Chemical Analysis Report

CEN-DIST-2019-05-03-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Lk Van / Bass / Panther X3**
Request ID: **RQ-2019-04-29-45**
Customer: **CEN-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 20-MAY-2019 17:20

B. Steinbock

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Panther Lake @ Center of East Lobe **Collection Date/Time: 05/02/2019 10:18**

Field ID: G4CE0165 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2083385	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P363376	
	EPA 300.0 Rev. 2.1	Chloride	33	A	mg Cl/L	P363745	
		Sulfate	25	A	mg SO4/L	P363749	
	SM 2120 B	Color (true)	42		PCU	P363340	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P363808	
	SM 2540 C-97	TDS	122	A	mg/L	P363916	
	SM 2540 D-97	TSS	2	IA	mg/L	P363893	
	SM 4500 F-C-97	Fluoride	0.055	I	mg F/L	P363970	
2083388	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P363779	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P363764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363676	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P363662	
	SM 5310 B-00	Organic Carbon	9.2		mg C/L	P363921	
2083391	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P363335	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of analytical difficulties.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Panther Lake @ Center of West Lobe **Collection Date/Time: 05/02/2019 11:39**

Field ID: G4CE0164 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2083386	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P363376	
	EPA 300.0 Rev. 2.1	Chloride	30		mg Cl/L	P363745	
		Sulfate	23		mg SO4/L	P363749	
	SM 2120 B	Color (true)	23	A	PCU	P363341	
	SM 2320 B-97	Total Alkalinity	25		mg CaCO3/L	P363808	
	SM 2540 C-97	TDS	96		mg/L	P363916	
	SM 2540 D-97	TSS	2	U	mg/L	P363893	
	SM 4500 F-C-97	Fluoride	0.054	I	mg F/L	P363970	
2083389	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P363779	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P363764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363676	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P363662	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P363921	
2083392	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P363335	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of analytical difficulties.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Panther Lake @ center of central lobe **Collection Date/Time: 05/02/2019 11:52**

Field ID: G4CE0156 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2083387	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P363376	
	EPA 300.0 Rev. 2.1	Chloride	30		mg Cl/L	P363745	
		Sulfate	25		mg SO4/L	P363749	
	SM 2120 B	Color (true)	20		PCU	P363341	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P363808	
	SM 2540 C-97	TDS	105		mg/L	P363916	
	SM 2540 D-97	TSS	2	I	mg/L	P363893	
	SM 4500 F-C-97	Fluoride	0.054	I	mg F/L	P363970	
2083390	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P363779	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P363764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P363676	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P363662	
	SM 5310 B-00	Organic Carbon	8.1		mg C/L	P363921	
2083393	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P363335	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of analytical difficulties.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P363376

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363745

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363749

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363779

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363764

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363676

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363662

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363335

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2120 B
Batch ID: P363340

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P363341

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P363808

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-97
Batch ID: P363916

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P363893

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P363970

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P363921

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363779

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	102		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	100		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P363340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P363341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P363808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P363970

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P363921

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	89.2		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083258	Chloride	102		P	90 - 110
2083385	Chloride	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083258	Sulfate	102		P	90 - 110
2083385	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363779

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083388	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083389	Kjeldahl Nitrogen	99.5	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083315	NO2NO3-N	99.7	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083390	Total-P	97.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083322	O-Phosphate-P	98.2	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00
Batch ID: P363921

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2083388	Organic Carbon	94.4	93.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083385	Chloride	0.391	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P363749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083385	Sulfate	0.478	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P363779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083388	Ammonia-N	1.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P363764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083389	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P363676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083315	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P363662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083390	Total-P	3.86	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083322	O-Phosphate-P	0.811	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P363340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083288	Color (true)	4.34	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P363341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083386	Color (true)	3.92	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P363808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083606	Total Alkalinity	0.0673	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P363916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083385	TDS	0.823	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P363970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083606	Fluoride	1.91	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P363921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2083388	Organic Carbon	0.857	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A91195
Included Lab Sample IDs: 2083391, 2083392, 2083393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	95.8	95.0	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A91199
Included Lab Sample IDs: 2083385, 2083386, 2083387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	103	P/P	90 - 115
Color (true)	102	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A91209
Included Lab Sample IDs: 2083385, 2083386, 2083387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A91228
Included Lab Sample IDs: 2083385, 2083386, 2083387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Chloride	103	102	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110
Sulfate	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A91321
Included Lab Sample IDs: 2083388, 2083389, 2083390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A91350
Included Lab Sample IDs: 2083388, 2083389, 2083390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	103	102	P/P	90 - 110
Ammonia-N	103	104	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A91372
Included Lab Sample IDs: 2083385, 2083386, 2083387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A91387
Included Lab Sample IDs: 2083388, 2083389, 2083390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	102	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A91414
Included Lab Sample IDs: 2083388, 2083389, 2083390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.4	92.4	P/P	90 - 110
Organic Carbon	92.4	90.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A91419
Included Lab Sample IDs: 2083388, 2083389, 2083390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A91436
Included Lab Sample IDs: 2083385, 2083386, 2083387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	100	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 300.0 Rev. 2.1	Chloride	100	99.2	102		0.391	
	Sulfate	99.1	101	102		0.478	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	103			1.02
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	99.5	97.9			1.08
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.7	99.7			0.0
EPA 365.1 Rev. 2.0	Total-P	102	97.4	101			3.86
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.2	99.0			0.811
SM 2120 B	Color (true)	99.6				4.34	
	Color (true)	102				3.92	
SM 2320 B-97	Total Alkalinity	103				0.0673	
SM 2540 C-97	TDS					0.823	
SM 4500 F-C-97	Fluoride	97.1					1.91
SM 5310 B-00	Organic Carbon	89.2	94.4	93.2			0.857

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2083385, 2083386, 2083387
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2083385, 2083386, 2083387
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2083385, 2083386, 2083387
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2083388, 2083389, 2083390
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2083388, 2083389, 2083390
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2083388, 2083389, 2083390
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2083388, 2083389, 2083390
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2083391, 2083392, 2083393
SM 2120 B / E31780	True Color measured at 450 nm	2083385, 2083386, 2083387
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2083385, 2083386, 2083387
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2083385, 2083386, 2083387
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2083385, 2083386, 2083387
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2083385, 2083386, 2083387
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2083388, 2083389, 2083390

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/03/2019			05/03/2019 16:06	Sima Feizi	2083385, 2083386, 2083387
EPA 300.0 Rev. 2.1	05/03/2019			05/10/2019 03:12	Lipi Saha	2083385
	05/03/2019			05/10/2019 07:14	Lipi Saha	2083386
	05/03/2019			05/10/2019 07:26	Lipi Saha	2083387
EPA 350.1 Rev. 2.0	05/03/2019			05/09/2019 12:25	Ping Hua	2083388
	05/03/2019			05/09/2019 12:36	Ping Hua	2083390
	05/03/2019			05/09/2019 14:06	Ping Hua	2083389
EPA 351.2 Rev. 2.0	05/03/2019	05/10/2019 12:20	Adrian Shelby	05/13/2019 14:51	Joseph Suarez	2083388
	05/03/2019	05/10/2019 12:20	Adrian Shelby	05/13/2019 14:53	Joseph Suarez	2083389
	05/03/2019	05/10/2019 12:20	Adrian Shelby	05/13/2019 14:57	Joseph Suarez	2083390
EPA 353.2 Rev. 2.0	05/03/2019			05/09/2019 10:05	Beverly Y. Sanders	2083388
	05/03/2019			05/09/2019 10:06	Beverly Y. Sanders	2083389
	05/03/2019			05/09/2019 10:07	Beverly Y. Sanders	2083390
EPA 365.1 Rev. 2.0	05/03/2019	05/09/2019 13:20	Joseph Suarez	05/14/2019 11:50	Rosalyn Ballman	2083388
	05/03/2019	05/09/2019 13:20	Joseph Suarez	05/14/2019 11:51	Rosalyn Ballman	2083389
	05/03/2019	05/09/2019 13:20	Joseph Suarez	05/14/2019 11:52	Rosalyn Ballman	2083390
EPA 365.1 Rev. 2.0 dissolved	05/03/2019			05/03/2019 14:49	Lipi Saha	2083391
	05/03/2019			05/03/2019 14:50	Lipi Saha	2083392
	05/03/2019			05/03/2019 14:51	Lipi Saha	2083393
SM 2120 B	05/03/2019			05/03/2019 14:57	Blanca Fach	2083385
	05/03/2019			05/03/2019 15:01	Blanca Fach	2083386
	05/03/2019			05/03/2019 15:02	Blanca Fach	2083387
SM 2320 B-97	05/03/2019			05/11/2019 21:35	Dale L. Simmons	2083385
	05/03/2019			05/11/2019 21:47	Dale L. Simmons	2083386
	05/03/2019			05/11/2019 21:59	Dale L. Simmons	2083387
SM 2540 C-97	05/03/2019			05/08/2019 14:21	Yijie Li	2083385, 2083386, 2083387
SM 2540 D-97	05/03/2019			05/08/2019 14:21	Yijie Li	2083385, 2083386, 2083387
SM 4500 F-C-97	05/03/2019			05/15/2019 06:02	Dale L. Simmons	2083385
	05/03/2019			05/15/2019 06:07	Dale L. Simmons	2083386
	05/03/2019			05/15/2019 06:12	Dale L. Simmons	2083387
SM 5310 B-00	05/03/2019			05/13/2019 11:09	Julia Storbeck	2083388
	05/03/2019			05/14/2019 01:01	Julia Storbeck	2083389
	05/03/2019			05/14/2019 01:14	Julia Storbeck	2083390