

From: "Fiore, Anthony" <FioreA@dep.nyc.gov>
To: "Slade, Mark" <Mark.Slade@nypa.gov>
Cc: "Craig, Robert" <Rcraig@dep.nyc.gov>
Subject: **Blenheim-Gilboa Pumped Storage Relicensing RFI**

Mark,

Please see attached documents related to your RFI dated August 14,2012. When reviewing the data please note the Data Code sheet. If you have any questions please give me a call.

-Anthony-

Anthony J. Fiore | Chief of Staff - Operations | NYC Environmental Protection
(718) 595-6529 | (917) 682-4492 | afiore@dep.nyc.gov<<mailto:kgarcia@dep.nyc.gov>>

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September 10, 2012

Mark E. Slade
Licensing Manager
New York Power Authority
123 Main Street
White Plains, NY 10601

Carter H. Strickland, Jr.
Commissioner

RE: Blenheim-Gilboa Pumped Storage Power Project (FERC No. 2685)
Request for Information

Anthony J. Fiore
Chief of Staff for Operations
afiore@dep.nyc.gov

Dear Mr. Slade,

59-17 Junction Boulevard
Flushing, NY 11373
T: (718) 595-6529
F: (718) 595-3557

This letter is in response to your 14 August 2012 Request for Information in relation to the relicensing of the Blenheim-Gilboa Pumped Storage Power Project (Project). That letter requested water quality data for the Schoharie Reservoir and Schoharie Creek below the Gilboa Dam, such as dissolved oxygen (DO) and temperature profiles, in addition to any chemical, microbiological, and organic data. The Gilboa dam does not have release works, so our sampling of the Schoharie Creek is limited to times when water is flowing over the spillway.

In response to your request please find attached the following items:

- 5-year sampling data at the Schoharie Spill (SS) sampling site including temperature, DO, and other chemical and organic data
- A Map identifying the location of the SS sampling site
- A Methodology description of sampling techniques
- A Comments Log for samples taken during the 5-year period provided
- A Data Code description

If you have any questions, concerns or require further information please do not hesitate to contact me at 917.682.4492 or afiore@dep.nyc.gov.

Sincerely,

Anthony J. Fiore

c: Robie Craig, Esq., Assistant Counsel, DEP

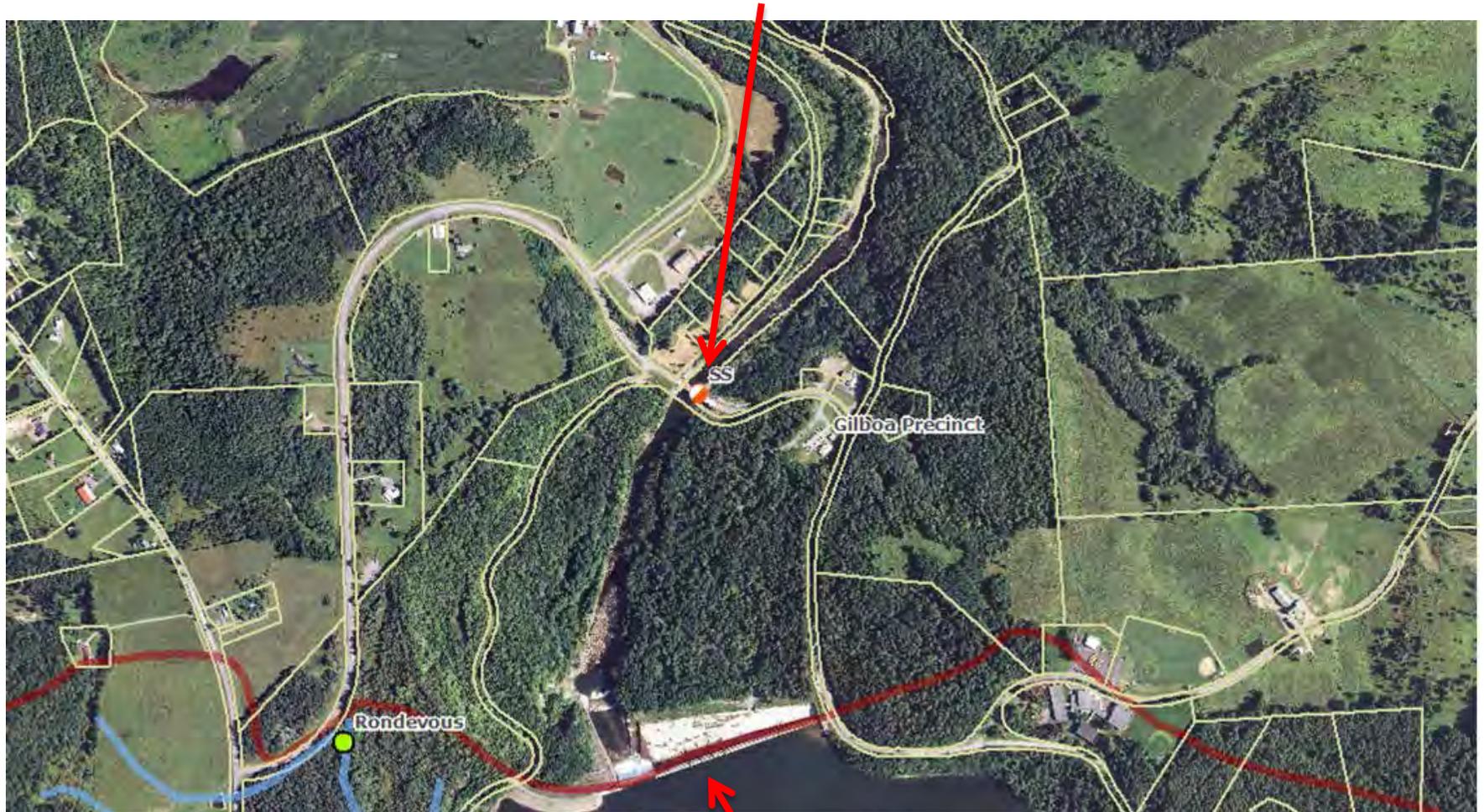


Schoharie Spill 5-year Sampling Results

9/7/2012

DATE COLLECTED	SAMPLE NUMBER	SITE ID	GRABTIME	TEMP	DO	PH	TURB	SPCON	DOC	CL	SRP	SO4	NH3	TDN	TN	TDP	TP	SUSPSLDS	NO3NO2	FSPCON	TOC	NO2	NO3	SI
6/11/2012	K00017773006	SS	11:56	22.4	9.8	8.24	4	85	1.7		15		0.02	0.26										
3/12/2012	K00017557006	SS	12:39	3.5			23	82	1.6		3		-0.02	0.35			7	25						0.16
3/12/2012	K00017557006A	SS	12:39						1.3					0.34										0.29
2/13/2012	K00017474006	SS	12:36	1.9	14.3	7.6	29	76	1.7		3		-0.02	0.38			11	24						0.29
1/23/2012	K00017414006	SS	13:30	1.3	14.6	7.28	25	72	1.7		4		-0.02	0.37			11	23						0.27
12/12/2011	K00017292006	SS	12:28	5.2	13.2	7.26	50	85	2.3		6		-0.02	0.29			8	36						0.17
11/21/2011	K00017219006	SS	12:42	7.7	11.9	7.89	60	76	2.2		6		-0.02	0.2			13	40						0.1
10/17/2011	K00017110006	SS	12:32	14.2	10.6	8.1	180	74	3		9		-0.02	0.25			12	88						0.11
9/19/2011	K00017024006	SS	12:36	15.9	11.2	7.96	170	68	3.2		14		-0.02	0.27			17	86						0.11
5/9/2011	112644	SS	12:33	11.86	-110	7.45	8.6	60	2.2		-2		-0.02	0.2			6	14						0.1
4/11/2011	111991	SS	11:57	5.06	13.37	7.32	23	63	1.7		4		-0.02	0.28			7	25						0.19
3/14/2011	111382	SS	13:00	1.67	14.68	7.12	95	63	2.2		6		-0.02	0.35			13	52						0.25
2/14/2011	110760	SS	12:32	1.36	15.02	7.54	13	96	1.4		2		-0.02	0.33			9	16						0.26
1/10/2011	110201	SS	12:46	1.03	15.66	6.91	14	69	1.7		8		-0.02	0.29			11	37						0.23
12/13/2010	106917	SS	12:03	3.64	13.65	7.33	70	55	2.7		6		-0.02	0.27			12	45						0.17
11/15/2010	106285	SS	12:23	-110	-110	-110	17	66	2.8		4		-0.02	0.27			8	21						0.14
10/18/2010	105601	SS	13:12	11.91	31.85	7.37	50	65	3.7		9		-0.02	0.36			17	38						0.16
4/12/2010	101948	SS	13:07	8.23	12.29	7.59	23	40	2.1		5		-0.02	0.3			8	23						0.21
3/8/2010	101148	SS	12:38	1.43	13.39	7.76	9.5	77	2		4		-0.02	0.5			8	14						0.37
2/8/2010	100691	SS	11:37	0.94	14.57	7.28	31	66	2.5		4		-0.02	0.48			11	31						0.36
1/11/2010	100154	SS	13:01	1.15	16.47	7.75	3.7	72	2.3		2		-0.02	0.34			6	11						0.23
12/14/2009	096933	SS	12:45	5.15	12.73	7.38	3.5	71	2.5		2		-0.02	0.3			5	11						0.15
11/16/2009	096358	SS	13:03	9.13	-110	8.07	1.8	78	2.6		2		-0.02	0.23			-5	10						0.11
8/10/2009	094302	SS	12:29	21.23	8.83	7.58	4.8	65	3.3		4		0.03	0.19			7	18						-0.05
3/9/2009	091195	SS	13:15	-110	-110	-110	8.8	93	1.9	14.3	2		-0.02	0.41			5	15						0.27
2/9/2009	090714	SS	12:01	1.08	14.76	7.93	2.5		1.8	10.7	3	5.7	-0.02	0.37			6	8						0.24
1/12/2009	090155	SS	12:26	0.47	14.66	7.69	2.6		1.9	8.9	2	5.5	0.02	0.36			6	9	0.6					63.5
11/12/2008	087116	SS	11:30	8.05	12.89	7.21	5		3	7.5	2	5.1	-0.02	0.29			6	17	1.9					67.7
5/12/2008	082442	SS	13:16	12.68	10.27	7.44	1.8		1.5	9.6	-2		-0.02	0.24			-5	9						68.7
4/14/2008	081672	SS	12:25	4.89	13.61	7.24	11		1.7	10.2	3		-0.02	0.41	0.36		6	14						63.9
3/10/2008	080742	SS	12:50	1.42	13.71	6.76	65			10.7	5	4.4	0.03				10	31						58.4
2/5/2008	080345	SS	11:19	2.29	13.83	7.12	6.9		1.7	12	2	5.9	-0.02	0.46			5	15						72.6
1/14/2008	080161	SS	12:20	2.42	13.13	7.41	8.8		2.1	9.3	2	5.3	-0.02	0.42			5	11						64.2
6/11/2007	071811	SS	10:52	21.04	8.85	7.69	5.1		2	8.1	-3	4.9	-0.02	0.34			5	14						71
5/14/2007	071528	SS	12:25	15.39	12.23	7.41	6.7		1.6	9.2	-3	4.8	-0.02	0.48			-5	9						-110
4/9/2007	070911	SS	10:45	-110	-110	-110	15		1.6	8.6	5	4.7	-0.02	0.74			6	16						-110
1/8/2007	070070	SS	11:14	4.84	13.14	8.79	24		1.9	6.2	7	5.7	-0.02	0.46			13	25						72.9

Schoharie Spill (SS) Sample Location



Gilboa Dam

LABORATORY METHODS: 2007 - 2008
BEN NESIN LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Chloride	05JUL05	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Changed filter type from Polycarbonate to HVLP.	EPA 1993 300.0	Ion Chromatography
D.O.	11MAR96	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Hydrolab Surveyor III	SM18; 4500-0,C	Measured in situ
DOC	05JUL05	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Changed filter type from Polycarbonate to HVLP.	SM18; 5310	Furnace Combustion/IR Detection
Specific Cond. (Field)	29SEP04	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Hydrolab Surveyor III or YSI-600XL	SM18; 2510B	
NH3-N	05JUL05	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Changed filter type from Polycarbonate to HVLP.	SM18; 4500-NH3, H	Automated Phenate
NO2-N	05JUL05	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600 Changed filter type from Polycarbonate to HVLP.	EPA 1993 300.0	Ion Chromatography
NO3-N	05JUL05	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600 Changed filter type from Polycarbonate to HVLP.	EPA 1993 300.0	Ion Chromatography
NO3NO2-N	13MAY99	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV	SM18; 4500-NO3,F	Automated Cd Reduction
pH	11AUG06	Non-Potable N Potable NP S & H Waste NP	Hydrology	Hydrolab Surveyor III or YSI-600XL	SM18-20; 4500-H+,B	Measured in situ
Dissolved Silica	05JUL05	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Changed filter type from Polycarbonate to HVLP.	USGS I-2700-85	
Sulfate	05JUL05	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Changed filter type from Polycarbonate to HVLP.	EPA 1993 300.0	Ion Chromatography
Specific Cond. (Lab)	17JUN05	Non-Potable Y Potable Y S & H Waste NP	Hydrology	YSI Model 3200	SM18-20; 2510B	
SRP	05JUL05	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Changed filter type from Polycarbonate to HVLP.	EPA 1993 300.0	Ion Chromatography
Total Susp. Solids	01NOV05	Non-Potable Y Potable NA S & H Waste NP	Hydrology	Filtration and Analytical Balance Change filter prep from ignition at 550 deg. C to drying at 104 deg. C.	SM18; 2540D	

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

LABORATORY METHODS: 2007 - 2008
BEN NESIN LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Total Dissolved N	05JUL05	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Changed filter type from Polycarbonate to HVLP.	TOC V-csh/-csn, TOC User Manual, 2001	Furnace Combustion/Chemoluminescence Dect
Total Dissolved P	30MAY06	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Changed flow cell from 0.6cm to 1.0cm.	SM18-20; 4500-P,F	Automated Colorimetry
Total Dissolved P	14MAY07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Preserved samples are analyzed ASAP, either the day of or the day following oxidation.	SM18-20; 4500-P,F	Automated Colorimetry
Total Dissolved P	10JUL07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500	LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Total Dissolved P	10JUL07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV EXCEPT limnology SAMPNOs 072088 & 072092.	SM18-20; 4500-P,F	Automated Colorimetry
Total Dissolved P	16JUL07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500	LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Temperature	29SEP04	Non-Potable NA Potable NA S & H Waste NP	Hydrology	Hydrolab Surveyor III or YSI-600XL	SM18; 2550B	Measured in situ
Total N	28MAY02	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	TOC V-csh/-csn, TOC User Manual, 2001	Furnace Combustion/Chemoluminescence Dect
TOC	13MAY02	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	SM19; 5310B	Combustion/IR Detection
Total P	30MAY06	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Changed flow cell from 0.6cm to 1.0cm.	SM18-20; 4500-P,F	Automated Colorimetry
Total P	14MAY07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Preserved samples are analyzed ASAP, either the day of or the day following oxidation.	SM18-20; 4500-P,F	Automated Colorimetry
Total P	10JUL07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500	LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Total P	16JUL07	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500	LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Turbidity	27AUG01	Non-Potable NA Potable NA S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM19; 2130B	Nephelometric Method

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Turbidity	26SEP07	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM19; 2130B	NepheIometric Method

LABORATORY METHODS: 2008 - 2011
KINGSTON LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Chloride	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
Chloride	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Begin field filtration within 15 minutes of collection.	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
Chloride	18MAY09	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 New range of detection: 0.5-25.0mg/l.	EPA 1993 300.0 Rev. 2.1 EPA 300.0 Rev. 2.1	Ion Chromatography
Chloride	01JAN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	EPA 1993 300.0 Rev. 2.1 EPA 300.0 Rev. 2.1	Ion Chromatography
D.O.	19FEB08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	YSI 6920 Data will come from any of several units (YSI, Hydrolab).	SM18-20; 4500-0,G (93)	Measured in situ
D.O.	13JUL09	Non-Potable NA Potable NP S & H Waste NP	Hydrology	YSI 600XL Data will come from any of several units (YSI, Hydrolab).	SM18-20; 4500-0,G (93)	Measured in situ
DOC	19FEB08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	SM18-20; 5310 (96)	Furnace Combustion/IR Detection
DOC	30JUN08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Begin field filtration and preservation within 15 minutes of collection.	SM18-20; 5310 (96)	Furnace Combustion/IR Detection
DOC	15SEP08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Change to preserving samples with 1:1 HCL.	SM18-20; 5310 (96) SM18-21; 5310B (00)	Furnace Combustion/IR Detection
DOC	01JAN10	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	SM18-20; 5310 (96) SM18-21; 5310B (00)	Furnace Combustion/IR Detection
DOC	10JUN10	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	SM Online; 5310 (2000) SM18-21; 5310B (00)	Furnace Combustion/IR Detection
Specific Cond. (Field)	19FEB08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	YSI 6920 Data will come from any of several units (YSI, Hydrolab).	SM18-20; 2510B (97)	Measured in situ
NH3-N	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV	SM18; 4500-NH3, H	Automated Phenate
NH3-N	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Begin field filtration and preservation within 15 minutes of collection.	SM18; 4500-NH3, H	Automated Phenate

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

LABORATORY METHODS: 2008 - 2011
KINGSTON LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
NH3-N	04MAY09	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500	EPA 350.1 Rev. 2.0 EPA 350.1 Rev. 2.0	
NH3-N	01JAN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500 Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	EPA 350.1 Rev. 2.0 EPA 350.1 Rev. 2.0	
NH3-N	21SEP10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500	LACHAT 10-107-06-1-J LACHAT 10-107-06-1-B	
NO2-N	19FEB08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
NO2-N	30JUN08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600 Begin field filtration within 15 minutes of collection.	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
NO3-N	19FEB08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
NO3-N	30JUN08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600 Begin field filtration within 15 minutes of collection.	EPA 1993 300.0 Rev. 2.1 EPA 300.0 Rev. 2.1	Ion Chromatography
NO3-N	05JUL10	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Dionex DX-600 Change calibration range to accommodate LOQ of 0.01mg/l.	EPA 1993 300.0 Rev. 2.1 EPA 300.0 Rev. 2.1	Ion Chromatography
NO3NO2-N	11AUG08	Non-Potable Y Potable NA S & H Waste NP	Hydrology	Lachat Quikchem 8500	Lachat 10-107-04-1-C	Flow Injection
NO3NO2-N	05NOV08	Non-Potable Y Potable NA S & H Waste NP	Hydrology	Lachat Quikchem 8500	Lachat 10-107-04-1-C	Flow Injection
NO3NO2-N	20FEB09	Non-Potable Y Potable N S & H Waste NP	Hydrology	Lachat Quikchem 8500 Added a 0.0mg/L calibrant to curve.	Lachat 10-107-04-1-C LACHAT 10-107-04-1-C	Flow Injection
NO3NO2-N	01JAN10	Non-Potable Y Potable N S & H Waste NP	Hydrology	Lachat Quikchem 8500 Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	Lachat 10-107-04-1-C LACHAT 10-107-04-1-C	Flow Injection
pH	19FEB08	Non-Potable N Potable NP S & H Waste NP	Hydrology	YSI 6920 Data will come from any of several units (YSI, Hydrolab).	SM18-20; 4500-H+,B (00)	Measured in situ
pH	01JAN09	Non-Potable NA Potable NP S & H Waste NP	Hydrology	YSI 6920 Data will come from any of several units (YSI, Hydrolab).	SM18-20; 4500-H+,B (00)	Measured in situ

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

LABORATORY METHODS: 2008 - 2011
KINGSTON LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
pH	13JUL09	Non-Potable NA Potable NP S & H Waste NP	Hydrology	YSI 600XL Data will come from any of several units (YSI, Hydrolab).	SM18-20; 4500-H+,B (00)	Measured in situ
Dissolved Silica	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV	USGS I-2700-85	
Dissolved Silica	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Begin field filtration within 15 minutes of collection.	USGS I-2700-85	
Dissolved Silica	05FEB09	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Added a 0.0mg/L calibrant to curve.	USGS I-2700-85 USGS I-2700-85	
Dissolved Silica	01JAN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Alpkem Flow Solution III/IV Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	USGS I-2700-85 USGS I-2700-85	
Dissolved Silica	01JUN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500	QuickChem Method 10-114-27-1-A USGS I-2700-85	Flow Injection
Dissolved Silica	03JUN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500	QuickChem Method 10-114-27-1-A USGS I-2700-85/LACHAT 10-114-27-1-A	Flow Injection
Dissolved Silica	21SEP10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500 Flow Injection	QuickChem Method 10-114-27-1-A LACHAT 10-114-27-1-A	
Dissolved Silica	01MAR11	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500 Adding a calibrant 0.0 mg/L to calibration curve.	QuickChem Method 10-114-27-1-A LACHAT 10-114-27-1-A	Flow Injection Analysis
Sulfate	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
Sulfate	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Begin field filtration within 15 minutes of collection.	EPA 1993 300.0 Rev. 2.1 EPA 300.0 Rev. 2.1	Ion Chromatography
Sulfate	01JAN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	EPA 1993 300.0 Rev. 2.1 EPA 300.0 Rev. 2.1	Ion Chromatography
Specific Cond. (Lab)	19FEB08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	YSI Model 3200	SM18-20; 2510B (97)	
Specific Cond. (Lab)	17FEB09	Non-Potable Y Potable Y S & H Waste NP	Hydrology	YSI Model 3200	SM18-20; 2510B (97) SM18-21; 2510B (97)	

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

LABORATORY METHODS: 2008 - 2011
KINGSTON LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Specific Cond. (Lab)	17SEP10	Non-Potable Y Potable Y S & H Waste NP	Hydrology	YSI Model 3200	SM Online; 2510B (1997) SM18-21; 2510B (97)	
SRP	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
SRP	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Dionex DX-600 Begin field filtration within 15 minutes of collection.	EPA 1993 300.0 Rev. 2.1	Ion Chromatography
SRP	11AUG08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500	EPA 365.1 Rev. 2.0	Flow Injection
SRP	20FEB09	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500 Added a 0.0ug/L calibrant to curve.	EPA 365.1 Rev. 2.0 EPA 365.1 Rev. 2.0	Flow Injection
SRP	01JAN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500 Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	EPA 365.1 Rev. 2.0 EPA 365.1 Rev. 2.0	Flow Injection
SRP	21SEP10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat Quikchem 8500	EPA 365.1 Rev. 2.0 EPA 365.1 Rev. 2.0/LACHAT 10-115-01-1-A,B	Flow Injection
Total Susp. Solids	19FEB08	Non-Potable Y Potable NA S & H Waste NP	Hydrology	Filtration and Analytical Balance	SM18-20; 2540D (97) SM18-20; 2540D (97)	
Total Susp. Solids	03JUN10	Non-Potable Y Potable NA S & H Waste NP	Hydrology	Filtration and Analytical Balance	SM18-20; 2540D (97) SM18-21; 2540D (97)	
Total Susp. Solids	14OCT10	Non-Potable Y Potable NA S & H Waste NP	Hydrology	Filtration and Analytical Balance	SM Online; 2540D (1997) SM18-21; 2540D (97)	
Total Dissolved N	19FEB08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	TOC V-csh/-csn, TOC User Manual, 2001	Furnace Combustion/Chemoluminescence Dect
Total Dissolved N	30JUN08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Begin field filtration and preservation within 15 minutes of collection.	TOC V-csh/-csn, TOC User Manual, 2001	Furnace Combustion/Chemoluminescence Dect
Total Dissolved N	15SEP08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Change to preserving samples with 1:1 HCl.	TOC V-csh/-csn, TOC User Man., 2001 (ASTM-D5176)	Furnace Combustion/Chemoluminescence Dect
Total Dissolved N	01JAN10	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	TOC V-csh/-csn, TOC User Man., 2001 (ASTM-D5176)	Furnace Combustion/Chemoluminescence Dect

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

LABORATORY METHODS: 2008 - 2011
KINGSTON LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Total Dissolved P	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Total Dissolved P	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500 Begin field filtration and preservation within 15 minutes of collection.	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Total Dissolved P	20JAN09	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500 Added a 0 calibrant; Increased calibration range; Changed from linear to 2nd order curve.	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F EPA 365.1 Rev. 2.0	Automated Flow Injection Analysis
Total Dissolved P	01JAN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500 Begin use of approved silicon pump tubing (KFS#) along with tygon pump tubing (KFT#).	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F EPA 365.1 Rev. 2.0	Automated Flow Injection Analysis
Temperature	19FEB08	Non-Potable NA Potable NA S & H Waste NP	Hydrology	YSI 6920 Data will come from any of several units (YSI, Hydrolab).	SM18-20; 2550B (00)	Measured in situ
Temperature	13JUL09	Non-Potable NA Potable NA S & H Waste NP	Hydrology	YSI 600XL Data will come from any of several units (YSI, Hydrolab).	SM18-20; 2550B (00)	Measured in situ
Total N	19FEB08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	TOC V-csh/-csn, TOC User Man., 2001 (ASTM-D5176)	Furnace Combustion/Chemoluminescence Dect
Total N	30JUN08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Begin field preservation within 15 minutes of collection.	TOC V-csh/-csn, TOC User Man., 2001 (ASTM-D5176)	Furnace Combustion/Chemoluminescence Dect
Total N	15SEP08	Non-Potable NA Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Change to preserving samples with 1:1 HCl.	TOC V-csh/-csn, TOC User Manual, 2001	Furnace Combustion/Chemoluminescence Dect
TOC	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	SM18-20; 5310B (00)	Combustion/IR Detection
TOC	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Begin preservation in field within 15 minutes of collection.	SM18-20; 5310B (00)	Combustion/IR Detection
TOC	15SEP08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH Change to preserving samples with 1:1 HCl.	SM18-20; 5310B (00) SM18-21; 5310B (00)	Combustion/IR Detection
TOC	10JUN10	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Shimadzu TOC-VCSH	SM Online; 5310B (2000) SM18-21; 5310B (00)	Combustion/IR Detection
Total P	19FEB08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F	Automated Flow Injection Analysis

Certification Codes: Y = Yes, N = No, NA = Not Available, NP = Not Performed

LABORATORY METHODS: 2008 - 2011
KINGSTON LABORATORY, ELAP ID NO. 10030

Variable	Date	Certification	Samples	Instrument / Procedure Change	Lab Reference / ELAP Certificate Reference	Method
Total P	30JUN08	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500 Begin preservation in field within 15 minutes of collection.	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F	Automated Flow Injection Analysis
Total P	20JAN09	Non-Potable Y Potable NP S & H Waste NP	Hydrology	Lachat QuickChem 8500 Added a 0 calibrant; Increased calibration range; Changed from linear to 2nd order curve.	EPA 365.1 Rev. 2.0; LACHAT 10-115-01-1-F EPA 365.1 Rev. 2.0	Automated Flow Injection Analysis
Turbidity	19FEB08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM18-20; 2130B (01)	Nephelometric Method
Turbidity	18JUN08	Non-Potable Y Potable N S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM18-20; 2130B (01)	Nephelometric Method
Turbidity	28JUL08	Non-Potable Y Potable N S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter Begin using Formazin instead of Stablcal as primary standard.	SM18-20; 2130B (01)	Nephelometric Method
Turbidity	19AUG08	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM18-20; 2130B (01)	Nephelometric Method
Turbidity	01APR09	Non-Potable N Potable Y S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM18-20; 2130B (01)	Nephelometric Method
Turbidity	01MAY09	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM18-20; 2130B (01) SM18-21; 2130B (01)	Nephelometric Method
Turbidity	03DEC10	Non-Potable Y Potable Y S & H Waste NP	Hydrology	Hach 2100 AN Turbidimeter	SM Online; 2130B (2001) SM18-21; 2130B (01)	Nephelometric Method

Parameter	Reference
Ammonia	Lachat 10-107-06-1-J
Nitrogen, Total Dissolved	SM 5310B (00)
Organic Carbon, Dissolved	SM 5310B (00)
Dissolved Oxygen	SM18-20; 4500-O,G (93)
pH	SM18-20; 4500-H+,B (00)
Temperature	SM18-20; 2550B (00)
Nitrate/Nitrite	Lachat 10-107-04-1-C
Orthophosphate	Lachat 10-115-01-1-B
Specific Conductance	SM18-20; 2510B (97)
Phosphorus, Total Dissolved	Lachat 10-115-01-1-F
Phosphorus, Total	Lachat 10-115-01-1-F
Turbidity	SM 2130B (01)

----- Year=2007 -----

Variable	Beginning Date	End Date	Comments
ALL	01JAN2007	31DEC2007	Sample results of less than ten times the limit of detection may be associated with a blank that is more than one tenth the sample level.
DOC	11APR2007	31DEC2007	Samples filtered more than 15 minutes after collection.
Specific Cond (Field)	01JAN2007	31DEC2007	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
pH	01JAN2007	31DEC2007	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
pH	09MAR2007	09MAR2007	SAMPNO 070654: This sample is associated with an out of control duplicate QC sample. Dup difference=0.18, UCL=0.17
Dissolved Silica	04JUN2007	11JUN2007	SAMPNOs 071728-071743, 071805-071820: No end-run LOD associated with these samples.
SRP	11APR2007	31DEC2007	Samples filtered more than 15 minutes after collection.
Total P	14MAY2007	14MAY2007	SAMPNOs 071512-071519, 071521-071529: These samples are associated with an out of control duplicateQC sample. Dup difference=153ug/l, UCL=5ug/l.
Turbidity	12MAR2007	31DEC2007	All samples are associated with calibration standards that have been identified by Hach as "potentially degrading outside the published accuracy specification." A worst case error in calibration of 1 5% may have occurred (7/22/08, Thom Voll).

----- Year=2008 -----

Variable	Beginning Date	End Date	Comments
ALL	01JAN2008	31DEC2008	Sample results of less than ten times the limit of detection may be associated with a blank that is more than one tenth the sample level.
ALL	01JAN2008	18FEB2008	Analyses performed by Ben Nesin Laboratory, Shokan, NY, ELAP ID Number 10030.
Chloride	14APR2008	14APR2008	SAMPNOs 081666-081675, 081678-081681: These samples are associated with an out of control spike QC sample. Recovery=79%, LCL=80%, UCL=120%.0
DOC	01JAN2008	29JUN2008	Samples filtered more than 15 minutes after collection.
Specific Cond (Field)	01JAN2008	31DEC2008	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
pH	01JAN2008	31DEC2008	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
SRP	01JAN2008	29JUN2008	Samples filtered more than 15 minutes after collection.
Total Dissolved P	14APR2008	14APR2008	SAMPNOs 081666-081673: No end-run MDL standard associated with these samples.
Turbidity	01JAN2008	27JUL2008	All samples are associated with calibration standards that have been identified by Hach as "potentially degrading outside the published accuracy specification." A worst case error in calibration of 1 5% may have occurred (7/22/08, Thom Voll).

----- Year=2009 -----

Variable	Beginning Date	End Date	Comments
ALL	01JAN2009	27FEB2009	Sample results of less than ten times the limit of detection may be associated with a blank that is more than one tenth the sample level.
ALL	28FEB2009	31DEC2009	Sample results between 10 and 20 times the limit of quantitation may be associated with a method blank that is greater than one-tenth the sample level.
Specific Cond (Field)	01JAN2009	31DEC2009	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
pH	01JAN2009	31DEC2009	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
pH	09FEB2009	09FEB2009	SAMPNOs 090713-090716: The field post-survey check was >0.05 and <0.10 SU from the theoretical value.
Sulfate	10AUG2009	10AUG2009	SAMPNOs 094287-094292, 094297-094303: End Run LOQ Recovery=158%, LCL=50%, UCL=150%
Total Dissolved N	10AUG2009	10AUG2009	SAMPNOs 094297-094303: These samples are associated with an equipment blank that is above twice the LOQ. Blank=0.22mg/l, LOQ=0.09mg/l.

----- Year=2010 -----

Variable	Beginning Date	End Date	Comments
ALL	01JAN2010	31DEC2010	Sample results between 10 and 20 times the limit of quantitation may be associated with a method blank that is greater than one-tenth the sample level.
DOC	08MAR2010	08MAR2010	SAMPNOs 101136-1141, 101145-1149: Analyses performed by Kensico Laboratory, Valhalla, NY, ELAP ID Number 10771.
NH3-N	12APR2010	12APR2010	SAMPNO 101948: This sample is associated with an out of control spike QC sample. Recovery=114%, LCL=90%, UCL=110%.
NH3-N	15NOV2010	15NOV2010	SAMPNOs 106272-106278, 106280-106286: Samples were over acidified at preservation which could cause a negative bias in the results.
pH	01JAN2010	31DEC2010	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
Total Dissolved N	08MAR2010	08MAR2010	SAMPNOs 101136, 101140, 101141, 101145-1149: Analyses performed by Kensico Laboratory, Valhalla, NY, ELAP ID Number 10771.
Total Dissolved P	15NOV2010	15NOV2010	SAMPNOs 106272-106278, 106280-106286: Samples were over acidified at preservation which could cause a negative bias in the results.
Total N	08MAR2010	08MAR2010	SAMPNOs 101136-1141, 101145-1147, 101149: Analyses performed by Kensico Laboratory, Valhalla, NY, ELAP ID Number 10771.

----- Year=2011 -----

Variable	Beginning Date	End Date	Comments
ALL	01JAN2011	31MAY2011	Sample results between 10 and 20 times the limit of quantitation may be associated with a method blank that is greater than one-tenth the sample level.
pH	01JAN2011	31MAY2011	NYS ELAP requires analysis to be performed in a certified laboratory for the results to be certified. These analyses have been performed in the field, so they are not certified by ELAP.
Phosphorus, Total	09/19/11		Sample ID K00017024006 - Updated result manually to include blank channel subtraction.
Phosphorus, Total	10/17/11		Sample ID K00017110006 - Updated result manually to account for blank channel subtraction.
Organic Carbon, Dissolved	03/12/12		Sample ID K00017557006 - IC Spike RPD= 48; IC Spike RPD UCL= 20

Codes That Apply to ALL Parameters:

- Change minus signs to less than signs. There are exceptions, SEE below.
- Greater than values are coded as -101. SEE Greater Than Values Table.
- Laboratory errors are coded as -105.
- Field errors are coded as -110.
- Missing values are recorded as “.”.

Beginning in 1993, coding for coliforms was changed. Greater than values are no longer coded as -101. A separate coding system was developed by the Analytical Committee for Bacteriology. Another variable has been added to all datasets for coliforms (TCCODE & FCCODE). See attached coliforms coding sheets for complete information.

EXCEPTIONS:

- Coliforms (TCOLI, FCOLI, ECOLI, TCATY, FCATY, NSC, NBC, FSTREP):
 - 108 = Confluent Growth
 - 99 = Too Numerous to Count (TNTC)
 - 0 = Absence (Proficiency Test dataset)
 - 111 = Presence (Proficiency Test dataset)
- Heterotrophic Plate Count (HPC):
 - 108 = Spreader
 - 99 = Too Numerous to Count (TNTC)
- Color (COLOR), Phytoplankton (TPLK, GPLK, SAU1, SAU2):
 - 1 = Too Turbid
- Phytoplankton (SAUOTH):
 - 0 = Absent
- Temperature (TEMP):
 - DO NOT change minus signs to less than signs.
- Stage & Flow (STAGE, FLOW):
 - 999 = Obstruction on control
- Total Cl₂ Residual (TCRCC or TCREFF), for East of Hudson District ONLY:
 - % UV is done for many plants. This is noted in the dataset by a minus sign. For example, 85% UV is entered into the computer as -85. For results reported as >100% UV, the code is -101.
- Pathogen Data:
 - 111 = Pass / Acceptable
 - 222 = Fail / Positive
- Virus Data:
 - 999 = None isolated
- Proficiency Test Data (Coliforms)
 - 0 = Absence
 - 111 = Presence

NOTES:

For Limnology data ONLY:

- Photic zone defined as ZSP=0 beginning in 1989.
- Chlorophyll Data
 - 1984-1988 contains data for NCHLA (uncorrected chlorophyll a).
 - 1989-present contains data for CHLA, NCHLA, PHEO (chlorophyll a, uncorrected chlorophyll a, pheophytin).
 - When comparing chlorophyll data for these two time periods, 1984-1988 NCHLA data needs to be matched with 1989-present CHLA data.

The CONTENTS Procedure

Data Set Name	WORK.SS	Observations	37
Member Type	DATA	Variables	26
Engine	V9	Indexes	0
Created	Wed, Sep 05, 2012 08:20:44 AM	Observation Length	232
Last Modified	Wed, Sep 05, 2012 08:20:44 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	16384
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	70
Obs in First Data Page	37
Number of Data Set Repairs	0
Filename	C:\Users\SEELBA-1\AppData\Local\Temp\SAS Temporary Files_TD1136_BWSKNGSEELBACHK_\ss.sas7bdat
Release Created	9.0301M1
Host Created	W32_7PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Informat	Label
12	CL	Num	8			Chloride(mg/l)
1	COLLECT	Num	8	DATE9.	DATE9.	Date Collected
7	DO	Num	8	5.1		D.O.(mg/l)
11	DOC	Num	8			DOC(mg/l)
22	FSPCON	Num	8	5.		In Field SpCond(umhos/cm)
4	GRABTIME	Num	8	TIME6.	TIME6.	Grab Time
15	NH3	Num	8	7.2		NH3-N(mg/l), Total NH3+NH4
24	NO2	Num	8			NO2-N(mg/l)
25	NO3	Num	8			NO3-N(mg/l)
21	NO3NO2	Num	8			NO3NO2-N(mg/L)
8	PH	Num	8	6.2		pH(Units)
2	SAMPNO	Char	15	\$15.	\$15.	Sample Number
26	SI	Num	8			Dissolved Silica(mg/l)
3	SITE	Char	25	\$25.	\$25.	Site
14	SO4	Num	8			Sulfate(mg/l)
10	SPCON	Num	8	5.		Lab SpCond(umhos/cm)
13	SRP	Num	8	7.		Soluble Reactive P(ug/l)
20	SUSPSLDS	Num	8	7.1		Total Suspended Solids(mg/l)
16	TDN	Num	8	7.2		Total Dissolved N(mg/l)
18	TDP	Num	8	7.		Total Dissolved P(ug/l)
6	TEMP	Num	8	5.1		Temperature(degrees C)
17	TN	Num	8	7.2		Total N(mg/l)
23	TOC	Num	8			TOC(mg/l)
19	TP	Num	8			Total Phosphorus(ug/l)
9	TURB	Num	8	6.1		Turbidity(NTU)
5	TYPE	Char	5	\$5.	\$5.	Sample Type

SS...Schoharie Reservoir Spillway

All results that fall within the scope of the NELAP program meet that program's requirements unless stated in the comments and methods tables.