

Gills Creek Monitoring Sites

Monitoring Data Summary for July 20th, 2020 – August 26th, 2020

Data Gaps

- The GILA station did not experience any interruptions during this monitoring period.
- The GILB station experienced turbidity sensor fouling from July 30th to August 2nd, August 8th-10th, and August 18th-21st. The DO and pH sensors experienced fouling from August 8th to August 10th. These periods of data were removed from the dataset.
- The GILC station experienced turbidity sensor fouling from July 20th to July 31st and August 10th to August 25th. All sensors had multiple short data gaps from July 28th to July 31st. The pH sensor experienced fouling from August 14th to August 22nd. The DO sensor experienced fouling from August 19th to August 22nd. These periods of data were removed from the dataset.

SCDHEC Standards

- None of the Gills Creek monitoring stations recorded any pH readings outside of the acceptable SCDHEC range of 6 to 8.5
- The GILA station recorded an average DO value of 6.7 mg/L, the GILB station recorded an average DO value of 6.1 mg/L, and the GILC station recorded an average DO value of 5.5 mg/L, all of which are above the SCDHEC daily average DO standard of 5 mg/L.
- During this deployment period, the GILA, GILB, and GILC stations recorded minimum DO levels of 5.5 mg/L, 4.2 mg/L, and 4.5 mg/L, respectively. All stations did not record any DO values below the SCDHEC instantaneous minimum standard of 4 mg/L.

Storm Events

- The GILA station recorded 17 storm events resulting in approximately 8.1 inches of rainfall. The GILB station recorded 13 storms that resulted in approximately 7.4 inches of rainfall. The GILC station recorded 12 storms that resulted in approximately 7.9 inches of rainfall.
- The monitored water quality parameters all displayed typical storm event response patterns during the recorded storm events in the Gills Creek watershed.

Potential Illicit Discharges and Abnormal Events

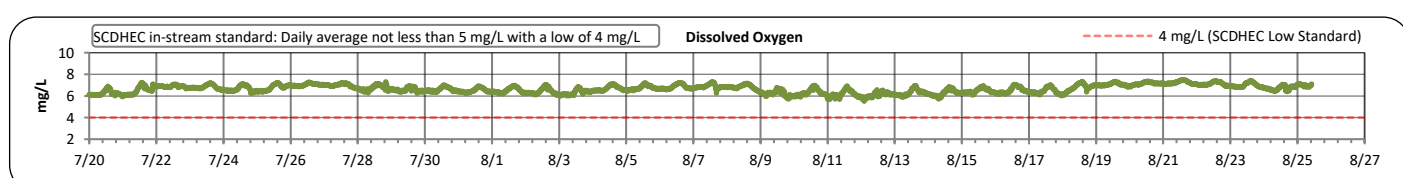
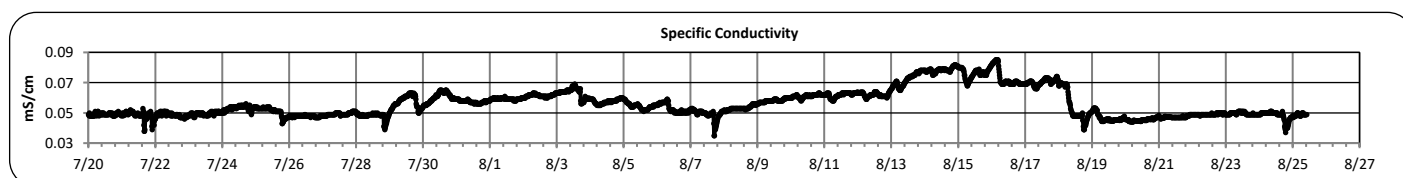
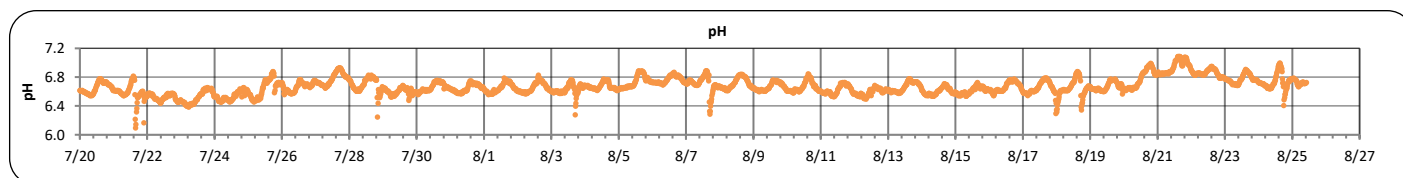
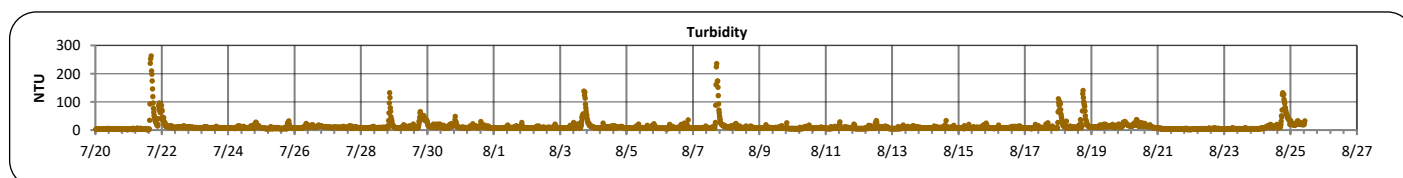
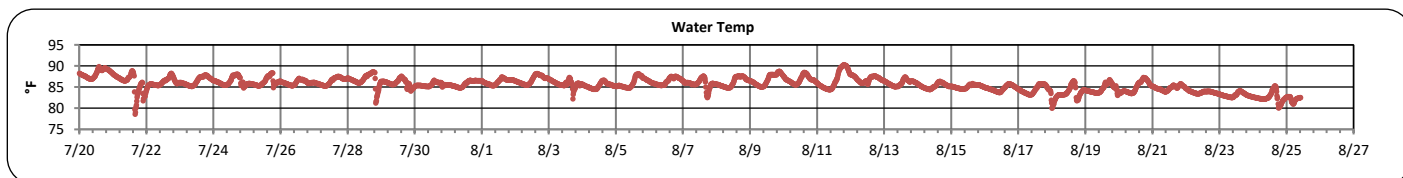
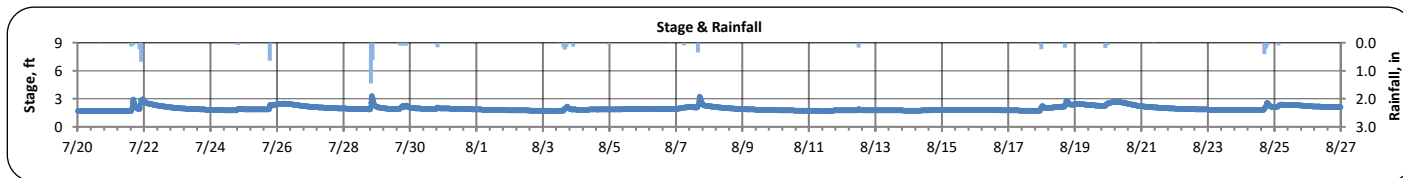
- At the GILA station, the specific conductivity increased from August 13th to August 16th.
- At the GILB station, the specific conductivity increased on August 18th.

Flow Measurements

- No flow measurements were taken in Gills Creek during this monitoring period.

Gills Creek A (July 20, 2020 - August 26, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.7	3.3	1.9	2.0	0.2
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	79	90	86	86	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	3	263	8	12	18
COORDINATES:	34.019826, -80.963566	pH:	6.1	7.1	6.7	6.7	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.085	0.053	0.056	0.009
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.5	7.5	6.7	6.7	0.4
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	17						
MAX. DAILY RAINFALL:	2.1 inches						
TOTAL RAINFALL (FOR PERIOD):	8.1 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek A (July 20, 2020 - August 26, 2020)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

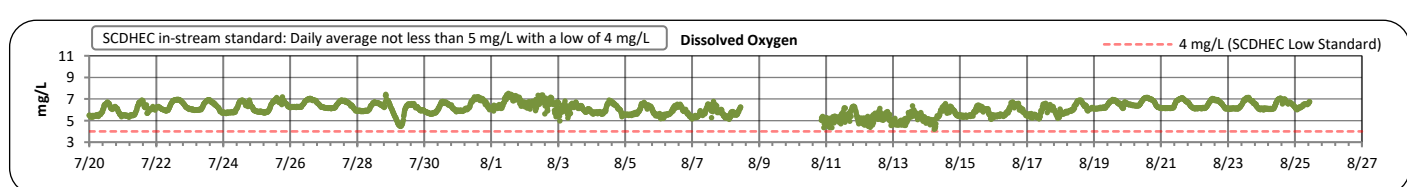
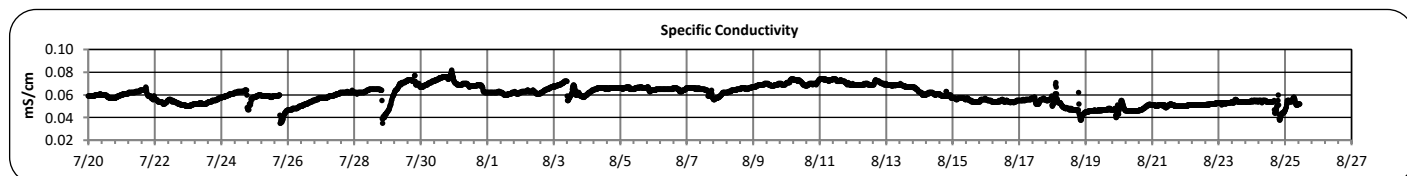
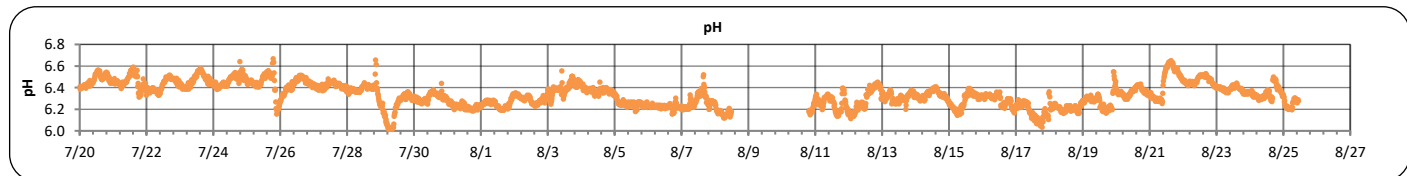
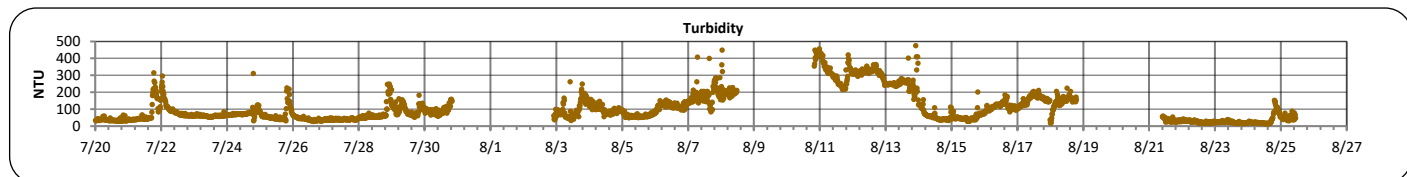
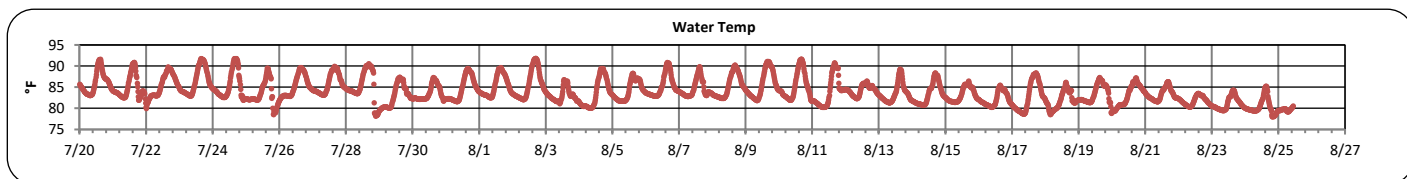
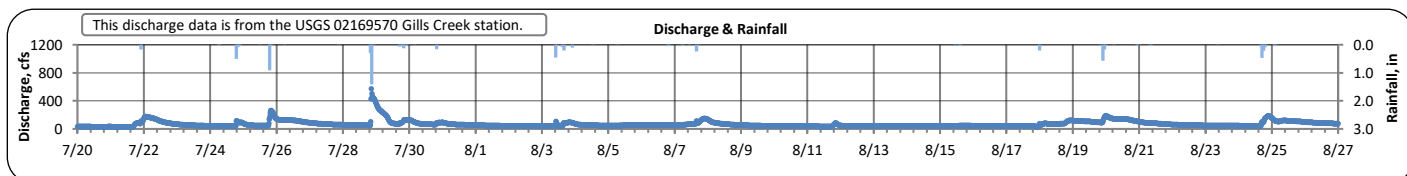
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	8/21/2020							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:45	370						
Total Suspended Solids (mg/L)	9:45	5.6						
Total Phosphorus (mg/L)	9:45	0.03						
Total Nitrogen (mg/L)	9:45	0.47						

Notes: Sample 1 was taken during dry weather conditions.

Gills Creek B (July 20, 2020 - August 26, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	DISCHARGE (CFS):	32.2	575.0	54.2	70.9	44.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	78	92	83	84	3
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	16	477	72	107	88
COORDINATES:	33.989656, -80.97433	pH:	6.0	6.8	6.3	6.3	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.082	0.060	0.060	0.008
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.2	7.5	6.2	6.1	0.6
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	13						
MAX. DAILY RAINFALL:	1.7 inches						
TOTAL RAINFALL (FOR PERIOD):	7.4 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek B (July 20, 2020 - August 26, 2020)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

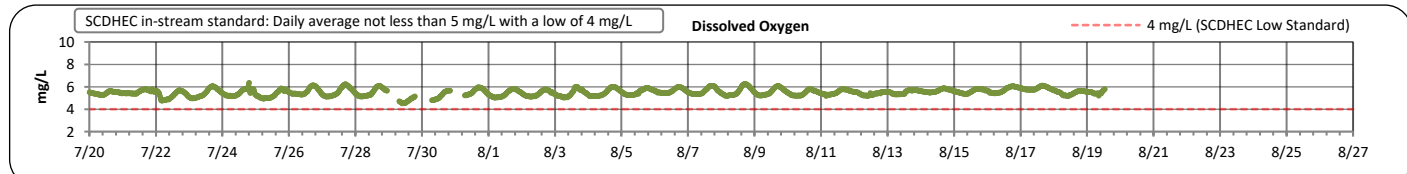
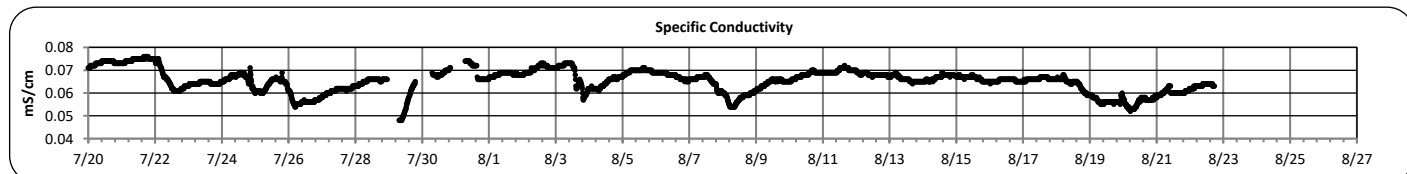
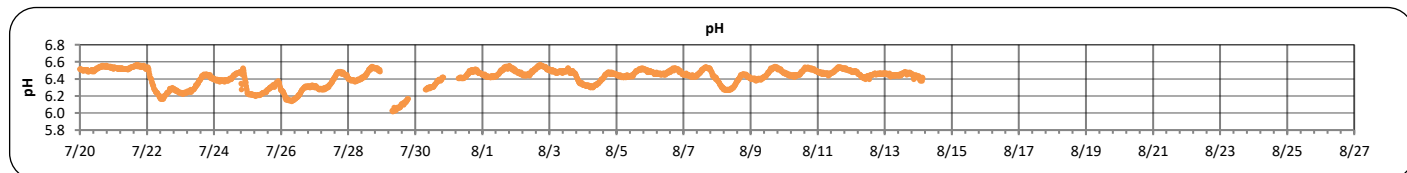
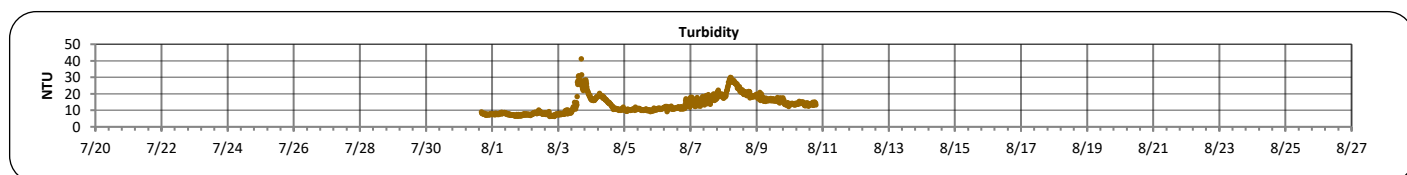
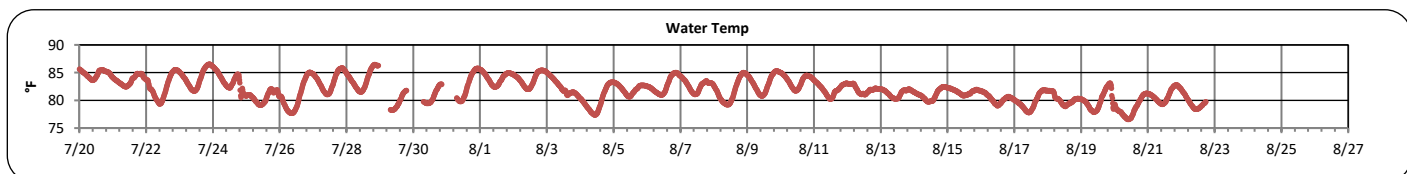
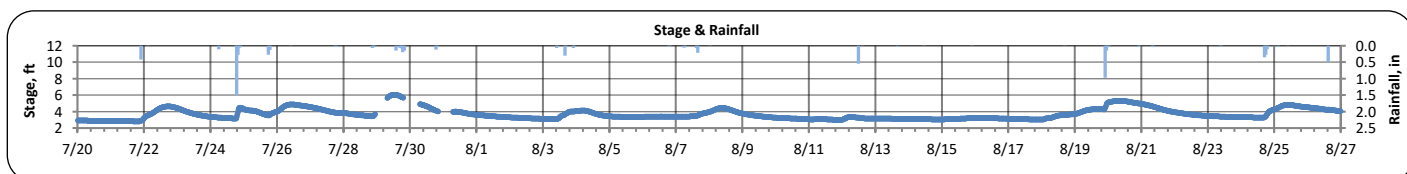
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	7/22/2020		8/21/2020		8/21/2020			
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:51	2,878	9:30	960	12:15	1,056		
Total Suspended Solids (mg/L)	9:51	56.8	9:30	31.2				
Total Phosphorus (mg/L)			9:30	0.046				
Total Nitrogen (mg/L)			9:30	0.54				

Notes: All samples were taken during dry weather conditions.

Gills Creek C (July 20, 2020 - August 26, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.8	6.1	3.4	3.7	0.6
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	77	87	82	82	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	6	41	12	14	5
COORDINATES:	33.948043, -80.9889	pH:	6.0	6.6	6.5	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.048	0.076	0.066	0.065	0.005
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.5	6.4	5.5	5.5	0.3
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	12						
MAX. DAILY RAINFALL:	1.97 inches						
TOTAL RAINFALL (FOR PERIOD):	7.9 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek C (July 20, 2020 - August 26, 2020)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	7/22/2020		8/21/2020		8/21/2020			
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:15	7,308	9:00	150	12:40	370		
Total Suspended Solids (mg/L)	10:15	41.7	9:00	10.8	12:40	11.8		
Total Phosphorus (mg/L)			9:00	0.053				
Total Nitrogen (mg/L)			9:00	0.57				

Notes: All samples were taken during dry weather conditions.