

Chemical Analysis Report

NW-DIST-2023-01-18-01

Florida DEP Laboratory
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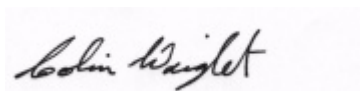
Event Description: **Hogtown Bayou Run**
Request ID: **RQ-2023-01-16-09**
Customer: **NW-DIST**
Project ID: **SMP**

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

Date Certified: 10-FEB-2023 13:20

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: Hewett Bayou Center

Collection Date/Time: 01/17/2023 11:10

Field ID: G3NW0218

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2381373	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P424695	
	SM 2320 B-2011	Total Alkalinity	87		mg CaCO3/L	P425023	
	SM 2540 D-2015	TSS	3	UA	mg/L	P425041	
	SM 4500-F- C-2011	Fluoride	0.85		mg F/L	P425447	MS, RPD
2381378	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P425157	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25	I	mg N/L	P424941	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P424902	
	EPA 365.1 Rev. 2.0	Total-P	0.01	I	mg P/L	P424790	
	SM 5310 B-2011	Organic Carbon	2.6	I	mg C/L	P425087	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Mussett Bayou Center

Collection Date/Time: 01/17/2023 11:25

Field ID: G3NW0234

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2381374	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P424695	
	SM 2320 B-2011	Total Alkalinity	91		mg CaCO3/L	P425023	
	SM 2540 D-2015	TSS	3	U	mg/L	P425041	
	SM 4500-F- C-2011	Fluoride	0.90		mg F/L	P425447	MS, RPD
2381379	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P425157	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P424834	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P424902	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P424790	
	SM 5310 B-2011	Organic Carbon	3.4	I	mg C/L	P425293	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Buck Bayou Center

Collection Date/Time: 01/17/2023 10:45

Field ID: G3NW0233

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2381375	EPA 180.1 Rev. 2.0	Turbidity	1.4	A	NTU	P424697	
	SM 2320 B-2011	Total Alkalinity	84		mg CaCO3/L	P425023	
	SM 2540 D-2015	TSS	3	U	mg/L	P425041	
	SM 4500-F- C-2011	Fluoride	0.80		mg F/L	P425447	MS, RPD
2381380	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P425411	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P424941	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P424902	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P424790	
	SM 5310 B-2011	Organic Carbon	3.0	I	mg C/L	P425293	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Churchill Bayou Center

Collection Date/Time: 01/17/2023 11:40

Field ID: G3NW0235

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2381376	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P424697	
	SM 2320 B-2011	Total Alkalinity	88		mg CaCO3/L	P425023	
	SM 2540 D-2015	TSS	16		mg/L	P425041	
	SM 4500-F- C-2011	Fluoride	0.88		mg F/L	P425447	MS, RPD
2381381	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P425411	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P424834	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P424902	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P424790	
	SM 5310 B-2011	Organic Carbon	2.9	I	mg C/L	P425293	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Hogtown Bayou at Cessna Park

Collection Date/Time: 01/17/2023 11:55

Field ID: G3NW0152

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2381377	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P424697	
	SM 2320 B-2011	Total Alkalinity	91		mg CaCO3/L	P425023	
	SM 2540 D-2015	TSS	3	U	mg/L	P425041	
	SM 4500-F- C-2011	Fluoride	0.91		mg F/L	P425447	MS, RPD
2381382	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P425411	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P424834	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P424902	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P424790	
	SM 5310 B-2011	Organic Carbon	2.9	I	mg C/L	P425293	

Ref. Method and Comment:

SM 2540 D-2015: 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: P424695

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424697

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425157

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425411

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424834

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424941

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424902

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424790

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

Reference Method: SM 2320 B-2011
Batch ID: P425023

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P425041

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425447

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P425087

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

Reference Method: SM 5310 B-2011
Batch ID: P425293

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424695

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424697

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425157

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424834

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: P424941

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424902

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424790

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

Reference Method: SM 2320 B-2011
Batch ID: P425023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.5		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P425041

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	90.6		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P425447

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P425293

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381264	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381380	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381343	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381380	Kjeldahl Nitrogen	102	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381267	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381379	Total-P	101	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P425447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381168	Fluoride	91.5	88.7	F/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2381726	Organic Carbon	93.6	98.5	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P425293

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382373	Organic Carbon	91.6	92.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381304	Turbidity	3.75	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381375	Turbidity	2.21	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381264	Ammonia-N	0.305	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381380	Ammonia-N	0.517	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381343	Kjeldahl Nitrogen	0.974	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381380	Kjeldahl Nitrogen	1.82	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381267	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381379	Total-P	1.41	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P425023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381409	Total Alkalinity	1.56	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P425447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381168	Fluoride	1.97	Spike	F	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P425087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2381726	Organic Carbon	4.55	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P425293

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382373	Organic Carbon	0.779	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: A116959

Included Lab Sample IDs: 2381373, 2381374, 2381375, 2381376, 2381377

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117060

Included Lab Sample IDs: 2381378, 2381379, 2381380, 2381381, 2381382

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117063

Included Lab Sample IDs: 2381378, 2381379, 2381380, 2381381, 2381382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.0	96.0	P/P	90 - 110
Total-P	96.0	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117076

Included Lab Sample IDs: 2381379, 2381381, 2381382

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

Reference Method: SM 2320 B-2011

Run ID: A117107

Included Lab Sample IDs: 2381373, 2381374, 2381375, 2381376, 2381377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.0	95.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A117137

Included Lab Sample IDs: 2381378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	106	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117139

Included Lab Sample IDs: 2381378, 2381380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	104	P/P	90 - 110
Kjeldahl Nitrogen	105	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117163

Included Lab Sample IDs: 2381378, 2381379

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

Reference Method: SM 5310 B-2011

Run ID: A117216

Included Lab Sample IDs: 2381379, 2381380, 2381381, 2381382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	94.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117272

Included Lab Sample IDs: 2381380, 2381381, 2381382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117285

Included Lab Sample IDs: 2381373, 2381374, 2381375, 2381376, 2381377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	98.6	P/P	90 - 110
Fluoride	99.0	97.6	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	100			3.75	
	Turbidity	100			2.21	
EPA 350.1 Rev. 2.0	Ammonia-N	104	100	101		0.305
	Ammonia-N	99.8	101	102		0.517
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.6	103	104		0.974
	Kjeldahl Nitrogen	102	102	104		1.82
EPA 353.2 Rev. 2.0	NO2NO3-N	101	102	102		0.0
EPA 365.1 Rev. 2.0	Total-P	107	101	102		1.41
SM 2320 B-2011	Total Alkalinity	94.5			1.56	
SM 2540 D-2015	TSS	90.6				
SM 4500-F- C-2011	Fluoride	96.5	91.5	88.7		1.97
SM 5310 B-2011	Organic Carbon	104	93.6	98.5		4.55
	Organic Carbon	98.0	91.6	92.6		0.779

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2381373, 2381374, 2381375, 2381376, 2381377
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2381378, 2381379, 2381380, 2381381, 2381382
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2381378, 2381379, 2381380, 2381381, 2381382
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2381378, 2381379, 2381380, 2381381, 2381382
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2381378, 2381379, 2381380, 2381381, 2381382
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2381373, 2381374, 2381375, 2381376, 2381377
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2381373, 2381374, 2381375, 2381376, 2381377
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2381373, 2381374, 2381375, 2381376, 2381377
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2381378, 2381379, 2381380, 2381381, 2381382

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	01/18/2023			01/18/2023 13:59	Khloe J Berg	2381373, 2381374
	01/18/2023			01/18/2023 14:35	Khloe J Berg	2381375
	01/18/2023			01/18/2023 14:39	Khloe J Berg	2381376
	01/18/2023			01/18/2023 14:40	Khloe J Berg	2381377
EPA 350.1 Rev. 2.0	01/18/2023			01/30/2023 15:24	Judith K. Clark	2381378
	01/18/2023			01/30/2023 15:26	Judith K. Clark	2381379
	01/18/2023			02/06/2023 10:46	Ping Hua	2381380
	01/18/2023			02/06/2023 10:50	Ping Hua	2381381
EPA 351.2 Rev. 2.0	01/18/2023			02/06/2023 10:52	Ping Hua	2381382
	01/18/2023	01/23/2023 12:30	Simonne.V. Calhoun	01/24/2023 15:21	Samantha L Bates	2381379
	01/18/2023	01/23/2023 12:30	Simonne.V. Calhoun	01/24/2023 15:22	Samantha L Bates	2381381
	01/18/2023	01/23/2023 12:30	Simonne.V. Calhoun	01/24/2023 15:24	Samantha L Bates	2381382
EPA 353.2 Rev. 2.0	01/18/2023	01/26/2023 08:24	Samantha L Bates	01/27/2023 11:57	Judith K. Clark	2381378
	01/18/2023	01/26/2023 08:24	Samantha L Bates	01/27/2023 12:02	Judith K. Clark	2381380
	01/18/2023			01/24/2023 11:18	Beverly Y. Sanders	2381378
	01/18/2023			01/24/2023 11:19	Beverly Y. Sanders	2381379
EPA 365.1 Rev. 2.0	01/18/2023			01/24/2023 11:21	Beverly Y. Sanders	2381380
	01/18/2023			01/24/2023 11:22	Beverly Y. Sanders	2381381
	01/18/2023			01/24/2023 11:23	Beverly Y. Sanders	2381382
	01/18/2023	01/20/2023 17:10	Adam P Silver	01/24/2023 11:17	James L Waggeberby	2381379
SM 2320 B-2011	01/18/2023	01/20/2023 17:10	Adam P Silver	01/24/2023 11:27	James L Waggeberby	2381378
	01/18/2023	01/20/2023 17:10	Adam P Silver	01/24/2023 11:28	James L Waggeberby	2381380
	01/18/2023	01/20/2023 17:10	Adam P Silver	01/24/2023 11:29	James L Waggeberby	2381381
	01/18/2023	01/20/2023 17:10	Adam P Silver	01/24/2023 11:30	James L Waggeberby	2381382
SM 2540 D-2015	01/18/2023			01/25/2023 09:43	Dale L. Simmons	2381373
	01/18/2023			01/25/2023 09:53	Dale L. Simmons	2381374
	01/18/2023			01/25/2023 10:04	Dale L. Simmons	2381375
	01/18/2023			01/25/2023 10:14	Dale L. Simmons	2381376
SM 4500-F- C-2011	01/18/2023			01/25/2023 10:25	Dale L. Simmons	2381377
	01/18/2023			01/23/2023 16:20	Yijie Li	2381373, 2381374, 2381375, 2381376, 2381377
	01/18/2023			02/07/2023 01:29	Adam P Silver	2381373
	01/18/2023			02/07/2023 01:34	Adam P Silver	2381374
SM 5310 B-2011	01/18/2023			02/07/2023 01:40	Adam P Silver	2381375
	01/18/2023			02/07/2023 02:18	Adam P Silver	2381376
	01/18/2023			02/07/2023 02:24	Adam P Silver	2381377
	01/18/2023			01/27/2023 04:02	Elise M. Gillis	2381378
	01/18/2023			02/02/2023 03:34	Elise M. Gillis	2381379
	01/18/2023			02/02/2023 03:52	Elise M. Gillis	2381380
	01/18/2023			02/02/2023 04:25	Elise M. Gillis	2381381

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	01/18/2023			02/02/2023 04:42	Elise M. Gillis	2381382