

Chemical Analysis Report

SW-DIST-2023-07-11-01

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

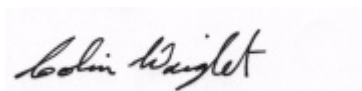
Event Description: **Run 4**
Request ID: **RQ-2023-07-10-04**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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Certified by: Colin Wright, Program Administrator

Date Certified: 27-JUL-2023 12:08

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink 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 BEULAH SW

Collection Date/Time: 07/10/2023 09:15

Field ID: G2SW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2422401	DEP SOP: NU-094-1	Color (true)	9.1		PCU	P432308	
	EPA 180.1 Rev. 2.0	Turbidity	0.85	I	NTU	P432300	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P432485	
		Sulfate	1.6		mg SO4/L	P432488	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P432714	
	SM 2540 C-2015	TDS	62		mg/L	P432583	
	SM 2540 D-2015	TSS	2	U	mg/L	P432537	
	SM 4500-F- C-2011	Fluoride	0.22		mg F/L	P432496	
2422404	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P432424	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P432754	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P432531	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P432375	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P432395	
2422407	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P432315	

Sample Location: CRYSTAL LAKE AT CENTER

Collection Date/Time: 07/10/2023 09:30

Field ID: G3SW0076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2422402	DEP SOP: NU-094-1	Color (true)	19		PCU	P432308	
	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P432300	
	EPA 300.0 Rev. 2.1	Chloride	8.8		mg Cl/L	P432485	
		Sulfate	5.1		mg SO4/L	P432488	
	SM 2320 B-2011	Total Alkalinity	29		mg CaCO3/L	P432714	
	SM 2540 C-2015	TDS	74		mg/L	P432583	
	SM 2540 D-2015	TSS	6	I	mg/L	P432537	
	SM 4500-F- C-2011	Fluoride	0.18		mg F/L	P432496	
2422405	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P432424	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P432754	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P432532	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P432375	
	SM 5310 B-2011	Organic Carbon	9.1		mg C/L	P432395	
2422408	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P432315	

Sample Location: LITTLE BANANA LAKE AT CENTER

Collection Date/Time: 07/10/2023 10:20

Field ID: G3SW0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2422403	DEP SOP: NU-094-1	Color (true)	22		PCU	P432308	
	EPA 180.1 Rev. 2.0	Turbidity	8.1		NTU	P432300	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P432485	
		Sulfate	2.4		mg SO4/L	P432488	
	SM 2320 B-2011	Total Alkalinity	59		mg CaCO3/L	P432714	
	SM 2540 C-2015	TDS	118	A	mg/L	P432583	
	SM 2540 D-2015	TSS	10	A	mg/L	P432537	
	SM 4500-F- C-2011	Fluoride	0.57		mg F/L	P432496	
2422406	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P432424	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P432755	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P432532	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P432375	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P432395	
2422409	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P432315	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P432308

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432300

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432424

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432755

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432531

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432532

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: P432375

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P432315

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

Reference Method: SM 2320 B-2011
Batch ID: P432714

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

Reference Method: SM 2540 C-2015
Batch ID: P432583

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P432537

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P432496

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P432395

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: P432308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432300

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432424

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: P432754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432755

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: P432531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432532

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432375

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P432315

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

Reference Method: SM 2320 B-2011
Batch ID: P432714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.0		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P432583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.9		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P432537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.2		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P432496

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432395

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422234	Chloride	98.3		P	90 - 110
2422402	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422234	Sulfate	94.6		P	90 - 110
2422402	Sulfate	94.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432424

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422404	Ammonia-N	97.6	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422350	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422406	Kjeldahl Nitrogen	100	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422332	NO2NO3-N	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422406	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422405	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P432315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422407	O-Phosphate-P	99.5	100	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P432496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422819	Fluoride	104	104	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422043	Organic Carbon	93.3	94.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P432308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422648	Color (true)	1.61	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422234	Turbidity	5.60	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422234	Chloride	1.10	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P432488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422234	Sulfate	0.856	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422404	Ammonia-N	1.61	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422350	Kjeldahl Nitrogen	1.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422406	Kjeldahl Nitrogen	3.14	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422332	NO2NO3-N	1.54	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P432532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422406	NO2NO3-N	0.943	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P432375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422405	Total-P	0.769	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P432315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422407	O-Phosphate-P	0.900	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P432714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422819	Total Alkalinity	0.0853	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P432583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422403	TDS	4.26	Sample	P	0 - 10

Reference Method: SM 2540 D-2015

Batch ID: P432537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422403	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P432496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422819	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011

Batch ID: P432395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422043	Organic Carbon	0.787	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 180.1 Rev. 2.0

Run ID: A120291

Included Lab Sample IDs: 2422401, 2422402, 2422403

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: A120294

Included Lab Sample IDs: 2422401, 2422402, 2422403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A120297

Included Lab Sample IDs: 2422407, 2422408, 2422409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120300

Included Lab Sample IDs: 2422401, 2422402, 2422403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Chloride	103	101	P/P	90 - 110
Sulfate	101	99.0	P/P	90 - 110
Sulfate	99.0	98.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120338

Included Lab Sample IDs: 2422404, 2422405, 2422406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120349

Included Lab Sample IDs: 2422404, 2422405, 2422406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120381

Included Lab Sample IDs: 2422406

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A120384

Included Lab Sample IDs: 2422401, 2422402, 2422403

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120389

Included Lab Sample IDs: 2422404, 2422405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120406

Included Lab Sample IDs: 2422404, 2422405, 2422406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	105	P/P	90 - 110
NO2NO3-N	105	106	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120497

Included Lab Sample IDs: 2422401, 2422402, 2422403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.5	95.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120578

Included Lab Sample IDs: 2422404, 2422405, 2422406

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	102	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
DEP SOP: NU-094-1	Color (true)	100			1.61	
EPA 180.1 Rev. 2.0	Turbidity	99.5			5.60	
EPA 300.0 Rev. 2.1	Chloride	99.4	98.3	98.2	1.10	
	Sulfate	96.8	94.6	94.0	0.856	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	97.6	99.4		1.61
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.6	103	104		1.13
	Kjeldahl Nitrogen	107	100	106		3.14
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	105		1.54
	NO2NO3-N	106	106	106		0.943
EPA 365.1 Rev. 2.0	Total-P	104	103	104		0.769
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.5	100		0.900
SM 2320 B-2011	Total Alkalinity	97.0			0.0853	
SM 2540 C-2015	TDS	96.9			4.26	
SM 2540 D-2015	TSS	93.2			0.0	
SM 4500-F- C-2011	Fluoride	102	104	104		0.0
SM 5310 B-2011	Organic Carbon	95.4	93.3	94.4		0.787

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2422401, 2422402, 2422403
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2422401, 2422402, 2422403
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2422401, 2422402, 2422403
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2422401, 2422402, 2422403
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2422404, 2422405, 2422406
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2422404, 2422405, 2422406
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2422404, 2422405, 2422406
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2422404, 2422405, 2422406
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2422407, 2422408, 2422409
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2422401, 2422402, 2422403
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2422401, 2422402, 2422403
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2422401, 2422402, 2422403
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2422401, 2422402, 2422403
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2422404, 2422405, 2422406

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	07/11/2023			07/11/2023 14:36	Chandler E Cox	2422401
	07/11/2023			07/11/2023 14:37	Chandler E Cox	2422402
	07/11/2023			07/11/2023 14:38	Chandler E Cox	2422403
EPA 180.1 Rev. 2.0	07/11/2023			07/11/2023 13:02	Alexis Price	2422401
	07/11/2023			07/11/2023 13:03	Alexis Price	2422402
	07/11/2023			07/11/2023 13:05	Alexis Price	2422403
EPA 300.0 Rev. 2.1	07/11/2023			07/13/2023 12:24	James L Waggeberby	2422402
	07/11/2023			07/13/2023 17:25	James L Waggeberby	2422401
	07/11/2023			07/13/2023 17:40	James L Waggeberby	2422403
EPA 350.1 Rev. 2.0	07/11/2023			07/13/2023 12:58	Khloe J Berg	2422404
	07/11/2023			07/13/2023 13:02	Khloe J Berg	2422405
	07/11/2023			07/13/2023 13:03	Khloe J Berg	2422406
EPA 351.2 Rev. 2.0	07/11/2023	07/20/2023 10:58	Dana G. Hughes	07/24/2023 11:05	Samantha L Bates	2422404
	07/11/2023	07/20/2023 10:58	Dana G. Hughes	07/24/2023 11:06	Samantha L Bates	2422405
	07/11/2023	07/20/2023 10:58	Dana G. Hughes	07/24/2023 11:11	Samantha L Bates	2422406
EPA 353.2 Rev. 2.0	07/11/2023			07/13/2023 14:08	Judith K. Clark	2422404
	07/11/2023			07/13/2023 14:15	Judith K. Clark	2422406
	07/11/2023			07/13/2023 14:29	Judith K. Clark	2422405
EPA 365.1 Rev. 2.0	07/11/2023	07/13/2023 16:15	Adam P Silver	07/13/2023 19:30	James L Waggeberby	2422406
	07/11/2023	07/13/2023 16:15	Adam P Silver	07/14/2023 11:21	James L Waggeberby	2422405
	07/11/2023	07/13/2023 16:15	Adam P Silver	07/14/2023 11:23	James L Waggeberby	2422404
EPA 365.1 Rev. 2.0 dissolved	07/11/2023			07/11/2023 15:36	Elise M. Gillis	2422407
	07/11/2023			07/11/2023 15:38	Elise M. Gillis	2422408
	07/11/2023			07/11/2023 15:39	Elise M. Gillis	2422409
SM 2320 B-2011	07/11/2023			07/18/2023 15:05	Dale L. Simmons	2422401
	07/11/2023			07/18/2023 15:15	Dale L. Simmons	2422402
	07/11/2023			07/18/2023 15:26	Dale L. Simmons	2422403
SM 2540 C-2015	07/11/2023			07/13/2023 14:00	Dana G. Hughes	2422401, 2422402, 2422403
SM 2540 D-2015	07/11/2023			07/13/2023 14:00	Dana G. Hughes	2422401, 2422402, 2422403
SM 4500-F- C-2011	07/11/2023			07/14/2023 06:01	Dale L. Simmons	2422401
	07/11/2023			07/14/2023 06:50	Dale L. Simmons	2422402
	07/11/2023			07/14/2023 07:03	Dale L. Simmons	2422403
SM 5310 B-2011	07/11/2023			07/13/2023 05:20	Elise M. Gillis	2422404
	07/11/2023			07/13/2023 05:35	Elise M. Gillis	2422405
	07/11/2023			07/13/2023 05:50	Elise M. Gillis	2422406