

Chemical Analysis Report

CEN-DIST-2021-01-06-01

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

Event Description: **Downey/Bear Head/Dias**
Request ID: **RQ-2021-01-04-51**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 28-JAN-2021 09:03

A handwritten signature in black ink, appearing to read "Colin Wright", is placed over a light gray rectangular background.

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: Lake Downey @ Center

Collection Date/Time: 01/05/2021 12:03

Field ID: G2CE0227

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2216746	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P392026	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P392186	
		Sulfate	12		mg SO4/L	P392189	
	SM 2120 B-2011	Color (true)	28	A	PCU	P392016	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P392121	
	SM 2540 C-2011	TDS	89		mg/L	P392416	
	SM 2540 D-2011	TSS	2	U	mg/L	P392408	
	SM 4500 F-C-2011	Fluoride	0.044	I	mg F/L	P392123	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P392032	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P392098	MS
2216749	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P392051	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P392146	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P392210	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P392012	
	dissolved						
2216752	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P392012	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Dias @ Center

Collection Date/Time: 01/05/2021 11:45

Field ID: G2CE0235

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2216747	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P392026	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P392186	
		Sulfate	5.0		mg SO4/L	P392189	
	SM 2120 B-2011	Color (true)	130		PCU	P392016	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P392121	
	SM 2540 C-2011	TDS	78		mg/L	P392416	
	SM 2540 D-2011	TSS	3	I	mg/L	P392408	
	SM 4500 F-C-2011	Fluoride	0.040	I	mg F/L	P392123	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P392165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P392098	MS
2216750	EPA 353.2 Rev. 2.0	NO2NO3-N	0.072		mg N/L	P392132	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P392146	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P392210	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P392012	
	dissolved						

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bear Head Lake @ Center

Collection Date/Time: 01/05/2021 11:04

Field ID: G4CE0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2216748	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P392026	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P392186	
		Sulfate	4.1		mg SO4/L	P392189	
	SM 2120 B-2011	Color (true)	34		PCU	P392016	
	SM 2320 B-2011	Total Alkalinity	10		mg CaCO3/L	P392121	
	SM 2540 C-2011	TDS	67		mg/L	P392416	
	SM 2540 D-2011	TSS	2	I	mg/L	P392408	
	SM 4500 F-C-2011	Fluoride	0.039	I	mg F/L	P392123	
2216751	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P392166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P392098	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P392051	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P392146	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P392210	
2216754	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392012	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392026

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392186

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392189

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392032

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392165

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392098

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392051

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392132

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392146

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392012

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

Reference Method: SM 2120 B-2011
Batch ID: P392016

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P392121

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P392416

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P392408

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392123

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P392210

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: P392186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392032

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392098

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392051

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392132

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392146

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392012

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

Reference Method: SM 2120 B-2011
Batch ID: P392016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P392121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.8		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P392123

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P392210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216555	Chloride	97.9		P	90 - 110
2216746	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216555	Sulfate	98.9		P	90 - 110
2216746	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216363	Ammonia-N	99.4	95.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216750	Ammonia-N	95.8	95.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216751	Ammonia-N	98.2	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216508	Kjeldahl Nitrogen	115	107	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216749	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216750	NO2NO3-N	95.6	97.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216557	Total-P	105	104	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216561	O-Phosphate-P	104	105	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P392123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216556	Fluoride	96.5	95.4	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P392210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2216816	Organic Carbon	102	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216762	Turbidity	1.96	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216555	Chloride	0.199	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216555	Sulfate	0.844	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216363	Ammonia-N	3.66	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216750	Ammonia-N	0.395	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216751	Ammonia-N	0.425	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216508	Kjeldahl Nitrogen	3.91	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216749	NO2NO3-N	0.277	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P392132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216750	NO2NO3-N	1.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P392146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216557	Total-P	0.744	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P392012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216561	O-Phosphate-P	0.763	Spike	P	0 - 20

Reference Method: SM 2120 B-2011

Batch ID: P392016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216746	Color (true)	0.976	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P392121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216556	Total Alkalinity	1.93	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011

Batch ID: P392416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216361	TDS	2.76	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P392123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216556	Fluoride	1.00	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011

Batch ID: P392210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2216816	Organic Carbon	0.440	Spike	P	0 - 20

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102875

Included Lab Sample IDs: 2216746, 2216747, 2216748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.5	P/P	90 - 110
Chloride	99.5	99.5	P/P	90 - 110
Sulfate	98.5	99.3	P/P	90 - 110
Sulfate	99.3	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102911

Included Lab Sample IDs: 2216752, 2216753, 2216754

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	98.2	P/P	90 - 110
O-Phosphate-P	99.8	98.9	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A102912

Included Lab Sample IDs: 2216746, 2216747, 2216748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102913

Included Lab Sample IDs: 2216746, 2216747, 2216748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102915

Included Lab Sample IDs: 2216749, 2216750

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.6	95.2	P/P	90 - 110
Ammonia-N	98.6	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102927

Included Lab Sample IDs: 2216749, 2216751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A102954

Included Lab Sample IDs: 2216746, 2216747, 2216748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.5	98.1	P/P	90 - 110
Total Alkalinity	94.4	92.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A102954

Included Lab Sample IDs: 2216746, 2216747, 2216748

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102956

Included Lab Sample IDs: 2216750

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: A102969

Included Lab Sample IDs: 2216751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102975

Included Lab Sample IDs: 2216749, 2216750, 2216751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	99.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A102985

Included Lab Sample IDs: 2216749, 2216750, 2216751

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103006

Included Lab Sample IDs: 2216749, 2216750, 2216751

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	97.5	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	MS
EPA 180.1 Rev. 2.0	Turbidity				1.96	
EPA 300.0 Rev. 2.1	Chloride	98.2	97.9	98.1	0.199	
	Sulfate	98.3	98.9	99.7	0.844	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	99.4	95.2		3.66
	Ammonia-N	94.0	95.8	95.4		0.395
	Ammonia-N	97.6	98.2	98.8		0.425
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	115	107		3.91
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103	100	100		0.277
	NO ₂ NO ₃ -N	99.5	95.6	97.1		1.13
EPA 365.1 Rev. 2.0	Total-P	105	105	104		0.744
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	104	105		0.763
SM 2120 B-2011	Color (true)	100			0.976	
SM 2320 B-2011	Total Alkalinity	95.8			1.93	
SM 2540 C-2011	TDS				2.76	
SM 4500 F-C-2011	Fluoride	97.8	96.5	95.4		1.00
SM 5310 B-2011	Organic Carbon	99.8	102	102		0.440

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2216746, 2216747, 2216748
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2216746, 2216747, 2216748
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2216746, 2216747, 2216748
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2216749, 2216750, 2216751
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2216749, 2216750, 2216751
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2216749, 2216750, 2216751
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2216749, 2216750, 2216751
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2216752, 2216753, 2216754
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2216746, 2216747, 2216748
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2216746, 2216747, 2216748
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2216746, 2216747, 2216748
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2216746, 2216747, 2216748
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2216746, 2216747, 2216748
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2216749, 2216750, 2216751

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	01/06/2021			01/06/2021 15:00	Yen Ta	2216746, 2216747, 2216748
EPA 300.0 Rev. 2.1	01/06/2021			01/08/2021 20:43	Lipi Saha	2216746
	01/06/2021			01/08/2021 23:44	Lipi Saha	2216747
	01/06/2021			01/08/2021 23:56	Lipi Saha	2216748
EPA 350.1 Rev. 2.0	01/06/2021			01/06/2021 18:07	Ping Hua	2216749
	01/06/2021			01/06/2021 19:29	Ping Hua	2216750
	01/06/2021			01/09/2021 17:56	Ping Hua	2216751
EPA 351.2 Rev. 2.0	01/06/2021	01/07/2021 13:41	Yen Ta	01/08/2021 14:57	Virginia P. Brown	2216749
	01/06/2021	01/07/2021 13:41	Yen Ta	01/08/2021 14:58	Virginia P. Brown	2216750
	01/06/2021	01/07/2021 13:41	Yen Ta	01/08/2021 15:00	Virginia P. Brown	2216751
EPA 353.2 Rev. 2.0	01/06/2021			01/07/2021 09:47	Beverly Y. Sanders	2216749
	01/06/2021			01/07/2021 09:58	Beverly Y. Sanders	2216751
	01/06/2021			01/08/2021 10:00	Beverly Y. Sanders	2216750
EPA 365.1 Rev. 2.0	01/06/2021	01/08/2021 16:30	Shengyu Wang	01/12/2021 10:43	Shengyu Wang	2216749
	01/06/2021	01/08/2021 16:30	Shengyu Wang	01/12/2021 10:44	Shengyu Wang	2216750
	01/06/2021	01/08/2021 16:30	Shengyu Wang	01/12/2021 10:45	Shengyu Wang	2216751
EPA 365.1 Rev. 2.0 dissolved	01/06/2021			01/06/2021 15:00	Blanca Fach	2216752
	01/06/2021			01/06/2021 15:01	Blanca Fach	2216753
	01/06/2021			01/06/2021 15:06	Blanca Fach	2216754
SM 2120 B-2011	01/06/2021			01/06/2021 15:45	Benjamin T. Nordmann	2216746
	01/06/2021			01/06/2021 15:46	Benjamin T. Nordmann	2216747, 2216748
SM 2320 B-2011	01/06/2021			01/07/2021 19:03	Dale L. Simmons	2216746
	01/06/2021			01/07/2021 19:15	Dale L. Simmons	2216747
	01/06/2021			01/07/2021 20:02	Dale L. Simmons	2216748
SM 2540 C-2011	01/06/2021			01/08/2021 15:21	Yijie Li	2216746, 2216747, 2216748
SM 2540 D-2011	01/06/2021			01/08/2021 15:21	Yijie Li	2216746, 2216747, 2216748
SM 4500 F-C-2011	01/06/2021			01/07/2021 19:03	Dale L. Simmons	2216746
	01/06/2021			01/07/2021 19:15	Dale L. Simmons	2216747
	01/06/2021			01/07/2021 20:02	Dale L. Simmons	2216748
SM 5310 B-2011	01/06/2021			01/08/2021 18:47	Madeline Gruver	2216749
	01/06/2021			01/08/2021 18:59	Madeline Gruver	2216750
	01/06/2021			01/08/2021 19:24	Madeline Gruver	2216751