	0.00
8-18	31	0	0.00	0.00
9-18	30	2	6.67	1.09
10-18	31	2	6.45	2.17
11-18	30	0	0.00	2.19
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

J.W Robinson 7/2/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 7/2/2020

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

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: June, 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)
6/1/20	0.85	0.80	0.80	0.80	0.80	0.80	E15	E2
6/2/20	0.80	0.85	0.85	0.75	0.75	0.85	E8	E2
6/3/20	0.80	0.80	0.75	0.80	0.75	0.80	E4	<1
6/4/20	0.75	0.80	0.75	0.85	0.85	0.80	E16	E2
6/5/20	0.80	0.70	0.75	0.70	0.75	0.75	E14	E3
6/6/20	0.80	0.80	0.75	0.85	0.85	0.90	>=E55	E7
6/7/20	0.85	0.80	0.85	0.75	0.70	0.85	E28	E6
6/8/20	0.80	0.80	0.75	0.80	0.90	0.85	E75	E2
6/9/20	0.85	0.80	0.80	0.75	0.80	0.80	E15	<1
6/10/20	0.80	0.75	0.70	0.80	0.85	0.80	E30	<1
6/11/20	0.80	0.75	0.80	0.85	0.70	0.85	E22	E1
6/12/20	0.75	0.80	0.85	0.70	0.70	0.75	E20	E3
6/13/20	0.70	0.75	0.70	0.75	0.85	0.80	E10	E1
6/14/20	0.80	0.80	0.75	0.80	0.85	0.90	E10	E2
6/15/20	0.75	0.75	0.70	0.80	0.75	0.80	E10	<1
6/16/20	0.80	0.85	0.85	0.80	0.75	0.85	E8	E1
6/17/20	0.80	0.85	0.80	0.75	0.80	0.80	E14	<1
6/18/20	0.75	0.90	0.65	0.80	0.80	0.80	E12	E1
6/19/20	0.75	0.80	0.80	0.75	0.65	0.70	E10	<1
6/20/20	0.75	0.75	0.70	0.75	0.80	0.80	E6	<1
6/21/20	0.80	0.80	0.75	0.75	0.80	0.80	E6	<1
6/22/20	0.80	0.90	0.70	0.70	0.70	0.80	E14	<1
6/23/20	0.80	0.80	0.75	0.80	0.80	0.90	E25	E1
6/24/20	0.85	0.85	0.75	0.80	0.90	0.85	E14	<1
6/25/20	0.80	0.80	0.80	0.85	0.80	0.85	E26	E1
6/26/20	0.85	0.85	0.80	0.80	0.85	0.80	44	E1
6/27/20	0.85	0.80	0.75	0.75	0.75	0.80	E30	E1
6/28/20	0.85	0.75	0.75	0.80	0.90	0.85	E22	E2
6/29/20	0.85	0.85	0.85	0.75	0.75	0.75	E30	E1
6/30/20	0.80	0.80	0.85	0.70	0.75	0.75	170	E2

.: Aqueduct Shutdown, CONF: Confluent Growth (+ indicates positive coliform growth), LE: Lab Error, FE: Field Error, E: estimated count based on non-ideal plate, >=: plate count may be biased low based on heavy growth, >: observed count replaced with dilution based value

1. Does a raw water turbidity M & R violation exist? ___ Yes _X_ No
2. Does the turbidity reading exceed 5 NTU at any time? ___ Yes X No
   If yes, check for MCL violation, and notify state by the end of the next business day.
3. Minimum number of microbiological samples required per week: _5_
4. A daily microbiological sample is required every day the raw water turbidity exceeds 1 NTU.

Additional Comments:

D. W. Robinson 7/2/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 7/2/2020

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 07/02/202011:41 am

NYCDEP Division of Watershed Water Quality Operations

Water Systems Operation Report - Qualifiers and Methods Addendum

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

Deputy Chief: David Robinson
914-345-4973

Data Qualifiers and Additional Notes — Period: June 2020

Date/Time	Site	Analytes Affected	Qualifier
6/9/20 10:28	DEL18DT	Total Coliform	The duplicate analysis was not within the control limits.

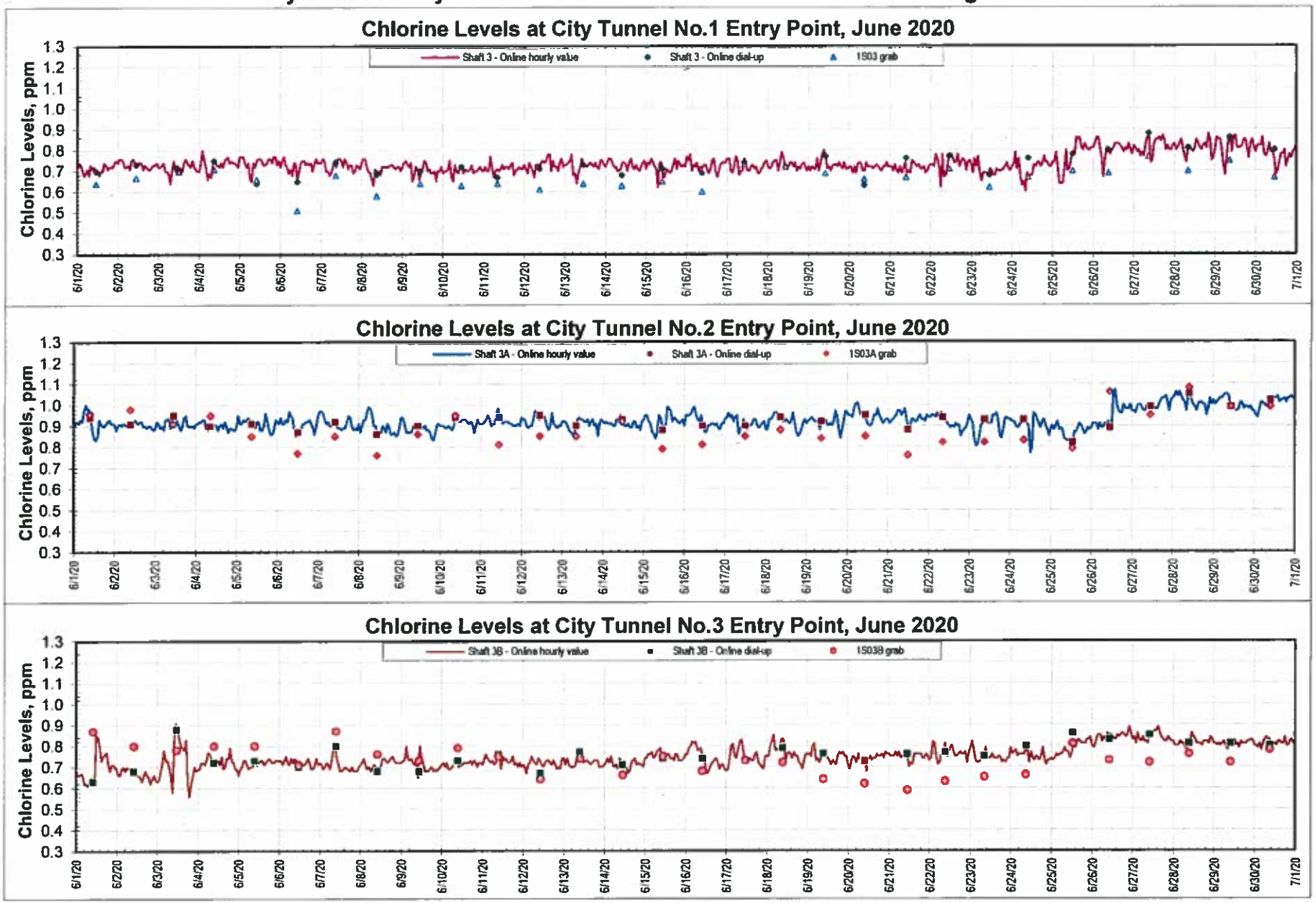
Analytical Methods

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



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
06/01/20	0.59		06/01/20	0.83		06/01/20	0.59	
06/02/20	0.68		06/02/20	0.86		06/02/20	0.61	
06/03/20	0.63		06/03/20	0.86		06/03/20	0.53	
06/04/20	0.66		06/04/20	0.85		06/04/20	0.66	
06/05/20	0.64		06/05/20	0.85		06/05/20	0.66	
06/06/20	0.64		06/06/20	0.84		06/06/20	0.67	
06/07/20	0.68		06/07/20	0.87		06/07/20	0.64	
06/08/20	0.62		06/08/20	0.84		06/08/20	0.65	
06/09/20	0.60		06/09/20	0.82		06/09/20	0.65	
06/10/20	0.63		06/10/20	0.85		06/10/20	0.68	
06/11/20	0.60		06/11/20	0.89		06/11/20	0.68	
06/12/20	0.67		06/12/20	0.88		06/12/20	0.67	
06/13/20	0.63		06/13/20	0.85		06/13/20	0.67	
06/14/20	0.64		06/14/20	0.85		06/14/20	0.66	
06/15/20	0.60		06/15/20	0.83		06/15/20	0.70	
06/16/20	0.64		06/16/20	0.85		06/16/20	0.65	
06/17/20	0.60		06/17/20	0.85		06/17/20	0.69	
06/18/20	0.68		06/18/20	0.82		06/18/20	0.68	
06/19/20	0.69		06/19/20	0.83		06/19/20	0.69	
06/20/20	0.59		06/20/20	0.87		06/20/20	0.66	
06/21/20	0.68		06/21/20	0.87		06/21/20	0.70	
06/22/20	0.60		06/22/20	0.82		06/22/20	0.70	
06/23/20	0.63		06/23/20	0.80		06/23/20	0.69	
06/24/20	0.58		06/24/20	0.75		06/24/20	0.71	
06/25/20	0.60		06/25/20	0.79		06/25/20	0.73	
06/26/20	0.65		06/26/20	0.87		06/26/20	0.79	
06/27/20	0.72		06/27/20	0.96		06/27/20	0.80	
06/28/20	0.67		06/28/20	0.93		06/28/20	0.76	
06/29/20	0.67		06/29/20	0.95		06/29/20	0.78	
06/30/20	0.65		06/30/20	0.94		06/30/20	0.75	

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
06/01/20		No Croton water.	06/01/20		No Croton water.
06/02/20			06/02/20		
06/03/20			06/03/20		
06/04/20			06/04/20		
06/05/20			06/05/20		
06/06/20			06/06/20		
06/07/20			06/07/20		
06/08/20			06/08/20		
06/09/20			06/09/20		
06/10/20			06/10/20		
06/11/20			06/11/20		
06/12/20			06/12/20		
06/13/20			06/13/20		
06/14/20			06/14/20		
06/15/20			06/15/20		
06/16/20			06/16/20		
06/17/20			06/17/20		
06/18/20			06/18/20		
06/19/20			06/19/20		
06/20/20			06/20/20		
06/21/20			06/21/20		
06/22/20			06/22/20		
06/23/20			06/23/20		
06/24/20			06/24/20		
06/25/20			06/25/20		
06/26/20			06/26/20		
06/27/20			06/27/20		
06/28/20			06/28/20		
06/29/20			06/29/20		
06/30/20			06/30/20		

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

June 2020

All Distribution Sites			
Samples	Min	Max	Average
1118	0.01	1.06	0.48

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
16488	6/26/20	1S03A	Sub	1.06	Max
14987	6/11/20	78450	Reg Stop	0.01	Min
15998	6/21/20	77750	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.

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

6/1/2020 to 6/30/2020

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	132	132	0	0	0.0%
Brooklyn	70	197	197	1	0	0.5%
Manhattan	57	172	172	1	0	0.6%
Queens ***	79	233	233	2	0	0.9%
Staten Island	29	84	84	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	818	818	4	0	0.5%

* 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: _____ Date: 07/07/20

Director: _____ Date: 7/8/2020

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
6/1/2020 to 6/30/2020

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
6/21/20	12:13	24750	Brooklyn	SS - IFO 1660 W/S E 13th St, 2nd SS N/O Quentin Rd, 20 "	3.1	<1	0.49	To Be Resampled
6/23/20	9:17	77150	Queens	SS - N/S Linden Blvd, 1st SS W/O 230th St	2.0	<1	0.06	To Be Resampled
6/24/20	8:21	34350	Manhattan	SS - E/S 6th Ave, BTW W 37th & W 38th Sts, IFO 1016 6th Ave20 "	13.7	<1	0.37	To Be Resampled
6/25/20	10:28	77150	Queens	SS - N/S Linden Blvd, 1st SS E/O 230th St	1.0	<1	0.05	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: _____ Date: 07/07/20

Director: _____ Date: 7/8/2020

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

6/1/2020 to 6/30/2020

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
6/23/20	8:23	24750	Brooklyn	SS - IFO 1625 E/S E 13th St, 1st SS S/O Ave P (OPP 1628 E 13th St).	<1	<1	0.51	Upstream
6/23/20	8:44	24750	Brooklyn	SS - IFO 1660 W/S E 13th St, 2nd SS N/O Quentin Rd, 20 "	<1	<1	0.49	Original Location
6/23/20	9:04	24750	Brooklyn	SS - IFO 1682 W/S E 13th St, 1st SS N/O Quentin Rd	<1	<1	0.47	Downstream
6/25/20	10:28	77150	Queens	SS - N/S Linden Blvd, 1st SS E/O 230th St	1.0	<1	0.05	Upstream
6/25/20	10:39	77150	Queens	SS - N/S Linden Blvd, 1st SS W/O 230th St	<1	<1	0.04	Original Location
6/25/20	10:53	77150	Queens	SS - N/S Linden Blvd, 2nd SS W/O 230th St	<1	<1	0.03	Downstream
6/26/20	8:12	34350	Manhattan	SS - IFO 1026 E/S 6th Ave, BTW W 38th & W 39th Sts	<1	<1	0.38	Upstream
6/26/20	8:37	34350	Manhattan	SS - E/S 6th Ave, BTW W 37th & W 38th Sts, IFO 1016 6th Ave20 "	<1	<1	0.36	Original Location
6/26/20	9:03	34350	Manhattan	SS - IFO 968 E/S 6th Ave, BTW W 35th & W 36th Sts	<1	<1	0.35	Downstream
6/27/20	8:21	77150	Queens	SS - N/S Linden Blvd, 1st SS E/O 230th St	<1	<1	0.08	Upstream
6/27/20	8:34	77150	Queens	SS - N/S Linden Blvd, 1st SS W/O 230th St	<1	<1	0.09	Original Location
6/27/20	8:50	77150	Queens	SS - N/S Linden Blvd, 2nd SS W/O 230th St	<1	<1	0.08	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: _____ Date: 07/07/20

Director: _____ Date: 7/8/2020

REVISED 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

6/1/2020 to 6/30/2020

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	132	132	4	4	0	--	0	0.0%
Brooklyn	70	197	197	12	12	0	--	0	0.0%
Manhattan	57	172	172	22	22	0	--	0	0.0%
Queens †	79	233	233	48	48	0	--	0	0.0%
Staten Island	29	84	84	16	17	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	281	818	818	102	103	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 Aggarwal Date: 07/09/20

Director: Date: 7/9/2020

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

June 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

June 2020

All Distribution Sites			
Samples	Min	Max	Average
1118	0.51	9.20	0.80

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
13826	6/1/20	43550	Reg Stop	9.20	Max
13887	6/2/20	11750	Reg Stop	0.51	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

June 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	6	6	6	7	5	6	7	6	7	7	6	7	6	6	6	7	7	7	5	7	7	7	6	7	7	6	6	7
Catskill/Delaware 1S03A (Tunnel 2)	6	6	6	6	6	7	6	6	7	6	6	6	6	7	7	7	7	6	7	7	6	7	6	7	6	7	7	5	6	7
Catskill/Delaware 1S03B (Tunnel 3)	7	6	7	6	6	6	6	6	7	7	6	7	7	7	7	6	6	7	6	7	6	7	6	7	6	7	7	6	6	7
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	5	7	6
Catskill/Delaware 1S03A (Tunnel 2)	30	5	7	6
Catskill/Delaware 1S03B (Tunnel 3)	30	6	7	7
Croton System 1SCL1 [a]	-	-	-	-
Croton System 1SCH3 [b]	-	-	-	-

Supervisor _____ **Date** 07/07/2020

Director _____ **Date** 7/7/2020

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

June 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)	0.73	0.73	0.72	0.73	0.74	0.73	0.72	0.74	0.75	0.72	0.72	0.75	0.73	0.75	0.74	0.74	0.72	0.73	0.73	0.74	0.74	0.73	0.72	0.74	0.74	0.73	0.73	0.72	0.72	0.72
Catskill/Delaware 1S03A (Tunnel 2)	0.73	0.73	0.74	0.74	0.75	0.72	0.73	0.75	0.75	0.72	0.72	0.74	0.74	0.76	0.74	0.73	0.73	0.73	0.74	0.75	0.74	0.74	0.72	0.74	0.74	0.73	0.74	0.71	0.72	0.72
Catskill/Delaware 1S03B (Tunnel 3)	0.72	0.74	0.73	0.74	0.74	0.73	0.72	0.75	0.76	0.72	0.72	0.74	0.74	0.76	0.75	0.74	0.73	0.74	0.74	0.75	0.74	0.74	0.72	0.75	0.74	0.73	0.74	0.72	0.72	0.72
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	0.72	0.75	0.73
Catskill/Delaware 1S03A (Tunnel 2)	30	0.71	0.76	0.73
Catskill/Delaware 1S03B (Tunnel 3)	30	0.72	0.76	0.74
Croton System 1SCL1 [a]	-	-	-	-
Croton System 1SCH3 [b]	-	-	-	-

Supervisor _____ Date 07/07/2020

Director _____ Date 7/7/2020