

Chemical Analysis Report

CEN-DIST-2017-10-17-02

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

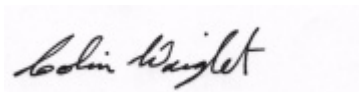
Event Description: **McCoy / Yvonne**
Request ID: **RQ-2017-10-16-35**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Orlando, FL 32803-3767
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-NOV-2017 12:41

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 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 McCoy @ Center of Southern Lobe (DUPLICATE)

Collection Date/Time: 10/16/2017 13:50

Field ID: G2CE0098_D

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937282	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P333571	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P333662	
		Sulfate	16		mg SO4/L	P333664	
	SM 2120 B	Color (true)	85		PCU	P333512	
	SM 2320 B-97	Total Alkalinity	35		mg CaCO3/L	P333853	
	SM 2540 C-97	TDS	103		mg/L	P333870	
	SM 2540 D-97	TSS	5	I	mg/L	P333936	
	SM 4500 F-C-97	Fluoride	0.049	I	mg F/L	P333857	
1937284	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P333894	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P333918	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333996	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P333942	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P333992	
1937286	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333508	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake McCoy @ Center of Southern Lobe

Collection Date/Time: 10/16/2017 13:50

Field ID: G2CE0098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937276	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P333571	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P333662	
		Sulfate	16		mg SO4/L	P333664	
	SM 2120 B	Color (true)	87	A	PCU	P333512	
	SM 2320 B-97	Total Alkalinity	35		mg CaCO3/L	P333853	
	SM 2540 C-97	TDS	98		mg/L	P333870	
	SM 2540 D-97	TSS	4	I	mg/L	P333936	
	SM 4500 F-C-97	Fluoride	0.049	I	mg F/L	P333857	
1937278	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P333894	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P333918	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333996	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P333942	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P333992	
1937280	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P333508	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Field Blank

Collection Date/Time: 10/16/2017 14:00

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937283	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P333571	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P333662	

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937283	EPA 300.0 Rev. 2.1	Sulfate	0.20	U	mg SO4/L	P333664	
	SM 2120 B	Color (true)	2.5	U	PCU	P333512	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P333853	
	SM 2540 C-97	TDS	15	U	mg/L	P333867	
	SM 2540 D-97	TSS	2	U	mg/L	P333933	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P333857	
1937285	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P333894	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P333918	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333996	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P333942	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P333992	
1937287	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333508	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Lake Yvonne @ Center

Collection Date/Time: 10/16/2017 14:30

Field ID: G2CE0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937277	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P333571	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P333662	
		Sulfate	9.3		mg SO4/L	P333664	
	SM 2120 B	Color (true)	69		PCU	P333512	
	SM 2320 B-97	Total Alkalinity	53		mg CaCO3/L	P333853	
	SM 2540 C-97	TDS	123		mg/L	P333870	
1937279	SM 2540 D-97	TSS	8	I	mg/L	P333936	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P333857	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P333894	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P333918	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333996	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P333942	
1937281	SM 5310 B-00	Organic Carbon	11		mg C/L	P333992	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P333508	

Ref. Method and Comment:

SM 2540 D-97: 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: P333571

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333662

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333664

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333894

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333918

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333996

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333942

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333508

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

Reference Method: SM 2120 B
Batch ID: P333512

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333853

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P333867

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P333870

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P333933

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P333936

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333857

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P333992

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: P333662

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333664

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333894

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P333894

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P333918

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P333996

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P333942

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P333508

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

Reference Method: SM 2320 B-97
 Batch ID: P333853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P333857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P333992

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P333662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937204	Chloride	105		P	90 - 110
1937205	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937204	Sulfate	103		P	90 - 110
1937205	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937278	Ammonia-N	101	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937279	Kjeldahl Nitrogen	96.6	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937279	NO2NO3-N	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937278	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333508

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937122	O-Phosphate-P	96.3	99.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P333857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938061	Fluoride	96.6	97.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P333992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937278	Organic Carbon	94.6	95.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937207	Turbidity	1.56	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937204	Chloride	0.799	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937204	Sulfate	0.631	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937278	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937279	Kjeldahl Nitrogen	3.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937279	NO2NO3-N	0.935	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937278	Total-P	1.77	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937122	O-Phosphate-P	2.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P333512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937276	Color (true)	0.923	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P333853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938061	Total Alkalinity	0.354	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P333867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936798	TDS	6.52	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P333870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937239	TDS	2.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P333857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938061	Fluoride	0.940	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P333992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937278	Organic Carbon	0.552	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 300.0 Rev. 2.1
Run ID: A79593
Included Lab Sample IDs: 1937276, 1937277, 1937282, 1937283

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	108	108	P/P	90 - 110
Sulfate	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79608

Included Lab Sample IDs: 1937280, 1937281, 1937286, 1937287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.7	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A79613

Included Lab Sample IDs: 1937276, 1937277, 1937282, 1937283

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.3	99.3	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79632

Included Lab Sample IDs: 1937276, 1937277, 1937282, 1937283

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

Reference Method: SM 2320 B-97

Run ID: A79730

Included Lab Sample IDs: 1937276, 1937277, 1937282, 1937283

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.7	P/P	90 - 110
Total Alkalinity	99.7	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79730

Included Lab Sample IDs: 1937276, 1937277, 1937282, 1937283

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.1	P/P	90 - 110
Fluoride	98.1	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79747

Included Lab Sample IDs: 1937278, 1937279, 1937284, 1937285

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

Reference Method: SM 5310 B-00

Run ID: A79779

Included Lab Sample IDs: 1937278, 1937279, 1937284, 1937285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79780

Included Lab Sample IDs: 1937278, 1937279, 1937284, 1937285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79780

Included Lab Sample IDs: 1937278, 1937279, 1937284, 1937285

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79781

Included Lab Sample IDs: 1937278, 1937279, 1937284

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.2	P/P	90 - 110
Total-P	99.4	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79802

Included Lab Sample IDs: 1937285

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79846

Included Lab Sample IDs: 1937278, 1937279, 1937284, 1937285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.5	P/P	90 - 110
Kjeldahl Nitrogen	97.5	99.0	P/P	90 - 110
Kjeldahl Nitrogen	99.0	95.7	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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.56	
EPA 300.0 Rev. 2.1	Chloride	104	105 106		0.799	
	Sulfate	102	103 103		0.631	
EPA 350.1 Rev. 2.0	Ammonia-N	104	101 99.7			1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6	96.6 102			3.39
EPA 353.2 Rev. 2.0	NO2NO3-N	105	106 108			0.935
EPA 365.1 Rev. 2.0	Total-P	99.5	102 104			1.77
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8	96.3 99.2			2.13
SM 2120 B	Color (true)				0.923	
SM 2320 B-97	Total Alkalinity	101			0.354	
SM 2540 C-97	TDS				6.52	
	TDS				2.80	
SM 4500 F-C-97	Fluoride	95.9	96.6 97.8			0.940
SM 5310 B-00	Organic Carbon	95.5	94.6 95.4			0.552

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1937276, 1937277, 1937282, 1937283
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1937276, 1937277, 1937282, 1937283
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1937276, 1937277, 1937282, 1937283
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1937278, 1937279, 1937284, 1937285
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1937278, 1937279, 1937284, 1937285
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1937278, 1937279, 1937284, 1937285
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1937278, 1937279, 1937284, 1937285
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1937280, 1937281, 1937286, 1937287
SM 2120 B / E31780	True Color measured at 450 nm	1937276, 1937277, 1937282, 1937283
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1937276, 1937277, 1937282, 1937283
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1937276, 1937277, 1937282, 1937283
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1937276, 1937277, 1937282, 1937283
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1937276, 1937277, 1937282, 1937283
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1937278, 1937279, 1937284, 1937285

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	10/17/2017			10/17/2017 15:46	DeAsia Armster	1937276, 1937277, 1937282, 1937283
EPA 300.0 Rev. 2.1	10/17/2017			10/18/2017	Julia Storbeck	1937276, 1937277, 1937282, 1937283
EPA 350.1 Rev. 2.0	10/17/2017			10/23/2017	Sofia Elnemr	1937278, 1937279, 1937284, 1937285
EPA 351.2 Rev. 2.0	10/17/2017	10/24/2017	Adrian Shelby	10/26/2017	Tanya Welborn	1937278, 1937279, 1937284, 1937285
EPA 353.2 Rev. 2.0	10/17/2017			10/24/2017	Beverly Y. Sanders	1937278, 1937279, 1937284, 1937285
EPA 365.1 Rev. 2.0	10/17/2017	10/24/2017	Sima Feizi	10/25/2017	Lipi Saha	1937278, 1937279, 1937284, 1937285
EPA 365.1 Rev. 2.0 dissolved	10/17/2017			10/17/2017 14:23	Megan Treadwell	1937280
	10/17/2017			10/17/2017 14:24	Megan Treadwell	1937286
	10/17/2017			10/17/2017 14:25	Megan Treadwell	1937281
	10/17/2017			10/17/2017 14:26	Megan Treadwell	1937287
	10/17/2017			10/17/2017 15:06	Tanya Welborn	1937276
SM 2120 B	10/17/2017			10/17/2017 15:07	Tanya Welborn	1937277
	10/17/2017			10/17/2017 15:08	Tanya Welborn	1937282
	10/17/2017			10/17/2017 15:09	Tanya Welborn	1937283
	10/17/2017			10/21/2017	Dale L. Simmons	1937276, 1937277, 1937282, 1937283
SM 2320 B-97	10/17/2017			10/18/2017	Yijie Li	1937276, 1937277, 1937282, 1937283
SM 2540 C-97	10/17/2017			10/18/2017	Yijie Li	1937276, 1937277, 1937282, 1937283
SM 2540 D-97	10/17/2017			10/21/2017	Dale L. Simmons	1937276, 1937277, 1937282, 1937283
SM 4500 F-C-97	10/17/2017			10/23/2017	Ping Hua	1937278
SM 5310 B-00	10/17/2017			10/24/2017	Ping Hua	1937279, 1937284, 1937285
	10/17/2017					