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February 11, 2019

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Bureau of Water Supply Protection, NYC Watershed Section
Empire State Plaza, Corning Tower, Room 1198
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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 January 2019

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

Enclosed, please find the New York City Water Quality report for the month of **January 2019**. There was no well pumpage to distribution in the Groundwater System this month. Croton water fed into distribution from January 1 through January 31, 2019. In addition to the following list of compliance reports, a disc of electronic files containing compliance and non-compliance data for this month is enclosed with this report.

- 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 August 1, 2018 to January 31, 2019. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 2.17% 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 turbidity value was listed at 1.1 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 0.48 mg/L, 1S03A (Tunnel 2) was 0.69 mg/L, and 1S03B (Tunnel 3) was 0.42 mg/L for the Catskill/Delaware System.

The Croton Filtration Plant was online throughout the month. The minimum daily free chlorine residual value for Croton entry point readings from sites 1SCL1 (Low Service) was 0.43 mg/L and 1SCH3 (High Service) was 0.42 mg/L.

4. *Distribution System Disinfection Residuals* (Section 141.71(b)(1)(iv) and 141.72(a)(4)):
Requirements met. All free chlorine residuals measured at compliance sites within the distribution system during the month were greater than or equal to 0.01 mg/L.

A total of 1334 distribution samples were tested for free chlorine residual this month. For all distribution sites free chlorine residual ranged from 0.09 mg/L to 1.02 mg/L and averaged 0.58 mg/L for the month.

5. *Trihalomethane Monitoring / HAA5 Monitoring* (Section 141.71(b)(6)):
Requirements met. The results for the fourth quarter of 2018 were included in the report dated December 7, 2018 (For the November 2018 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 810 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, there were no samples that tested positive for total coliform, and all samples were negative for *E. coli* during the month.

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 samples were negative for total coliform.

The analyses of 524 distribution Operational samples resulted in one (1) sample testing positive for total coliform. No *E. coli* were detected.

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

The analyses of 490 Autosampler Pre-finished samples resulted in no samples testing positive for total coliform. No *E. coli* were detected.

8. Distribution Turbidity Monitoring:
For distribution sites turbidity ranged from <0.10 to 1.72 NTU and averaged 0.56 NTU for the month. This meets the MCL of 5 NTU for the monthly average of all distribution samples.

9. Color Monitoring:
The MCL of 15 units for color was met at each Catskill/Delaware and Croton entry point for the month. Daily analyses of entry point samples (155 samples in total), produced monthly average color values of seven (7) units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2) and 1S03B (Tunnel 3), and four (4) units for sites 1SCL1 (Croton Low Service) and 1SCH3 (Croton High Service).

10. Volatile Organic/TTHM/HAA5 Monitoring:
Monthly Results: Twenty two (22) distribution site samples were collected for volatile organic contaminant (VOC) analysis and five (5) entry point samples. All VOC samples from distribution sites and entry points were below detection. Twenty-two (22) TTHM distribution samples were collected ranging from 18 µg/L to 44 µg/L. Five (5) TTHM entry point samples were collected ranging from 17 µg/L to 29 µg/L. Twenty (20) HAA5 distribution samples were

collected ranging from 32 µg/L to 60 µg/L. Five (5) HAA5 entry point samples were collected ranging from 33 µg/L to 52 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 January 8, 2019 at the three (3) Catskill/Delaware entry points (1S07, 1S03A, and 1S03B), at the two Croton entry points (1SCL1 and 1SCH3), 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 (155 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), 1SCL1 (Croton Low Service), and 1SCH3 (Croton High Service). The fluoride levels at the entry points did not exceed the MCL of 2.2 mg/L at any time during the month.

13. Annual Monitoring
Annual monitoring for 92 compounds including dioxin, diquat and paraquat, endothall, glyphosate, Method 505 – organochlorine pesticides/PCBs, Method 515.4 – chlorophenoxy herbicides, Method 525.2- semivolatiles and Method 531.2- Aldicarbs at the four (4) distribution entry point sites 1S07, 1S03A, 1S03B, and 1SCL1 was conducted on January 16, 2019. All results were non-detect except for hexachlorocyclopentadiene which was detected at all sites ranging from 0.059 µg/L to 0.076 µg/L. The data are included on a disc of electronic files enclosed with this report.

14. Other Monitoring
Please note revised Excel files "NYC_Monthly_Alldata_201805_rev1" for July 2018 is included with this month's report submitted disc of electronic files to reflect a correction in TDS data reported for sites 1S07, 1SCL1, and 10750 caused by a transcription error.

Revised Excel files "NYC_Micro_Summary_FCR_HPC_Compliance_2018_rev" and "NYC_Micro_Summary_FCR_HPC_Operational_201812_rev" for December 2018 are included with this month's report submitted disc of electronic files to reflect a correction in the number of HPC tested samples. The previously submitted report did not include results from 12/31/2018.

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:

Mr. James Flaherty, Inspector General for NYCDEP
Mr. Kenneth Kosinski, NYSDEC
Mr. David Kvinge, Westchester County Water Agency (by email only)
Mr. Huan Li, NYCDOHMH
Mr. Trevor McProud, NYCDOHMH
Mr. Andy Tse, NYSDOH (by email only)
Mr. Steven Zahn, NYSDEC – Region 2

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Coliform Resample for Positive Compliance Samples	*(NYC_Micro_Compliance_Resamples_201901.xls)*
Summary of Coliform Operational Samples	*(NYC_Micro_Operational_201901.pdf)* *(NYC_Micro_Summary_Operational_201901.xls)*
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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: 11/16 To: 01/19
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
11-16	30	0	0.00	0.00
12-16	31	0	0.00	0.00
1-17	31	0	0.00	0.00
2-17	28	0	0.00	0.00
3-17	31	0	0.00	0.00
4-17	30	0	0.00	0.00
5-17	31	0	0.00	0.00
6-17	30	0	0.00	0.00
7-17	31	0	0.00	0.00
8-17	31	0	0.00	0.00
9-17	30	0	0.00	0.00
10-17	31	0	0.00	0.00
11-17	30	0	0.00	0.00
12-17	31	0	0.00	0.00
1-18	31	0	0.00	0.00
2-18	28	1	3.57	0.55
3-18	31	0	0.00	0.55
4-18	30	0	0.00	0.55
5-18	31	0	0.00	0.55
6-18	30	0	0.00	0.55
7-18	31	0	0.00	0.55
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

D.W. Robinson 2/5/19

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 2/5/2019

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 Printed on 02/05/201910:26 am

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 (DELSHDT) - Raw Water **Period: January, 2019**

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)
1/1/19	0.70	0.70	0.70	0.65	0.85	0.75	E20	E1
1/2/19	0.70	0.65	0.65	0.70	0.75	0.70	E14	E2
1/3/19	0.70	0.65	0.65	0.70	0.65	0.65	E20	E1
1/4/19	0.70	0.65	0.65	0.70	0.75	0.80	E10	<1
1/5/19	0.80	0.75	0.65	0.65	0.70	0.70	E12	E1
1/6/19	0.70	0.65	0.70	0.80	0.75	0.75	E20	<1
1/7/19	0.80	0.80	0.75	0.60	0.70	0.65	E45	<1
1/8/19	0.65	0.65	0.70	0.65	0.60	0.65	160	<1
1/9/19	0.65	0.65	0.70	0.65	0.65	0.70	E4	E1
1/10/19	0.65	0.65	0.70	0.60	0.70	0.65	E26	E2
1/11/19	0.70	0.75	0.70	0.70	0.75	0.70	E6	<1
1/12/19	1.0	.	0.70	1.1	0.90	0.65	E6	E1
1/13/19	.	.	0.90	0.70	0.70	0.70	E8	E1
1/14/19	0.75	0.70	0.65	0.65	0.70	0.65	E6	<1
1/15/19	0.60	0.65	0.65	0.65	0.60	0.60	E20	<1
1/16/19	0.60	0.70	0.65	0.65	0.65	0.70	E10	<1
1/17/19	0.60	0.70	0.65	0.65	0.65	0.70	E10	<1
1/18/19	0.60	0.60	0.65	0.60	0.60	0.60	E6	<1
1/19/19	0.60	0.60	0.65	0.65	0.65	0.75	E2	E1
1/20/19	0.70	0.70	0.80	0.75	0.75	0.65	E18	E3
1/21/19	0.70	0.60	0.65	0.70	0.60	0.70	E4	E1
1/22/19	0.65	0.60	0.70	0.60	0.60	0.60	E16	<1
1/23/19	0.55	0.60	0.70	0.65	0.65	0.60	E6	E3
1/24/19	0.65	0.60	0.60	0.60	0.60	0.70	E10	E6
1/25/19	0.65	0.65	0.65	0.65	0.65	0.60	E10	E6
1/26/19	.	.	0.65	0.65	0.65	0.70	E9	E5
1/27/19	.	.	0.70	0.65	0.75	0.65	E24	E3
1/28/19	0.70	0.70	0.60	0.65	0.80	0.70	E24	E5
1/29/19	0.70	0.75	0.75	0.75	0.75	0.85	E10	<1
1/30/19	0.70	0.75	0.70	0.65	0.60	0.65	E20	E4
1/31/19	0.65	0.65	0.70	0.70	0.70	0.65	20	E6

.: 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: On 1/12, 1/13, 1/26 and 1/27, there were short-term shutdowns of the Delaware system for bolt replacement on the chlorine solution lines.

D.W. Robinson 2/5/19

Reported by: David Robinson, Deputy Chief, Hawthorne Water Quality Operations 2/5/2019

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

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NYCDEP Division of Watershed Water Quality Operations

Water Systems Operation Report - Qualifiers and Methods Addendum

Environmental Protection

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: January, 2019

Date/Time	Site	Analytes Affected	Qualifier
1/14/19 19:55	DEL18DT	Turbidity	Check std every 10 samples was not run
1/14/19 23:55	DEL18DT	Turbidity	Check std every 10 samples was not run
1/14/19 11:55	DEL18DT	Turbidity	Check std every 10 samples was not run
1/14/19 15:55	DEL18DT	Turbidity	Check std every 10 samples was not run
1/15/19 03:55	DEL18DT	Turbidity	Check std every 10 samples was not run
1/15/19 07:55	DEL18DT	Turbidity	Check std every 10 samples was not run

Analytical Methods

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

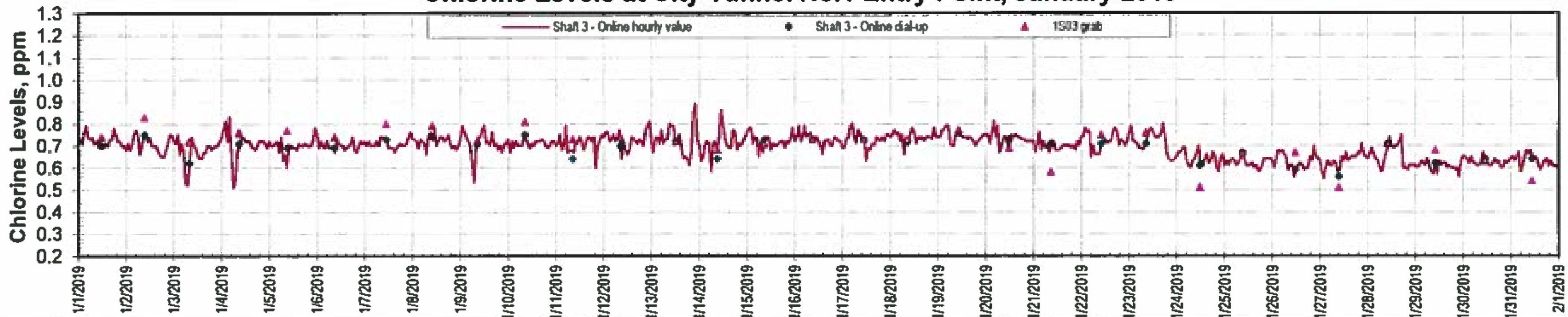
ENTRY POINT CHLORINE RESIDUAL
(FAD Requirement)

New York City Department of Environmental Protection

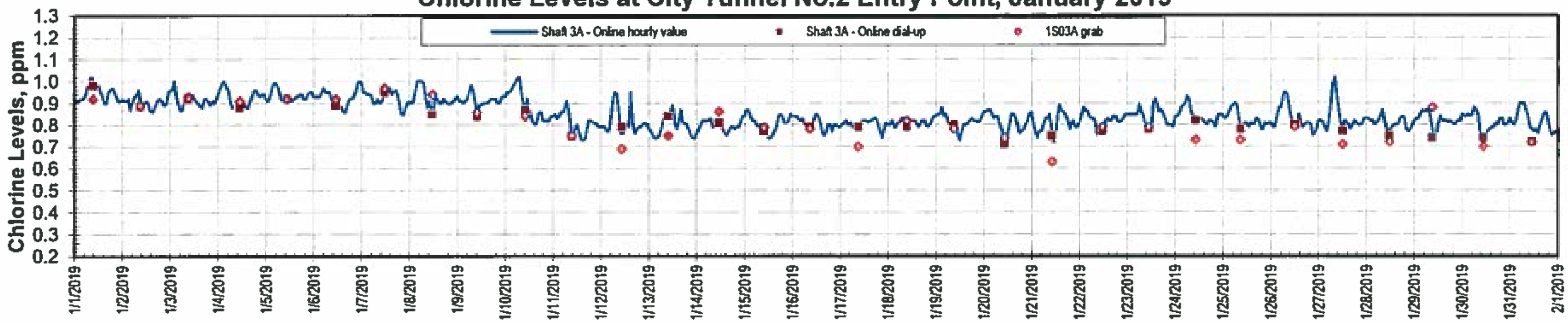
Bureau of Water Supply

City Tunnel Entry Point Residual Chlorine Continuous Monitoring Results

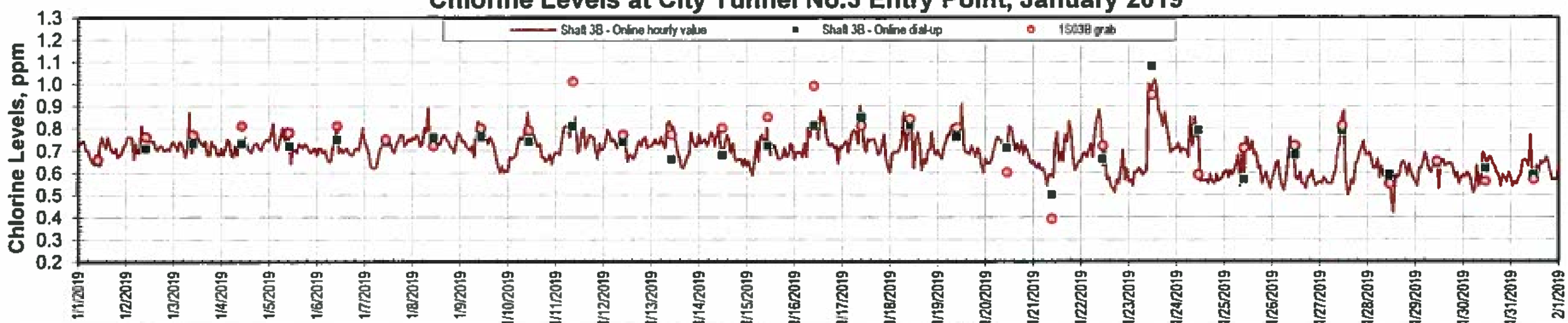
Chlorine Levels at City Tunnel No.1 Entry Point, January 2019



Chlorine Levels at City Tunnel No.2 Entry Point, January 2019



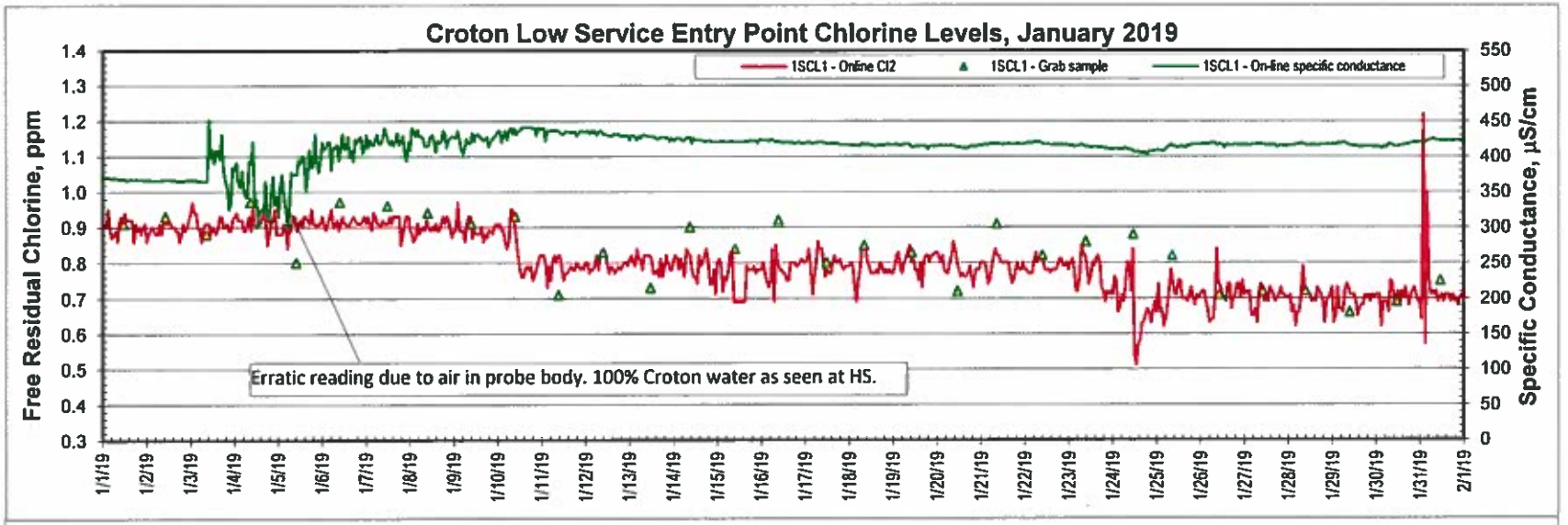
Chlorine Levels at City Tunnel No.3 Entry Point, January 2019

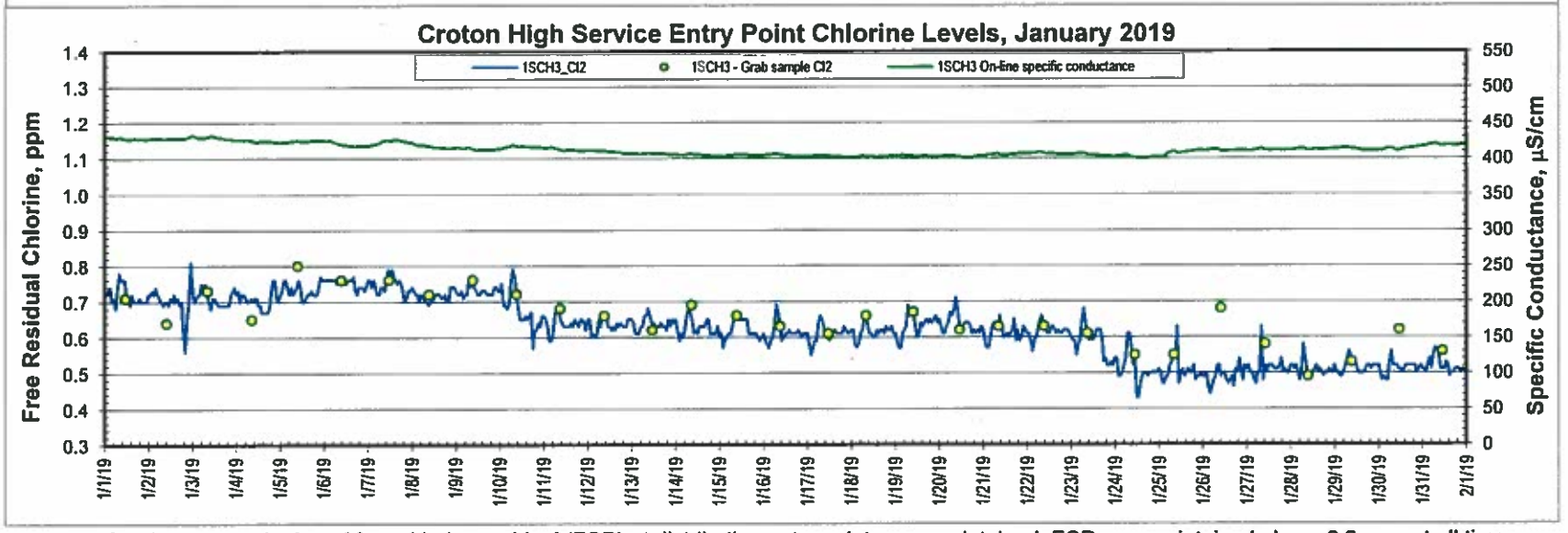


Note: Continuous monitoring of free chlorine residual (FCR) at distribution entry points was maintained. FCR was maintained above 0.2 ppm at all times.
Since 11/4/18, all online readings, grab and online dial-up readings were recorded in Eastern Standard Time.

New York City Department of Environmental Protection
Bureau of Water Supply

Croton Distribution Entry Point Residual Chlorine Continuous Monitoring Results





Note: Continuous monitoring of free chlorine residual (FCR) at distribution entry points was maintained. FCR was maintained above 0.2 ppm at all times.

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
01/01/19	0.81		01/01/19	0.67	
01/02/19	0.75		01/02/19	0.54	
01/03/19	0.81		01/03/19	0.66	
01/04/19	0.84		01/04/19	0.66	
01/05/19	0.85		01/05/19	0.69	
01/06/19	0.86		01/06/19	0.72	
01/07/19	0.74		01/07/19	0.69	
01/08/19	0.81		01/08/19	0.68	
01/09/19	0.73		01/09/19	0.70	
01/10/19	0.72		01/10/19	0.57	
01/11/19	0.69		01/11/19	0.59	
01/12/19	0.73		01/12/19	0.56	
01/13/19	0.73		01/13/19	0.59	
01/14/19	0.70		01/14/19	0.58	
01/15/19	0.67		01/15/19	0.55	
01/16/19	0.65		01/16/19	0.57	
01/17/19	0.70		01/17/19	0.55	
01/18/19	0.69		01/18/19	0.56	
01/19/19	0.68		01/19/19	0.56	
01/20/19	0.64		01/20/19	0.59	
01/21/19	0.64		01/21/19	0.43	
01/22/19	0.74		01/22/19	0.56	
01/23/19	0.68		01/23/19	0.51	
01/24/19	0.47		01/24/19	0.42	
01/25/19	0.46		01/25/19	0.44	
01/26/19	0.56		01/26/19	0.44	
01/27/19	0.60		01/27/19	0.46	
01/28/19	0.58		01/28/19	0.46	
01/29/19	0.49		01/29/19	0.46	
01/30/19	0.55		01/30/19	0.46	
01/31/19	0.43		01/31/19	0.48	

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.

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
01/01/19	0.68		01/01/19	0.88		01/01/19	0.58	
01/02/19	0.55		01/02/19	0.86		01/02/19	0.64	
01/03/19	0.50		01/03/19	0.86		01/03/19	0.65	
01/04/19	0.49		01/04/19	0.87		01/04/19	0.65	
01/05/19	0.60		01/05/19	0.90		01/05/19	0.62	
01/06/19	0.66		01/06/19	0.86		01/06/19	0.64	
01/07/19	0.65		01/07/19	0.84		01/07/19	0.61	
01/08/19	0.60		01/08/19	0.85		01/08/19	0.69	
01/09/19	0.52		01/09/19	0.85		01/09/19	0.57	
01/10/19	0.66		01/10/19	0.79		01/10/19	0.61	
01/11/19	0.52		01/11/19	0.72		01/11/19	0.65	
01/12/19	0.56		01/12/19	0.73		01/12/19	0.50	
01/13/19	0.60		01/13/19	0.74		01/13/19	0.60	
01/14/19	0.58		01/14/19	0.75		01/14/19	0.60	
01/15/19	0.60		01/15/19	0.73		01/15/19	0.59	
01/16/19	0.66		01/16/19	0.75		01/16/19	0.64	
01/17/19	0.62		01/17/19	0.73		01/17/19	0.59	
01/18/19	0.64		01/18/19	0.78		01/18/19	0.60	
01/19/19	0.69		01/19/19	0.72		01/19/19	0.60	
01/20/19	0.63		01/20/19	0.71		01/20/19	0.60	
01/21/19	0.64		01/21/19	0.69		01/21/19	0.50	
01/22/19	0.62		01/22/19	0.74		01/22/19	0.51	
01/23/19	0.61		01/23/19	0.77		01/23/19	0.54	
01/24/19	0.56		01/24/19	0.78		01/24/19	0.54	
01/25/19	0.55		01/25/19	0.77		01/25/19	0.51	
01/26/19	0.50		01/26/19	0.74		01/26/19	0.51	
01/27/19	0.48		01/27/19	0.77		01/27/19	0.49	
01/28/19	0.57		01/28/19	0.74		01/28/19	0.42	
01/29/19	0.57		01/29/19	0.72		01/29/19	0.48	
01/30/19	0.54		01/30/19	0.72		01/30/19	0.50	
01/31/19	0.58		01/31/19	0.73		01/31/19	0.54	

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.

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

January 2019

All Distribution Sites			
Samples	Min	Max	Average
1334	0.09	1.02	0.58

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
767	1/8/19	40200	Reg Stop	1.02	Max
2033	1/20/19	37950	Reg Stop	0.09	Min
2639	1/26/19	31750	Reg Stop	0.09	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

1/1/2019 to 1/31/2019

Location	Number of Sampling Points	Number of Samples Collected	Number of Samples Tested	Number of Samples with Positive Coliform *	Number of Samples with Positive E. coli *	Percent of Samples with Positive Coliform **
Bronx	46	135	135	0	0	0.0%
Brooklyn	70	199	199	0	0	0.0%
Manhattan	57	167	167	0	0	0.0%
Queens ***	79	228	228	0	0	0.0%
Staten Island	28	81	81	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	280	810	810	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 Agrawal Date: 02/07/19

Director: [signature] Date: 2/8/19

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
1/1/2019 to 1/31/2019

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: [signature] Date: 02/07/19

Director: [signature] Date: 2/8/19

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

1/1/2019 to 1/31/2019

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: Rupe Agrawal Date: 02/07/19

Director: [signature] Date: 2/8/19

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

1/1/2019 to 1/31/2019

Location	Number of Sampling Points	Number of Samples Collected	Number of Samples Tested (Free Chlorine Residual)	Number of Samples Tested (Heterotrophic Plate Count)	Number of Samples with Free Chlorine Residual *		Range of Heterotrophic Plate Count (CFU/mL) for Free Chlorine Residual of 0.00 mg/L **	Number of Samples with Free Chlorine Residual of 0.00 mg/L and HPC > 500	Percent of Samples with Free Chlorine Residual of 0.00 mg/L and HPC > 500 ***
					< 0.20 mg/L	0.00 mg/L			
Bronx	46	135	135	91	0	0	--	0	0.0%
Brooklyn	70	199	199	135	0	0	--	0	0.0%
Manhattan	57	167	167	120	7	0	--	0	0.0%
Queens †	79	228	228	154	1	0	--	0	0.0%
Staten Island	28	81	81	56	1	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	280	810	810	556	9	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: Respetto Jawad Date: 02/07/19

Director: [signature] Date: 2/8/19

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

January 2019

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

January 2019

All Distribution Sites			
Samples	Min	Max	Average
1334	<0.10	1.72	0.56

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
1520	1/15/19	40350	Reg Stop	1.72	Max
42	1/1/19	1SCL1	Reg Stop	<0.10	Min
41	1/1/19	1SCH3	Reg Stop	<0.10	Min
14	1/1/19	35350	Reg Stop	<0.10	Min

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

COLOR MONITORING

REPORT

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

Color (U) for Distribution Entry Points

January 2019

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

Analytical Method SM 2120 B. Apparent color.

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

[a] Croton System online as of 9/26/18 at 1SCL1.

[b] Croton water began feeding to high service on 11/19/18.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	5	10	7
Catskill/Delaware 1S03A (Tunnel 2)	31	6	10	7
Catskill/Delaware 1S03B (Tunnel 3)	31	6	9	7
Croton System 1SCL1 [a]	31	3	4	4
Croton System 1SCH3 [b]	31	3	4	4

Supervisor _____ Date 02/08/19

Director _____ Date 2/8/19

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

January 2019

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)	0.72	0.72	0.71	0.72	0.72	0.72	0.73	0.71	0.73	0.73	0.75	0.73	0.72	0.73	0.74	0.74	0.74	0.75	0.77	0.75	0.75	0.74	0.74	0.76	0.74	0.71	0.71	0.72	0.74	0.74	0.74
Catskill/Delaware 1S03A (Tunnel 2)	0.72	0.72	0.72	0.72	0.72	0.73	0.74	0.72	0.72	0.74	0.74	0.73	0.73	0.74	0.74	0.74	0.74	0.75	0.76	0.74	0.74	0.74	0.75	0.76	0.72	0.71	0.73	0.72	0.75	0.76	0.76
Catskill/Delaware 1S03B (Tunnel 3)	0.72	0.72	0.71	0.73	0.71	0.72	0.74	0.71	0.73	0.74	0.74	0.72	0.74	0.73	0.75	0.75	0.74	0.76	0.77	0.75	0.74	0.74	0.75	0.75	0.73	0.73	0.73	0.72	0.74	0.75	0.75
Croton System 1SCL1 [a]	0.69	0.70	0.71	0.72	0.74	0.74	0.73	0.70	0.71	0.74	0.71	0.72	0.73	0.72	0.76	0.73	0.76	0.75	0.76	0.73	0.73	0.72	0.73	0.77	0.75	0.72	0.74	0.76	0.77	0.74	0.75
Croton System 1SCH3 [b]	0.66	0.63	0.72	0.73	0.72	0.72	0.72	0.72	0.71	0.73	0.72	0.72	0.74	0.72	0.77	0.72	0.75	0.76	0.75	0.70	0.69	0.74	0.73	0.75	0.74	0.74	0.75	0.75	0.76	0.75	0.75

Analytical Method SM 4500 F C (97)

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

[a] Croton System online as of 9/26/18 at 1SCL1.

[b] Croton water began feeding to high service on 11/19/18.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	0.71	0.77	0.73
Catskill/Delaware 1S03A (Tunnel 2)	31	0.71	0.76	0.73
Catskill/Delaware 1S03B (Tunnel 3)	31	0.71	0.77	0.73
Croton System 1SCL1 [a]	31	0.69	0.77	0.73
Croton System 1SCH3 [b]	31	0.63	0.77	0.73

Supervisor _____ Date 02/08/19

Director _____ Date 2/8/19