

Chemical Analysis Report

SE-DIST-2022-06-28-01

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

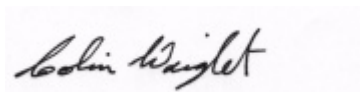
Event Description: **Yeehaw Junction**
Request ID: **RQ-2022-06-27-40**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

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Certified by: Colin Wright, Program Administrator

Date Certified: 19-JUL-2022 08:49

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light blue 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: Blue Cypress Creek

Collection Date/Time: 06/27/2022 10:00

Field ID: G3SE0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337539	DEP SOP: NU-094-1	Color (true)	200		PCU	P415910	
	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P415900	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P416148	
		Sulfate	6.3		mg SO4/L	P416151	
	SM 2320 B-2011	Total Alkalinity	75		mg CaCO3/L	P416073	
	SM 2540 C-2011	TDS	176		mg/L	P416077	
	SM 2540 D-2011	TSS	2	U	mg/L	P416035	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P416338	
2337540	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P415993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P415921	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P416405	
	EPA 365.1 Rev. 2.0	Total-P	0.27		mg P/L	P416025	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P416028	

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: FB

Collection Date/Time: 06/27/2022 10:05

Field ID: FB_06272022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337541	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P415910	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P415900	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P416148	
		Sulfate	0.20	U	mg SO4/L	P416151	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P416073	
	SM 2540 C-2011	TDS	15	U	mg/L	P416077	
	SM 2540 D-2011	TSS	2	U	mg/L	P416035	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P416338	
2337542	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P415993	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P415921	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416405	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P416025	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P416028	

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: Fort Drum Marsh Conservation Area Northeast Entrance **Collection Date/Time: 06/27/2022 11:45**

Field ID: G3SE0052

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337644	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P416265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P416109	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416405	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P416137	
	SM 5310 B-2011	Organic Carbon	28		mg C/L	P416106	
2337648	DEP SOP: NU-094-1	Color (true)	200		PCU	P415911	
	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P415900	
	EPA 300.0 Rev. 2.1	Chloride	81		mg Cl/L	P416149	
		Sulfate	14		mg SO4/L	P416152	
	SM 2320 B-2011	Total Alkalinity	53		mg CaCO3/L	P416073	
	SM 2540 C-2011	TDS	290		mg/L	P416077	
	SM 2540 D-2011	TSS	2	U	mg/L	P416035	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P416339	

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: DEP SOP: NU-094-1
Batch ID: P415910

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P415911

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415900

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415993

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415921

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416109

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416405

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416025

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416137

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

Reference Method: SM 2320 B-2011
Batch ID: P416073

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

Reference Method: SM 2540 C-2011
Batch ID: P416077

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416035

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P416338

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P416339

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416028

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

Reference Method: SM 5310 B-2011
Batch ID: P416106

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P415910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	85 - 115

Reference Method: DEP SOP: NU-094-1
Batch ID: P415911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.7		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415900

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415993

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415921

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416109

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416405

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416025

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416137

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

Reference Method: SM 2320 B-2011
Batch ID: P416073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P416338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P416339

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P416106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337487	Chloride	98.8		P	90 - 110
2337511	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337729	Chloride	98.4		P	90 - 110
2337733	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337487	Sulfate	93.5		P	90 - 110
2337511	Sulfate	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337729	Sulfate	98.8		P	90 - 110
2337733	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337399	Ammonia-N	99.4	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337909	Ammonia-N	98.4	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415921

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337335	Kjeldahl Nitrogen	103	95.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337329	Kjeldahl Nitrogen	97.6	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416405

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337552	NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416025

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337529	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337731	Total-P	102	105	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P416338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337539	Fluoride	102	101	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P416339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337656	Fluoride	103	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337500	Organic Carbon	99.4	99.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P416106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337911	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337498	Color (true)	5.28	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P415911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337656	Color (true)	3.76	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337497	Turbidity	3.38	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337487	Chloride	0.167	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Chloride	0.118	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337487	Sulfate	0.0716	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Sulfate	0.0320	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337399	Ammonia-N	1.48	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337909	Ammonia-N	1.22	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337335	Kjeldahl Nitrogen	6.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337329	Kjeldahl Nitrogen	2.25	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337552	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337529	Total-P	0.541	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337731	Total-P	2.29	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P416073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337487	Total Alkalinity	1.11	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P416077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337487	TDS	0.823	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P416338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337539	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P416339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337656	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337500	Organic Carbon	0.192	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P416106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337911	Organic Carbon	0.0628	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113141

Included Lab Sample IDs: 2337539, 2337541, 2337648

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

Reference Method: DEP SOP: NU-094-1

Run ID: A113145

Included Lab Sample IDs: 2337539, 2337541, 2337648

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.3	100	P/P	85 - 115
Color (true)	99.7	101	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113156

Included Lab Sample IDs: 2337539, 2337541, 2337648

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	101	99.7	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110
Sulfate	101	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113171

Included Lab Sample IDs: 2337540, 2337542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113196

Included Lab Sample IDs: 2337540, 2337542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A113225

Included Lab Sample IDs: 2337539, 2337541, 2337648

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113239

Included Lab Sample IDs: 2337540, 2337542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.8	95.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A113244

Included Lab Sample IDs: 2337644

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113278

Included Lab Sample IDs: 2337540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113282

Included Lab Sample IDs: 2337542

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113332

Included Lab Sample IDs: 2337644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113333

Included Lab Sample IDs: 2337644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113340

Included Lab Sample IDs: 2337644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.2	94.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113368

Included Lab Sample IDs: 2337539, 2337541, 2337648

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	102	P/P	90 - 110
Fluoride	103	103	P/P	90 - 110
Fluoride	105	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113410

Included Lab Sample IDs: 2337540, 2337542, 2337644

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: A113410

Included Lab Sample IDs: 2337540, 2337542, 2337644

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	108	108	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	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	98.2				5.28	
	Color (true)	97.7				3.76	
EPA 180.1 Rev. 2.0	Turbidity	97.3				3.38	
EPA 300.0 Rev. 2.1	Chloride	99.5	98.8	99.5		0.167	
	Chloride	101	98.4	99.4		0.118	
	Sulfate	99.4	93.5	96.6		0.0716	
	Sulfate	101	98.8	100		0.0320	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	99.4	102			1.48
	Ammonia-N	95.4	98.4	96.8			1.22
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.2	103	95.9			6.52
	Kjeldahl Nitrogen	107	97.6	101			2.25
EPA 353.2 Rev. 2.0	NO2NO3-N	110	106				0.0
EPA 365.1 Rev. 2.0	Total-P	103	103	104			0.541
	Total-P	102	102	105			2.29
SM 2320 B-2011	Total Alkalinity	100				1.11	
SM 2540 C-2011	TDS					0.823	
SM 4500-F- C-2011	Fluoride	103	102	101			0.480
	Fluoride	102	103	102			0.480
SM 5310 B-2011	Organic Carbon	95.6	99.4	99.6			0.192
	Organic Carbon	97.4	100	100			0.0628

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2337539, 2337541, 2337648
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2337539, 2337541, 2337648
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2337539, 2337541, 2337648
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2337539, 2337541, 2337648
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2337540, 2337542, 2337644
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2337540, 2337542, 2337644
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2337540, 2337542, 2337644
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2337540, 2337542, 2337644
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2337539, 2337541, 2337648
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2337539, 2337541, 2337648
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2337539, 2337541, 2337648
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2337539, 2337541, 2337648
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2337540, 2337542, 2337644

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/28/2022			06/28/2022 15:15	Samantha L Bates	2337541
	06/28/2022			06/28/2022 15:29	Samantha L Bates	2337539
	06/28/2022			06/28/2022 15:31	Samantha L Bates	2337648
EPA 180.1 Rev. 2.0	06/28/2022			06/28/2022 13:45	Anna M. Plaviak	2337539
	06/28/2022			06/28/2022 13:46	Anna M. Plaviak	2337541
	06/28/2022			06/28/2022 13:59	Anna M. Plaviak	2337648
EPA 300.0 Rev. 2.1	06/28/2022			07/01/2022 23:27	Anna M. Plaviak	2337539
	06/28/2022			07/01/2022 23:39	Anna M. Plaviak	2337541
	06/28/2022			07/02/2022 02:53	Anna M. Plaviak	2337648
EPA 350.1 Rev. 2.0	06/28/2022			06/29/2022 16:11	Judith K. Clark	2337540
	06/28/2022			06/29/2022 16:13	Judith K. Clark	2337542
	06/28/2022			07/07/2022 11:58	Ping Hua	2337644
EPA 351.2 Rev. 2.0	06/28/2022	06/30/2022 14:06	Samantha L Bates	07/01/2022 13:22	Alexandra J Mattheus	2337540
	06/28/2022	06/30/2022 14:06	Samantha L Bates	07/01/2022 13:23	Alexandra J Mattheus	2337542
	06/28/2022	07/05/2022 14:05	Simonne.V. Calhoun	07/07/2022 12:01	Alexandra J Mattheus	2337644
EPA 353.2 Rev. 2.0	06/28/2022			07/08/2022 17:04	Touraj Touran	2337540
	06/28/2022			07/08/2022 17:06	Touraj Touran	2337542
	06/28/2022			07/08/2022 17:10	Touraj Touran	2337644
EPA 365.1 Rev. 2.0	06/28/2022	07/01/2022 16:41	Simonne.V. Calhoun	07/05/2022 12:09	James L Waggeberby	2337540
	06/28/2022	07/01/2022 16:41	Simonne.V. Calhoun	07/05/2022 16:50	James L Waggeberby	2337542
	06/28/2022	07/06/2022 16:30	Adam P Silver	07/07/2022 14:45	James L Waggeberby	2337644
SM 2320 B-2011	06/28/2022			06/29/2022 22:44	Dale L. Simmons	2337539
	06/28/2022			06/29/2022 22:53	Dale L. Simmons	2337541
	06/28/2022			06/29/2022 23:59	Dale L. Simmons	2337648
SM 2540 C-2011	06/28/2022			06/29/2022 14:00	Ping Hua	2337539, 2337541, 2337648
SM 2540 D-2011	06/28/2022			06/29/2022 14:00	Ping Hua	2337539, 2337541, 2337648
SM 4500-F- C-2011	06/28/2022			07/07/2022 23:39	Dale L. Simmons	2337539
	06/28/2022			07/08/2022 01:21	Dale L. Simmons	2337541
	06/28/2022			07/08/2022 02:46	Dale L. Simmons	2337648
SM 5310 B-2011	06/28/2022			06/29/2022 19:55	Khloe J Berg	2337540
	06/28/2022			06/29/2022 20:09	Khloe J Berg	2337542
	06/28/2022			06/30/2022 17:26	Khloe J Berg	2337644