Environmental Protection

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Commissioner

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June 9, 2020

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New York City Department of Health and Mental Hygiene
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New York State Department of Health
Bureau of Water Supply Protection, NYC Watershed Section
Empire State Plaza, Corning Tower, Room 1198
Albany, NY 12237

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

RE: Monthly Water Quality Report for May 2020

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

Enclosed, please find the New York City Water Quality report for the month of **May 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 May 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 December 1, 2019 to May 31, 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 1.3 NTU on the Catskill/Delaware System for the month.

3. *Entry Point Chlorine Residual* (Section 141.71(b)(1)(iii) and 141.72(a)(3)):
Requirements met. As required, continuous monitoring for free chlorine residual was maintained at the distribution entry points throughout the month and at no time did the concentration fall below 0.2 mg/L for more than four hours. The minimum daily free chlorine residual value for entry point readings for the Catskill/Delaware System from sites 1S03 (Tunnel 1) was 0.43 mg/L, 1S03A (Tunnel 2) was 0.73 mg/L, and 1S03B (Tunnel 3) was 0.42 mg/L.

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

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 0.04 mg/L except for one sample that equaled 0.0 mg/L.

A total of 1194 distribution samples were tested for free chlorine residual this month. For all monthly distribution sites free chlorine residual ranged from 0.00 to 1.13 mg/L, and averaged 0.53 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 second quarter of 2020 was 42 µg/L, and the Locational Running Annual Averages (LRAA) ranged from 33 µg/L to 50 µg/L. These values meet the MCL of 80 µg/L for LRAA and RAA. TTHM quarterly results averaged 41 µg/L.

The System's HAA5 RAA for the second quarter of 2020 was 40 µg/L, and the LRAA ranged from 36 µg/L to 46 µg/L. These values meet the MCL of 60 µg/L for LRAA and RAA. HAA5 quarterly results averaged 52 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 828 compliance samples were tested for total coliform during this period. HPC were all ≤500 CFU/mL, equivalent to a measurable free chlorine residual. Zero percent of the samples had an undetectable free chlorine residual or HPC >500 CFU/mL. This meets the requirements that a free chlorine residual be maintained at representative points in the distribution system, and that no more than 5% of the free chlorine residual samples be undetectable in any two months. During the month, no samples tested positive for total coliform, and all samples were negative for *E. coli*.

OTHER WATER QUALITY MONITORING

7. *Microbiological Monitoring:*
Coliform monitoring at distribution sites near first service connections, in response to source water having a turbidity >1.49 NTU, was not required this month, but all of these samples were negative for total coliform and *E. coli*.

The analyses of 366 distribution Operational samples resulted in no samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 248 Pre-Finished samples resulted in one (1) sample testing positive for total coliform. No *E. coli* were detected.

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 0.46 to 3.39 NTU and averaged 0.70 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 (93 samples in total), produced monthly average color value of six (6) units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), and 1S03B (Tunnel 3).

10. *Volatile Organic/TTHM/HAA5 Monitoring:*
Monthly Results: Twenty-three (23) distribution and three (3) entry point samples were analyzed for volatile organic contaminants (VOC). t-Butyl alcohol (TBA) was found at three (3) sites, 24350, 31750, and 31850, but is believed to be from lab contamination as analysis of the duplicate vials did not confirm the presence of TBA. All other VOC's were below detection in all samples. Twenty-three (23) distribution samples were analyzed for TTHM and ranged from 21 µg/L to 46 µg/L. Three (3) entry point samples were analyzed for TTHM and ranged from 21 µg/L to 40 µg/L. Twenty-three (23) distribution samples were analyzed for HAA5 and ranged

from 33 µg/L to 69 µg/L. Three (3) entry point samples were analyzed for HAA5 and ranged from 32 µg/L to 62 µg/L.

11. ***Semivolatile and Other Organic Chemicals/parameters:***
Monitoring for Method 505 organohalide pesticides was conducted on May 18, 2020 at three (3) Catskill/Delaware entry points (1S07, 1S03A, and 1S03B), and on Catskill/Delaware water collected from the Croton Low Service and High Service entry points (1SCL1 and 1SCH3). All results were below detection.

12. ***Fluoride Monitoring:***
Daily analyses of entry point samples (93 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). 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 Geosmin, 2-Methylisoborneol (MIB), 2,4,6-Trichloroanisole (TCA), 2-isobutyl-3-methoxy pyrazine (IBMP), and 2-isopropyl-3-methoxy pyrazine (IPMP) was conducted in May on 11 samples from the New Croton Reservoir. Results ranged from 3.2 ng/L to 12 ng/L for Geosmin, and from 6.2 ng/L to 25 ng/L for MIB. Other parameters were ND. Contract laboratory reports of available data are included as pdf files sent via email.

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 Freud 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

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RAW WATER FECAL COLIFORM CONCENTRATIONS
(FAD Requirement)

NYCDEP Division of Watershed Water Quality Operations

Catskill/Delaware System Raw Water Fecal Coliform Compliance Report

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

Deputy Chief: David Robinson
914-345-4973

Catskill/Delaware Public Water System at Shaft 18 (DEL18DT) - Raw Water				Period: 03/18 To: 05/20
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
3-18	31	0	0.00	0.00
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

D.W. Robinson 6/4/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 6/4/2020

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: May, 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)
5/1/20	0.75	0.75	0.75	0.60	0.60	0.65	E2	E2
5/2/20	0.65	0.70	0.65	0.65	0.60	0.65	E10	E1
5/3/20	0.60	0.60	0.65	0.70	0.70	0.70	E10	E1
5/4/20	0.75	0.70	0.70	0.70	0.65	0.65	E8	<1
5/5/20	0.70	0.60	0.65	0.75	0.65	0.65	E6	<1
5/6/20	0.65	0.65	0.65	0.55	0.70	0.70	E8	<1
5/7/20	0.70	0.75	0.65	0.60	0.70	0.65	E2	<1
5/8/20	0.65	0.65	0.70	0.70	0.65	0.65	E2	<1
5/9/20	0.70	0.65	0.60	0.65	0.60	0.65	E10	E2
5/10/20	0.65	0.65	0.70	0.75	0.70	0.70	E6	E2
5/11/20	0.75	0.75	0.75	0.85	0.80	0.80	E4	<1
5/12/20	0.75	0.70	0.70	0.65	0.80	0.75	E6	E2
5/13/20	0.70	0.65	0.70	0.75	0.80	0.80	E4	<1
5/14/20	0.80	0.80	0.80	0.70	0.75	0.75	E10	<1
5/15/20	0.80	0.70	0.75	0.70	0.75	0.75	E8	<1
5/16/20	0.70	0.70	0.75	0.70	0.90	0.85	E4	E1
5/17/20	0.80	0.75	0.80	0.75	0.80	0.85	E22	<1
5/18/20	0.90	0.80	0.80	0.85	0.85	0.75	E6	E1
5/19/20	0.75	0.70	0.75	0.75	0.75	1.0	E14	E1
5/20/20	0.75	0.75	0.75	0.85	0.70	0.80	E22	<1
5/21/20	0.75	0.80	0.80	0.80	0.80	0.90	E10	<1
5/22/20	1.3	0.90	0.85	0.75	0.80	0.85	E2	<1
5/23/20	0.90	0.85	0.80	0.80	0.80	0.80	E2	<1
5/24/20	0.80	0.80	0.80	0.75	0.75	0.85	E12	<1
5/25/20	0.85	0.80	0.80	0.80	0.75	0.85	E4	<1
5/26/20	0.75	0.80	0.80	0.80	0.75	0.80	E6	E1
5/27/20	0.80	0.75	0.80	0.85	0.85	0.80	E12	<1
5/28/20	0.85	0.90	0.75	0.75	0.75	0.80	E12	<1
5/29/20	0.75	0.70	0.75	0.70	0.75	0.70	E20	E3
5/30/20	0.80	0.70	0.70	0.80	0.80	0.80	E4	<1
5/31/20	0.85	0.75	0.75	0.90	0.90	0.85	E18	<1

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

1. Does a raw water turbidity M & R violation exist? ___ Yes X__ No
2. Does the turbidity reading exceed 5 NTU at any time? ___ Yes X_ No
   If yes, check for MCL violation, and notify state by the end of the next business day.
3. Minimum number of microbiological samples required per week: _5___
4. A daily microbiological sample is required every day the raw water turbidity exceeds 1 NTU.

Additional Comments:

D.W. Robinson 6/4/20

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 6/4/2020

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 06/04/202010:42 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: May 2020

Date/Time	Site	Analytes Affected	Qualifier
5/21/20 15:55	DEL18DT	Turbidity	This sample is associated with a method blank that is above the LOQ.
5/21/20 23:55	DEL18DT	Turbidity	This sample is associated with a method blank that is above the LOQ.
5/22/20 03:55	DEL18DT	Turbidity	This sample is associated with a method blank that is above the LOQ.
5/21/20 11:55	DEL18DT	Turbidity	This sample is associated with a method blank that is above the LOQ.
5/21/20 19:55	DEL18DT	Turbidity	This sample is associated with a method blank that is above the LOQ.
5/22/20 07:55	DEL18DT	Turbidity	This sample is associated with a method blank that is above the LOQ.

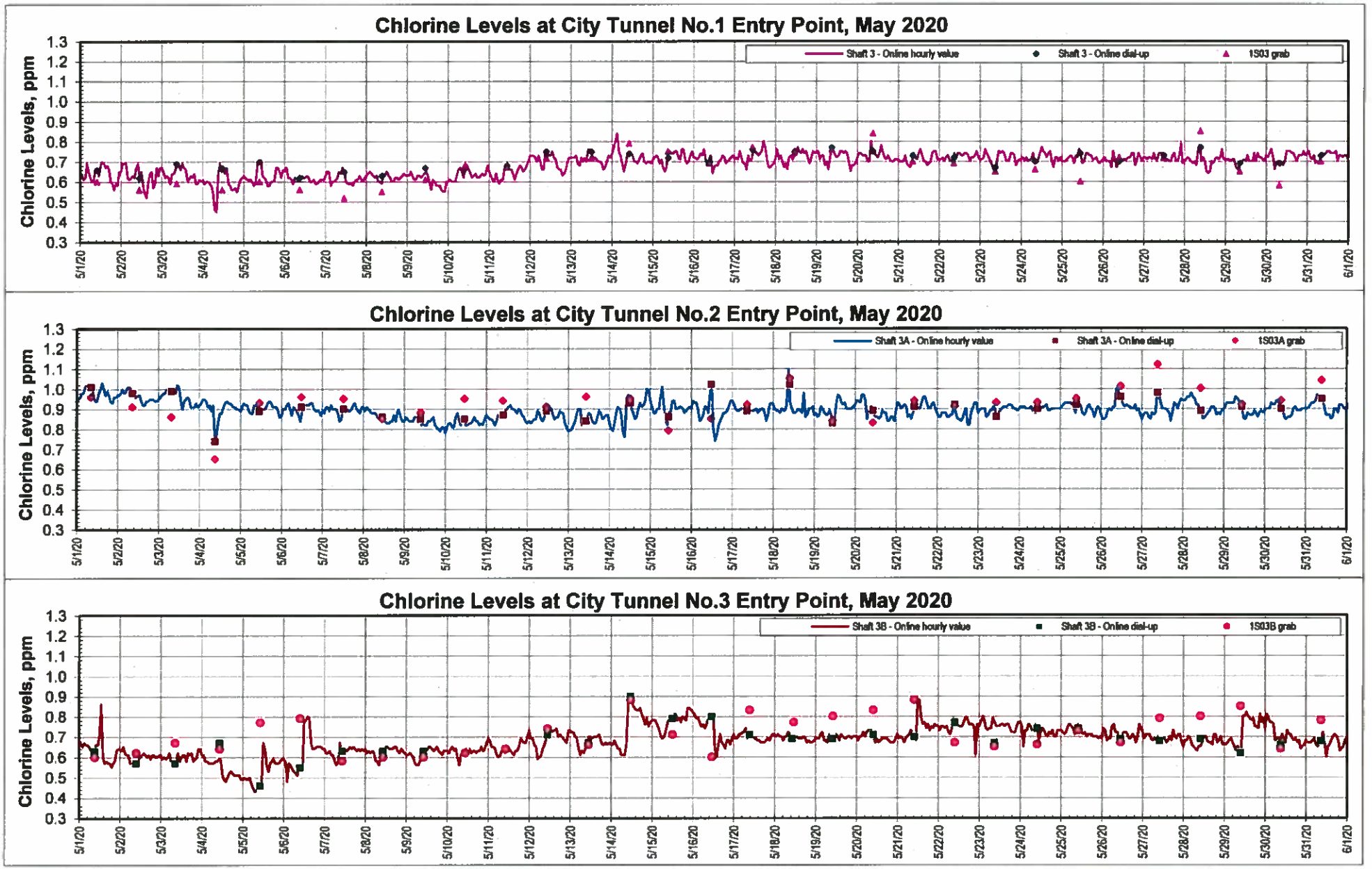
Analytical Methods

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 3/8/20, 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
05/01/20	0.53		05/01/20	0.83		05/01/20	0.54	
05/02/20	0.52		05/02/20	0.92		05/02/20	0.55	
05/03/20	0.57		05/03/20	0.90		05/03/20	0.56	
05/04/20	0.43		05/04/20	0.74		05/04/20	0.47	
05/05/20	0.56		05/05/20	0.85		05/05/20	0.42	
05/06/20	0.58		05/06/20	0.83		05/06/20	0.47	
05/07/20	0.56		05/07/20	0.83		05/07/20	0.55	
05/08/20	0.58		05/08/20	0.82		05/08/20	0.56	
05/09/20	0.54		05/09/20	0.78		05/09/20	0.55	
05/10/20	0.59		05/10/20	0.80		05/10/20	0.55	
05/11/20	0.58		05/11/20	0.82		05/11/20	0.57	
05/12/20	0.63		05/12/20	0.79		05/12/20	0.58	
05/13/20	0.64		05/13/20	0.78		05/13/20	0.60	
05/14/20	0.64		05/14/20	0.76		05/14/20	0.60	
05/15/20	0.64		05/15/20	0.82		05/15/20	0.69	
05/16/20	0.57		05/16/20	0.73		05/16/20	0.60	
05/17/20	0.65		05/17/20	0.84		05/17/20	0.67	
05/18/20	0.64		05/18/20	0.83		05/18/20	0.66	
05/19/20	0.65		05/19/20	0.82		05/19/20	0.67	
05/20/20	0.69		05/20/20	0.83		05/20/20	0.66	
05/21/20	0.65		05/21/20	0.85		05/21/20	0.67	
05/22/20	0.68		05/22/20	0.82		05/22/20	0.58	
05/23/20	0.63		05/23/20	0.86		05/23/20	0.67	
05/24/20	0.65		05/24/20	0.87		05/24/20	0.65	
05/25/20	0.67		05/25/20	0.85		05/25/20	0.68	
05/26/20	0.63		05/26/20	0.84		05/26/20	0.47	
05/27/20	0.67		05/27/20	0.84		05/27/20	0.64	
05/28/20	0.62		05/28/20	0.85		05/28/20	0.63	
05/29/20	0.65		05/29/20	0.84		05/29/20	0.61	
05/30/20	0.58		05/30/20	0.84		05/30/20	0.62	
05/31/20	0.68		05/31/20	0.85		05/31/20	0.57	

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
05/01/20			05/01/20		
05/02/20			05/02/20		
05/03/20			05/03/20		
05/04/20			05/04/20		
05/05/20			05/05/20		
05/06/20			05/06/20		
05/07/20			05/07/20		
05/08/20			05/08/20		
05/09/20			05/09/20		
05/10/20			05/10/20		
05/11/20			05/11/20		
05/12/20			05/12/20		
05/13/20			05/13/20		
05/14/20			05/14/20		
05/15/20			05/15/20		
05/16/20		No Croton water.	05/16/20		No Croton water.
05/17/20			05/17/20		
05/18/20			05/18/20		
05/19/20			05/19/20		
05/20/20			05/20/20		
05/21/20			05/21/20		
05/22/20			05/22/20		
05/23/20			05/23/20		
05/24/20			05/24/20		
05/25/20			05/25/20		
05/26/20			05/26/20		
05/27/20			05/27/20		
05/28/20			05/28/20		
05/29/20			05/29/20		
05/30/20			05/30/20		
05/31/20			05/31/20		

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

May 2020

All Distribution Sites			
Samples	Min	Max	Average
1194	0.00	1.13	0.53

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
13417	5/27/20	1S03A	Sub	1.13	Max
12700	5/18/20	77750	Reg Stop	0.00	Min

A FCR is to be maintained at representative points in the distribution system and no more than 5% of the samples can be undetectable in any two months.

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)

SECOND QUARTER, 2020

Site	Location	Sample Date	TTHM (µg/L) [a]				HAA5 (µg/L) [b]			
			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"	5/5/20	5/8/20	44	42	39	5/7/20	64	43	51
18650	SS - N/S Dewey Ave, BTW Quincy & Swinton Aves, 12"	5/5/20	5/7/20	32	33	29	5/7/20	42	37	37
23450	SS - N/S Jefferson Avenue, 2nd SS W/O Lewis Avenue, 20"	5/5/20	5/8/20	38	40	35	5/8/20	42	36	38
24350	SS - W/S Brighton 11th Street, 2nd SS S/O Cass Place, 12"	5/5/20	5/6/20	32	40	33	5/8/20	54	42	47
31750	SS - IFO 427 N/S W 26th St, 2nd SS W/O 9th Ave, 12"	5/5/20	5/6/20	46	48	41	5/7/20	51	36	43
31850	SS - IFO 82 S/S Warren St, 2nd SS E/O Greenwich St, 12"	5/5/20	5/6/20	44	47	39	5/7/20	55	40	47
32350	SS - IFO 116 E/S Ave C, 2nd SS N/O E 7th St, 12"	5/5/20	5/6/20	44	46	41	5/7/20	61	40	49
33450	SS - IFO 135 N/S W 112th St, 2nd SS W/O St Nicholas Ave, 12"	5/5/20	5/7/20	45	43	39	5/9/20	61	45	50
33950	SS - N/S E 104th Street, 2nd SS E/O 3rd Avenue, 12"	5/5/20	5/7/20	38	42	36	5/9/20	46	40	42
37950	SS - IFO 325 N/S E 12th Street, 2nd SS E/O 2nd Ave, 12"	5/5/20	5/6/20	46	42	40	5/7/20	54	39	45
38250	SS - IFO 309 N/S E 87th St, 2nd SS W/O 1st Ave, 12"	5/5/20	5/8/20	45	50	42	5/9/20	65	46	53
39650	SS - IFO 229 N/S E 49th St, 2nd SS W/O 2nd Ave, 12"	5/5/20	5/7/20	46	47	41	5/7/20	59	43	50
44350	SS - IFO 21-55 N/S 34th Ave, 1st SS W/O 24th St, 12"	5/5/20	5/7/20	44	49	42	5/6/20	61	45	51
45250	SS - E/S Beach 58th St, 2nd SS N/O Beach Channel Drive, 12"	5/5/20	5/7/20	40	38	33	5/7/20	46	39	41
50250	SS - IFO 937 N/S Victory Blvd, 2nd SS E/O Cheshire Ave, 20"	5/5/20	5/8/20	35	33	30	5/9/20	46	41	42
50750	SS - E/S Woodhull Ave, 1st SS S/O Albourne Ave, 8"	5/5/20	5/8/20	40	41	37	5/9/20	45	40	42
50850	SS - IFO 512 W/S Arlene St, 1st SS N/O Dawson Ct, 12"	5/5/20	5/8/20	41	41	36	5/9/20	45	38	41
52050	SS - IFO 218 W/S Nicholas Ave, 1st SS S/O Charles Ave, 12"	5/5/20	5/8/20	40	39	35	5/9/20	47	40	43
58650	SS - IFO 510 W/S Main St, 2nd SS S/O Hylan Blvd, 12"	5/5/20	5/7/20	39	47	41	5/8/20	47	41	42
77650	SS - W/S 207th St, OPP 110-52 E/S 207th St, 6"	5/5/20	5/7/20	34	33	29	5/7/20	41	36	37

	TTHM		HAA5
32	QUARTERLY MINIMUM	41	
46	QUARTERLY MAXIMUM	65	
41	QUARTERLY AVERAGE	52	
42	SYSTEM-WIDE RAA	40	

[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 Evalution 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

5/1/2020 to 5/31/2020

Location	Number of Sampling Points	Number of Samples Collected	Number of Samples Tested	Number of Samples with Positive Coliform *	Number of Samples with Positive E. coli *	Percent of Samples with Positive Coliform **
Bronx	46	136	136	0	0	0.0%
Brooklyn	70	202	202	0	0	0.0%
Manhattan	57	171	171	0	0	0.0%
Queens ***	79	233	233	0	0	0.0%
Staten Island	29	86	86	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	828	828	0	0	0.0%

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

** If more than 5.0 % of all monthly TCR compliance samples are positive for total coliform, a Level I Assessment must be conducted.

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

Supervisor: Rupa Aggarwal Date: 06/04/20

Director: [signature] Date: 6/4/2020

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
5/1/2020 to 5/31/2020

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

* 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: Raju Aggarwal Date: 06/04/20

Director: [signature] Date: 6/04/2020

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

5/1/2020 to 5/31/2020

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

* 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: 06/04/20

Director: _____ Date: 6/4/2020

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

5/1/2020 to 5/30/2020

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	136	136	2	2	0	–	0	0.0%
Brooklyn	70	202	202	2	2	0	–	0	0.0%
Manhattan	57	171	171	16	16	0	–	0	0.0%
Queens †	79	233	233	25	25	1	<1	0	0.0%
Staten Island	29	86	86	6	6	0	–	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	–	-	-
Total	281	828	828	51	51	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: _____ Date: 06/04/20

Director: _____ Date: 6/4/2020

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

May 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

May 2020

All Distribution Sites			
Samples	Min	Max	Average
1194	0.46	3.39	0.70

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
12157	5/12/20	38150	Reg Stop	0.46	Min
12283	5/14/20	21750	Reg Stop	3.39	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

May 2020

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Catskill/Delaware 1S03 (Tunnel 1)	6	6	6	7	6	6	6	5	6	6	6	7	6	6	6	6	5	6	6	6	7	6	6	6	6	6	6	6	6	6	5
Catskill/Delaware 1S03A (Tunnel 2)	6	6	6	6	7	6	7	7	6	6	7	7	6	6	6	6	5	7	6	6	7	6	6	6	7	6	6	7	6	6	5
Catskill/Delaware 1S03B (Tunnel 3)	6	7	5	6	6	6	7	6	6	7	7	7	6	7	7	6	5	7	6	6	7	7	6	6	6	6	6	7	7	6	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)	31	5	7	6
Catskill/Delaware 1S03A (Tunnel 2)	31	5	7	6
Catskill/Delaware 1S03B (Tunnel 3)	31	5	7	6
Croton System 1SCL1 [a]	-	-	-	-
Croton System 1SCH3 [b]	-	-	-	-

Supervisor _____ Date 06/08/2020

Director _____ Date 6/9/2020

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

May 2020

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Catskill/Delaware 1S03 (Tunnel 1)	0.71	0.71	0.71	0.73	0.72	0.73	0.72	0.71	0.73	0.72	0.71	0.72	0.71	0.71	0.73	0.72	0.73	0.73	0.72	0.72	0.72	0.73	0.71	0.72	0.72	0.74	0.74	0.70	0.71	0.74	0.72
Catskill/Delaware 1S03A (Tunnel 2)	0.72	0.71	0.71	0.73	0.72	0.73	0.72	0.71	0.73	0.72	0.71	0.72	0.72	0.73	0.74	0.73	0.73	0.74	0.73	0.72	0.73	0.73	0.71	0.72	0.72	0.74	0.74	0.70	0.71	0.74	0.72
Catskill/Delaware 1S03B (Tunnel 3)	0.71	0.71	0.71	0.73	0.72	0.72	0.72	0.71	0.73	0.72	0.70	0.73	0.72	0.73	0.73	0.73	0.73	0.74	0.73	0.72	0.73	0.73	0.71	0.72	0.72	0.74	0.74	0.70	0.71	0.74	0.72
Croton System 1SCL1 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Croton System 1SCH3 [b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Analytical Method SM 4500 F-C (97)

The average of two consecutive samples from the same distribution entry point site is not to exceed the MCL of 2.2 ppm.

[a] Croton System 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)	31	0.70	0.74	0.72
Catskill/Delaware 1S03A (Tunnel 2)	31	0.70	0.74	0.72
Catskill/Delaware 1S03B (Tunnel 3)	31	0.70	0.74	0.72
Croton System 1SCL1 [a]	-	-	-	-
Croton System 1SCH3 [b]	-	-	-	-

Supervisor _____ Date 06/05/2020

Director _____ Date 6/9/2020