NYC Environmental Protection

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August 10, 2018

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Environmental Sciences & Engineering
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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 July 2018

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

Enclosed, please find the New York City Water Quality report for the month of **July 2018**. There was no well pumpage to distribution in the Groundwater System this month. Croton water fed into distribution the entire month.. 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 February 1, 2018 to July 31, 2018. The six month running percentage of samples collected with fecal coliform concentrations >20 CFU/100 mL was 0.55% 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. Turbidity values did not exceed 1.4 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 0.55 mg/L, 1S03A (Tunnel 2) was 0.73 mg/L, and 1S03B (Tunnel 3) was 0.54 mg/L for the Catskill/Delaware System.

The Croton Filtration Plant was online and continuously feeding the Croton Low Service entry point for the month of July 2018. The Croton High Service entry point was offline in July 2018. When High Service Pumps are off, distribution Tunnel 3 water intermittently back feeds through the High Service tunnel to the Low Service entry point to meet the distribution demands. The minimum daily free chlorine residual value for Croton entry point readings from site 1SCL1 (Low Service) was 0.68 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 0.02 mg/L except for four samples that equaled 0.0 mg/L.

A total of 1374 distribution samples were tested for free chlorine residual this month. For all distribution sites free chlorine residual ranged from 0.00 mg/L to 1.17 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 second quarter of 2018 were included in the report dated June 11, 2018 (For the May 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 842 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. There were six (6) samples that tested positive for total coliform and all samples were negative for *E. coli* during the month.

- A sample collected from Site 45750 (sample station north side of 161st Ave and second sampling station west of 83rd St, on a 12 inch main) on 7/3/2018 was positive for total coliform. Repeat sampling on 7/5/2018 was coliform negative at all locations.
- A sample collected from Site 44550 (sample station north side of 17th Ave and first sampling station east of 201st St, on a 12 inch main) on 7/4/2018 was positive for total coliform. Repeat sampling on 7/6/2018 was coliform negative at all locations.
- A sample collected from Site 47750 (sample station in front of 80-29 east side of Little Neck Parkway and second sampling station north of 81st Ave, on a 20 inch main) on 7/4/2018 was positive for total coliform. Repeat sampling on 7/6/2018 was coliform negative at all locations.
- A sample collected from Site 79450 (sample station north side of Foch Blvd and first sampling station west side of 128th St (across from 127-18 Foch Blvd) on 7/6/2018 was positive for total coliform. Repeat sampling on 7/8/2018 was coliform negative at all locations.
- A sample collected from Site 15550 (sample station in front of 2499 west side of Grand Ave and first sampling station south of W 190th St, on a 12 inch main) on 7/9/2018 was positive for total coliform. Repeat sampling on 7/11/2018 was coliform negative at all locations.
- A sample collected from Site 79450 (sample station north side of Foch Blvd and first sampling station west side of 128th St (across from 127-18 Foch Blvd) on 7/16/2018 was positive for total coliform. Repeat sampling on 7/18/2018 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 samples were negative for total coliform.

The analyses of 531 distribution Operational samples resulted in four (4) samples testing positive for total coliform. No *E. coli* were detected.

The analyses of 251 Pre-Finished samples resulted in twenty-one (21) samples testing positive for total coliform and one (1) *E. coli* was detected.

The analyses of 604 Autosampler Pre-finished samples resulted in five (5) samples testing positive for total coliform. No *E. coli* were detected.

8. *Distribution Turbidity Monitoring:*
For distribution sites turbidity ranged from <0.10 to 4.59 NTU and averaged 0.63 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 (124 samples in total), produced monthly average color values of six (6) units for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), 1S03B (Tunnel 3), and four (4) units for site 1SCL1 (Croton Low Service).

10. *Volatile Organic/TTHM/HAA5 Monitoring:*
Monthly Results: Twenty-one (21) distribution site samples were collected for volatile organic contaminant (VOC) analysis and four (4) entry point samples. All VOC samples from distribution sites and entry points were below detection. Twenty-one (21) TTHM distribution samples were collected ranging from 27 µg/L to 55 µg/L. Four (4) TTHM entry point samples were collected ranging from 17 µg/L to 49 µg/L. Twenty-one (21) HAA5 distribution samples were collected ranging from 32 µg/L to 51 µg/L. Four (4) HAA5 entry point samples were collected ranging from 26 µg/L to 43 µg/L.

11. *Semivolatile and Other Organic Chemicals/parameters:*
Monitoring for Method 551, determination of chlorination disinfection byproducts, chlorinated solvents, and halogenated pesticides/herbicides was collected on July 16, 2018 at four (4) entry points including the Croton Low Service and at Croton High Service site(1SCH3) which was receiving Catskill/Delaware distribution water, and on July 18, 2018 at one distribution sampling site (50250), all were below detection for 1,2 dibromoethane and 1,2-dibromo-3-chloropropane but, haloacetonitriles, halogenated ketones, chloropicrin and chloral hydrate were detected in the ranges normally seen and were all <1/2 MCL.

12. *Fluoride Monitoring:*
Daily analyses of entry point samples (124 samples in total), produced monthly average fluoride levels of 0.72 mg/L for sites 1S03 (Tunnel 1), 1S03A (Tunnel 2), 1S03B (Tunnel 3), and 0.79 for site 1SCL1 (Croton Low 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 91 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 distribution entry point sites 1S07, 1S03B, 1S03A, and 1SCL1 was conducted on May 21, 2018. All results were non-detect except there was a dectetion of hexachlorocyclopentadiene at 0.064 µg/L at site

1S03A and of diethylphthalate at 7.5 µg/L at site 1S03B. The data are included on a disc of electronic files enclosed with this report.

14. Unregulated Contaminant Monitoring Rule:
First quarter monitoring for the fourth Unregulated Contaminant Monitoring Rule (UCMR4) for was conducted at two (2) source water, four (4) entry points and 20 distribution DBP monitoring sites, on May 22, 2018. Samples were tested for Bromide (ranged from 7.9 to 35 µg/L), TOC (ranged from 2.4 to 3.9 mg/L), Germanium (ND), Managanese (ranged 2.7 to 14 µg/L), Method 552.3 for HAA9 (ranged from 36 to 82 µg/L), Method 530 (ND), Method 541 (ND) and Method 525.3 (QC failed and required resampling). Entry points were resampled on June 19, 2018 for Method 525.3 and results were ND but two sites again failed QC and were resampled July 19, 2018 (results still pending). Results of the bi-monthly cyanotoxin monitoring at the four entry points under UCMR4 conducted on June 13 and 27, 2018 were ND. Contract laboratory reports of available data are included as pdf files on the disc of electronic files enclosed with this report.

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

Sincerely,

Salomi Fund for SS

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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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

Section Chief: David Robinson
914-345-4973

Catskill/Delaware Public Water System at Shaft 18 (DEL18DT) - Raw Water **Period: 05/16 To: 07/18**

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
5-16	31	0	0.00	0.00
6-16	30	0	0.00	0.00
7-16	31	0	0.00	0.00
8-16	30	0	0.00	0.00
9-16	30	0	0.00	0.00
10-16	31	0	0.00	0.00
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

D W Robinson 8/3/18

Reported by: David Robinson, Section Chief, Hawthorne Water Quality Operations 8/2/2018

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

Section Chief: David Robinson
914-345-4973

Catskill/Delaware Public Water System at Shaft 18 (DEL18DT) - Raw Water — **Period: July, 2018**

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)
7/1/18	0.85	0.80	0.85	0.80	0.80	0.90	240	<1
7/2/18	0.95	0.85	0.75	0.85	0.80	1.0	270	E1
7/3/18	0.85	0.75	0.95	0.90	0.90	0.90	660	<1
7/4/18	0.80	0.85	0.80	0.80	0.80	0.90	280	E2
7/5/18	0.90	0.90	0.85	0.90	0.90	0.90	460	E2
7/6/18	0.90	0.80	0.85	0.75	0.80	0.80	640	<1
7/7/18	0.80	0.90	0.80	0.80	0.75	0.80	400	E2
7/8/18	0.85	0.80	0.70	0.85	0.75	0.75	440	<1
7/9/18	0.85	0.80	0.75	0.75	0.80	0.85	540	E1
7/10/18	0.95	0.85	0.80	0.65	0.80	0.85	E65	E1
7/11/18	0.80	0.70	0.75	0.80	0.80	1.0	140	<1
7/12/18	0.65	0.80	0.85	0.75	0.85	0.70	360	<1
7/13/18	0.80	0.75	0.80	0.75	0.75	0.70	>=E5	<1
7/14/18	0.70	0.75	0.75	0.65	0.75	0.75	E1100	<1
7/15/18	0.75	0.70	0.75	0.65	0.60	0.70	E20	<1
7/16/18	0.75	0.70	0.65	0.70	0.65	0.85	E10	<1
7/17/18	0.70	0.70	0.65	0.65	0.65	0.60	E280	E1
7/18/18	0.65	0.60	0.60	0.60	1.4	0.60	E140	E2
7/19/18	0.65	0.55	0.60	0.65	0.55	0.65	E280	E2
7/20/18	0.65	0.65	0.55	0.65	0.65	0.60	600	E1
7/21/18	0.55	0.60	0.75	0.65	0.55	0.55	E800	<1
7/22/18	0.55	0.60	0.60	0.55	0.60	0.60	E20	E3
7/23/18	0.50	0.75	0.65	0.60	0.95	0.60	E260	E1
7/24/18	0.65	0.60	0.55	0.55	0.60	0.65	E100	E3
7/25/18	0.55	0.55	0.55	0.60	0.60	0.60	400	<1
7/26/18	0.65	0.60	0.60	0.55	0.50	0.60	E240	E1
7/27/18	0.55	0.60	0.55	0.55	0.55	0.55	E120	E2
7/28/18	0.55	0.55	0.50	0.55	0.50	0.55	E160	<1
7/29/18	0.55	0.50	0.50	0.50	0.55	0.55	1600	E2
7/30/18	0.60	0.55	0.45	0.65	0.60	0.45	E140	E1
7/31/18	0.55	0.55	0.50	0.50	0.50	0.55	E80	<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:

DW Robinson 8/3/18

Reported by: David Robinson, Section Chief, Hawthorne Water Quality Operations 8/2/2018

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 08/02/2018 1:03 pm

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

Section Chief: David Robinson
914-345-4973

Data Qualifiers and Additional Notes

Period: July, 2018

Date/Time	Site	Analytes Affected	Qualifier
7/20/18 09:28	DEL18DT	Total Coliform	QC blank contamination
7/18/18 15:55	DEL18DT	Turbidity	Black specks observed in the sample bottle.

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

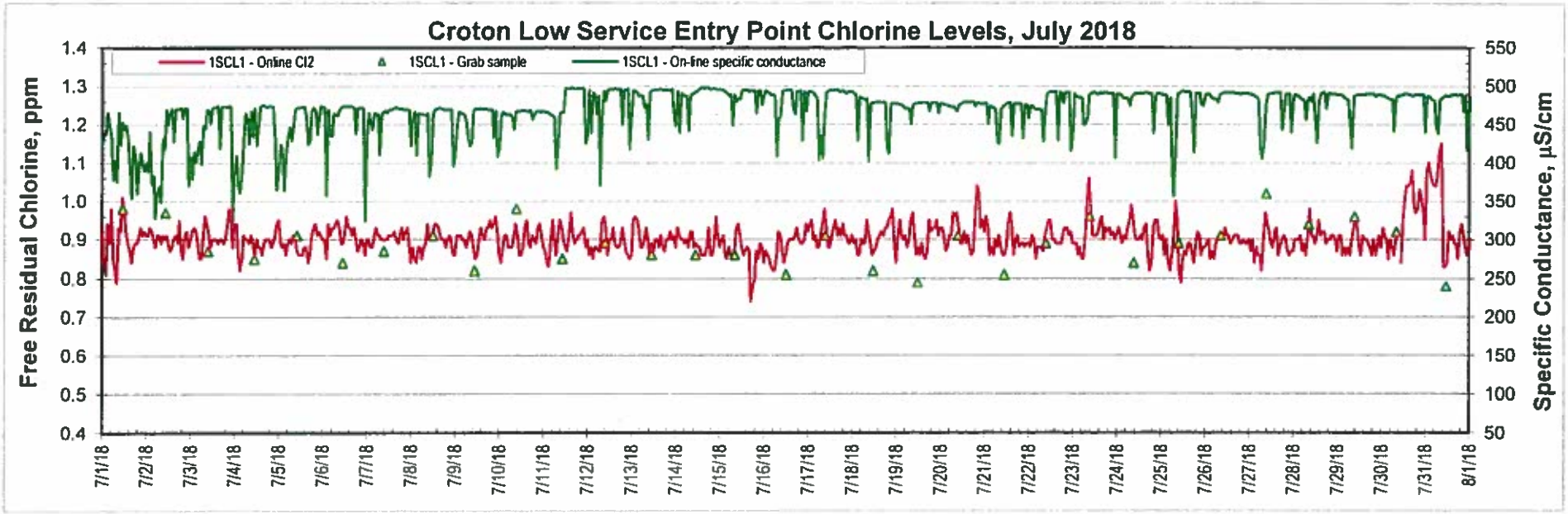
Daily Minimum Chlorine Readings Recorded at Croton Distribution Entry Points

Low Service			High Service		
Date	MinCl_1SCL1	Remark 1	Date	MinCl_1SCH3	Remark 2
07/01/18	0.79		07/01/18		
07/02/18	0.68		07/02/18		
07/03/18	0.86		07/03/18		
07/04/18	0.79		07/04/18		
07/05/18	0.82		07/05/18		
07/06/18	0.79		07/06/18		
07/07/18	0.82		07/07/18		
07/08/18	0.79		07/08/18		
07/09/18	0.80		07/09/18		
07/10/18	0.80		07/10/18		
07/11/18	0.80		07/11/18		
07/12/18	0.82		07/12/18		
07/13/18	0.84		07/13/18		
07/14/18	0.84		07/14/18		
07/15/18	0.68	Data logger daily minimum value is obtained	07/15/18		
07/16/18	0.79	from the minimum value of all the valid every	07/16/18		No Croton water to HS
07/17/18	0.79	one minute values collected in one day.	07/17/18		
07/18/18	0.84		07/18/18		
07/19/18	0.82		07/19/18		
07/20/18	0.85		07/20/18		
07/21/18	0.81		07/21/18		
07/22/18	0.84		07/22/18		
07/23/18	0.83		07/23/18		
07/24/18	0.79		07/24/18		
07/25/18	0.78		07/25/18		
07/26/18	0.82		07/26/18		
07/27/18	0.82		07/27/18		
07/28/18	0.84		07/28/18		
07/29/18	0.84		07/29/18		
07/30/18	0.72		07/30/18		
07/31/18	0.81		07/31/18		

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

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. Since 3/11/18, 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

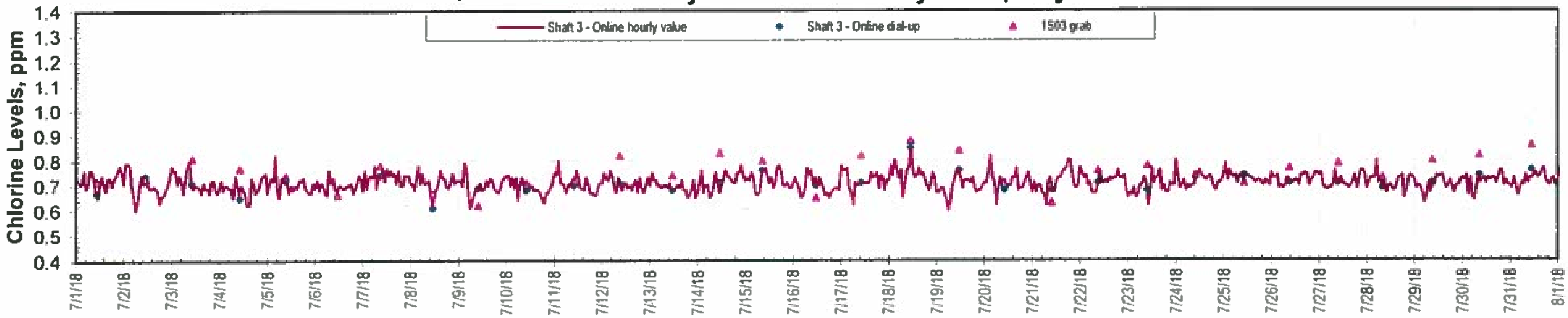
Daily Minimum Chlorine Readings Recorded at Tunnel Entry Shafts for Catskill/Delaware System

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
07/01/18	0.64		07/01/18	0.84		07/01/18	0.61	
07/02/18	0.58		07/02/18	0.85		07/02/18	0.64	
07/03/18	0.65		07/03/18	0.81		07/03/18	0.66	
07/04/18	0.62		07/04/18	0.73		07/04/18	0.67	
07/05/18	0.65		07/05/18	0.85		07/05/18	0.66	
07/06/18	0.64		07/06/18	0.88		07/06/18	0.59	
07/07/18	0.64		07/07/18	0.94		07/07/18	0.66	
07/08/18	0.61		07/08/18	0.93		07/08/18	0.68	
07/09/18	0.55		07/09/18	0.94		07/09/18	0.68	
07/10/18	0.60		07/10/18	0.93		07/10/18	0.63	
07/11/18	0.64		07/11/18	0.92		07/11/18	0.62	
07/12/18	0.64		07/12/18	0.91		07/12/18	0.66	
07/13/18	0.61	Data logger daily	07/13/18	0.92	Data logger daily	07/13/18	0.60	Data logger daily
07/14/18	0.63	minimum value is	07/14/18	0.95	minimum value is	07/14/18	0.54	minimum value is
07/15/18	0.64	obtained from the	07/15/18	0.92	obtained from the	07/15/18	0.62	obtained from the
07/16/18	0.62	minimum value of all	07/16/18	0.92	minimum value of all	07/16/18	0.66	minimum value of all
07/17/18	0.61	the valid every one	07/17/18	0.90	the valid every one	07/17/18	0.66	the valid every one
07/18/18	0.59	minute values	07/18/18	0.95	minute values	07/18/18	0.63	minute values
07/19/18	0.59	collected in one day.	07/19/18	0.87	collected in one day.	07/19/18	0.54	collected in one day.
07/20/18	0.60		07/20/18	0.87		07/20/18	0.63	
07/21/18	0.61		07/21/18	0.90		07/21/18	0.63	
07/22/18	0.63		07/22/18	0.81		07/22/18	0.62	
07/23/18	0.63		07/23/18	0.96		07/23/18	0.60	
07/24/18	0.63		07/24/18	0.86		07/24/18	0.62	
07/25/18	0.68		07/25/18	0.95		07/25/18	0.56	
07/26/18	0.63		07/26/18	0.93		07/26/18	0.59	
07/27/18	0.67		07/27/18	0.92		07/27/18	0.65	
07/28/18	0.63		07/28/18	0.92		07/28/18	0.63	
07/29/18	0.62		07/29/18	0.93		07/29/18	0.70	
07/30/18	0.60		07/30/18	0.91		07/30/18	0.67	
07/31/18	0.64		07/31/18	0.93		07/31/18	0.69	

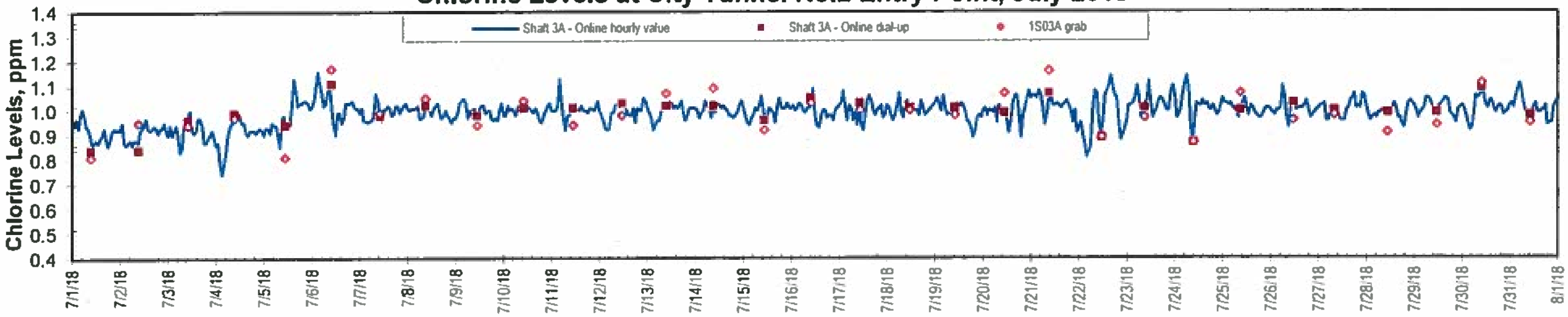
Legend: MinCl_1DL: Shaft 3's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.
MinCl_2DL: Shaft 3A's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.
MinCl_3DL: Shaft 3B's minimum chlorine level measured at the shaft and recorded at the location via data logger, in ppm.

New York City Department of Environmental Protection
Bureau of Water Supply
City Tunnel Entry Point Residual Chlorine Continuous Monitoring Results

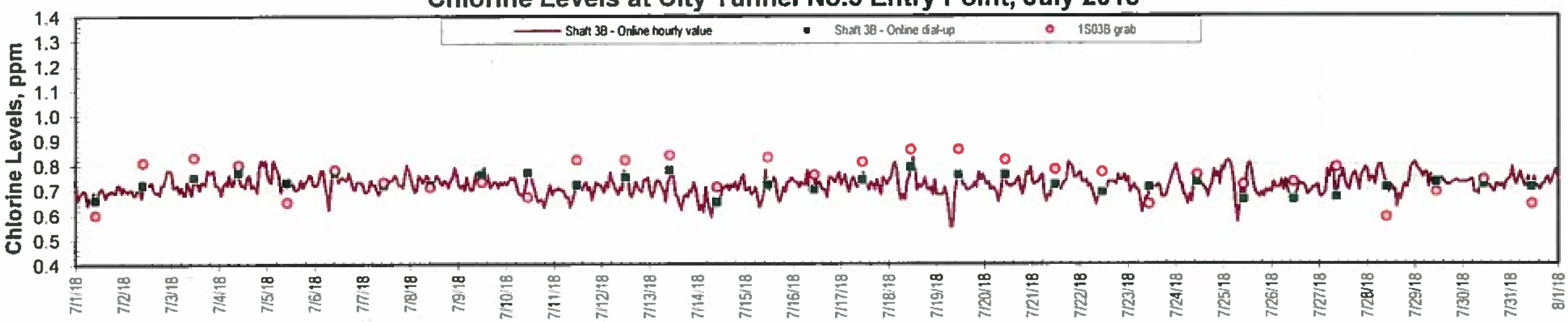
Chlorine Levels at City Tunnel No.1 Entry Point, July 2018



Chlorine Levels at City Tunnel No.2 Entry Point, July 2018



Chlorine Levels at City Tunnel No.3 Entry Point, July 2018



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 3/11/18, all online readings, grab and online dial-up readings were recorded in Eastern Daylight Saving Time.

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

July 2018

All Distribution Sites			
Samples	Min	Max	Average
1374	0.00	1.17	0.58

Hach DPD Method (analyte is not ELAP certified)

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	RESIDUAL CHLORINE	COMMENT
20224	7/6/18	1S03A	Reg Stop	1.17	Max
20271	7/6/18	79450	Reg Stop	0.00	Min

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

TOTAL COLIFORM MONITORING
(FAD Requirement)

REPORT

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

Results for Microbiological Quality
Free Chlorine Residual and Heterotrophic Plate Count
Compliance Samples

7/1/2018 to 7/31/2018

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	139	139	95	1	0	--	0	0.0%
Brooklyn	70	202	202	139	6	0	--	0	0.0%
Manhattan	57	169	169	118	7	0	--	0	0.0%
Queens †	79	247	247	183	38	1	281	0	0.0%
Staten Island	29	85	85	61	7	0	--	0	0.0%
Ground Water Supply †	-	-	-	-	-	-	--	-	-
Total	281	842	842	596	59	1	281	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: 08/03/18

Director: _____ Date: 8/8/18

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

7/1/2018 to 7/31/2018

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	139	139	1	0	0.7%
Brooklyn	70	202	202	0	0	0.0%
Manhattan	57	169	169	0	0	0.0%
Queens ***	79	247	247	5	0	2.0%
Staten Island	29	85	85	0	0	0.0%
Ground Water Supply ***	-	-	-	-	-	-
Total	281	842	842	6	0	0.7%

* 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: 08/03/18

Director: _____ Date: 8/8/18

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
7/1/2018 to 7/31/2018

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
7/3/2018	08:44	45750	Queens	SS - N/S 161st Ave, 2nd SS W/O 83rd Sts, 12"	1.0	<1	0.37	To Be Resampled
7/4/2018	10:50	44550	Queens	SS - N/S 17th Ave, 1st SS E/O 201st St, 12"	25.4	<1	0.10	To Be Resampled
7/4/2018	10:20	47750	Queens	SS - IFO 80-29 E/S Little Neck Pkwy, 2nd SS N/O 81st Ave, 20"	>200.5	<1	0.39	To Be Resampled
7/6/2018	09:55	79450	Queens	SS - N/S Foch Blvd, 1st SS W/S 128th St, across 127-18 Foch Blvd	13.7	<1	0.00	To Be Resampled
7/9/2018	09:55	15550	Bronx	SS - IFO 2499 W/S Grand Ave, 1st SS S/O W 190th St, 12 inch	1.0	<1	0.53	To Be Resampled
7/16/2018	10:25	79450	Queens	SS - N/S Foch Blvd, 1st SS W/S 128th St, across 127-18 Foch Blvd	1.0	<1	0.02	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: Rupa Aggarwal Date: 08/08/18

Director: [signature] Date: 8/8/18

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

7/1/2018 to 7/31/2018

Date	Time	Site Number	Boro	Location	Coliform *	E. coli *	Chlorine Residual (mg/L) **	Remarks
7/5/2018	10:13	45750	Queens	SS - N/S 161st Ave, 1st SS W/O 83rd	<1	<1	0.35	Upstream
7/5/2018	08:28	45750	Queens	SS - N/S 161st Ave, 2nd SS W/O 83rd Sts, 12"	<1	<1	0.31	Original Location
7/5/2018	08:43	45750	Queens	SS - N/S 161st Ave, 1st SS W/O 81st St	<1	<1	0.27	Downstream
7/6/2018	08:15	44550	Queens	SS - N/S 17th Ave, btw 200th & 201st Sts	<1	<1	0.39	Upstream
7/6/2018	08:34	44550	Queens	SS - N/S 17th Ave, 1st SS E/O 201st St, 12"	<1	<1	0.17	Original Location
7/6/2018	08:48	44550	Queens	SS - N/S 17th Ave, 1st SS W/O 202nd St	<1	<1	0.18	Downstream
7/6/2018	09:24	47750	Queens	SS - E/S Little Neck Pkwy, 1st SS S/O 80th Ave	<1	<1	0.41	Upstream
7/6/2018	09:38	47750	Queens	SS - IFO 80-29 E/S Little Neck Pkwy, 2nd SS N/O 81st Ave, 20"	<1	<1	0.44	Original Location
7/6/2018	09:55	47750	Queens	SS - E/S Little Neck Pkwy, 1st SS N/O 81st Ave	<1	<1	0.41	Downstream
7/8/2018	09:30	79450	Queens	SS - N/S Foch Blvd, 1st SS E/S 127th St, across 127-08 Foch Blvd	<1	<1	0.17	Upstream
7/8/2018	09:39	79450	Queens	SS - N/S Foch Blvd, 1st SS W/S 128th St, across 127-18 Foch Blvd	<1	<1	0.15	Original Location
7/8/2018	09:46	79450	Queens	SS - N/S Foch Blvd, 1st SS W/S 130th St, C/O Foch Blvd & 130th St	<1	<1	0.14	Downstream
7/11/2018	08:56	15550	Bronx	SS - W/S Grand Ave, 1st SS N/O W 190th St	<1	<1	0.66	Upstream
7/11/2018	09:14	15550	Bronx	SS - IFO 2499 W/S Grand Ave, 1st SS S/O W 190th St, 12 inch	<1	<1	0.69	Original Location
7/11/2018	09:41	15550	Bronx	SS - W/S Grand Ave, 1st SS N/O W 188th St	<1	<1	0.70	Downstream
7/18/2018	09:43	79450	Queens	SS - N/S Foch Blvd, 1st SS E/S 127th St, across 127-08 Foch Blvd	<1	<1	0.07	Upstream
7/18/2018	10:05	79450	Queens	SS - N/S Foch Blvd, 1st SS W/S 128th St, across 127-18 Foch Blvd	<1	<1	0.09	Original Location
7/18/2018	10:28	79450	Queens	SS - N/S Foch Blvd, 1st SS W/S 130th St, C/O Foch Blvd & 130th St	<1	<1	0.19	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: Rup. Aggarwal Date: 08/08/18

Director: [signature] Date: 8/8/18

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

July 2018

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

July 2018

All Distribution Sites			
Samples	Min	Max	Average
1373	<0.10	4.59	0.63

Analytical Method SM 2130 B

SAMPLE NUMBER	SAMPLE DATE	SAMPLE SITE	LOCATION TYPE	TURBIDITY	COMMENT
19884	7/3/18	20350	Reg Stop	4.59	Max
19700	7/1/18	3SC26	Reg Stop	<0.10	Min
20038	7/4/18	30850	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

July 2018

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	7	7	7	8	6	7	6	6	6	6	6	6	7	7	6	6	6	6	6	5	7	6	5	6	6	7	7	6	7
Catskill/Delaware 1S03A (Tunnel 2)	6	6	6	7	6	7	6	6	6	6	5	6	6	6	6	7	6	6	6	6	7	6	6	6	5	6	6	6	7	6	6
Catskill/Delaware 1S03B (Tunnel 3)	7	6	6	7	6	7	6	5	6	6	5	6	6	6	6	7	6	7	6	6	7	6	6	6	5	6	6	6	6	6	6
Croton System 1SCL1 [(a)]	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4
Croton System 1SCH3 [(a)]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-

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 5/17/2018 at 1SCL1.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	5	8	6
Catskill/Delaware 1S03A (Tunnel 2)	31	5	7	6
Catskill/Delaware 1S03B (Tunnel 3)	31	5	7	6
Croton System 1SCL1 [(a)]	31	3	5	4
Croton System 1SCH3 [(a)]	-	-	-	-

Supervisor _____ **Date** 08/06/2018

Director _____ **Date** 8/7/18

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

July 2018

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	0.72	0.72	0.71	0.71	0.72	0.70	0.72	0.72	0.71	0.71	0.71	0.70	0.71	0.70	0.70	0.70	0.71	0.72	0.71	0.70	0.70	0.74	0.73	0.74	0.73	0.72	0.73	0.74	0.72	0.73
Catskill/Delaware 1S03A (Tunnel 2)	0.71	0.72	0.71	0.72	0.71	0.72	0.70	0.72	0.72	0.71	0.70	0.71	0.71	0.70	0.70	0.69	0.71	0.72	0.71	0.71	0.70	0.70	0.75	0.73	0.74	0.74	0.74	0.73	0.73	0.72	0.74
Catskill/Delaware 1S03B (Tunnel 3)	0.71	0.72	0.71	0.72	0.71	0.72	0.71	0.73	0.71	0.71	0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.71	0.71	0.71	0.70	0.71	0.74	0.74	0.74	0.73	0.74	0.73	0.73	0.72	0.74
Croton System 1SCL1 [a]	0.80	0.83	0.83	0.84	0.79	0.84	0.82	0.82	0.83	0.78	0.81	0.79	0.79	0.78	0.77	0.76	0.76	0.76	0.77	0.75	0.74	0.76	0.75	0.81	0.81	0.77	0.76	0.76	0.78	0.78	0.80
Croton System 1SCH3 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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 5/17/2018 at 1SCL1.

Entry Point	Samples	Minimum	Maximum	Average
Catskill/Delaware 1S03 (Tunnel 1)	31	0.70	0.74	0.72
Catskill/Delaware 1S03A (Tunnel 2)	31	0.69	0.75	0.72
Catskill/Delaware 1S03B (Tunnel 3)	31	0.70	0.74	0.72
Croton System 1SCL1 [a]	31	0.74	0.84	0.79
Croton System 1SCH3 [a]	-	-	-	-

Supervisor _____ **Date** 08/06/2018 KB

Director _____ **Date** 8/7/18