

Chemical Analysis Report

NE-DIST-2020-02-25-02

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

Event Description: **Nassau North West**
Request ID: **RQ-2020-02-24-13**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 19-MAR-2020 17:30

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored 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: Calkins at Turner Cemetary Rd

Collection Date/Time: 02/24/2020 09:20

Field ID: 19010076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2160357	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P379629	
	EPA 300.0 Rev. 2.1	Chloride	11	A	mg Cl/L	P380162	
		Sulfate	1.7	A	mg SO4/L	P380165	
	SM 2120 B-2011	Color (true)	180	A	PCU	P379672	
	SM 2320 B-2011	Total Alkalinity	31		mg CaCO3/L	P380175	
	SM 2540 C-2011	TDS	95		mg/L	P379978	
	SM 2540 D-2011	TSS	2	I	mg/L	P379973	
	SM 4500 F-C-2011	Fluoride	0.083	I	mg F/L	P380680	
2160360	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P379912	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P379759	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P380099	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P380660	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P379711	
2160363	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P379686	

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: Moccasin Creek @ Moccasin Creek Cir. E.

Collection Date/Time: 02/24/2020 10:00

Field ID: 19010121

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2160358	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P379629	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P380162	
		Sulfate	0.20	U	mg SO4/L	P380165	
	SM 2120 B-2011	Color (true)	440		PCU	P379672	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P380175	
	SM 2540 C-2011	TDS	91		mg/L	P379978	
	SM 2540 D-2011	TSS	2	I	mg/L	P379973	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P380680	
2160361	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P379912	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P379759	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P380099	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P380660	
	SM 5310 B-2011	Organic Carbon	57		mg C/L	P379711	
2160364	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P379686	

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: Daughtery Br @ Crews Rd

Collection Date/Time: 02/24/2020 10:40

Field ID: 19010136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2160359	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P379629	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P380162	
		Sulfate	1.7		mg SO4/L	P380165	
	SM 2120 B-2011	Color (true)	210		PCU	P379672	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P380175	
	SM 2540 C-2011	TDS	99		mg/L	P379978	
	SM 2540 D-2011	TSS	3	I	mg/L	P379973	
	SM 4500 F-C-2011	Fluoride	0.067	I	mg F/L	P380680	
2160362	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P379912	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P379759	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P380099	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P380660	
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P379711	
2160365	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P379688	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379629

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380162

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380165

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379912

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379759

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380099

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380660

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379686

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379688

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P379672

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P380175

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

Reference Method: SM 2540 C-2011
Batch ID: P379978

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379973

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P380680

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379711

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: P380162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379912

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379759

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: P380099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380660

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379686

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	93.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379688

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

Reference Method: SM 2120 B-2011
Batch ID: P379672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P380175

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P380680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379711

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 300.0 Rev. 2.1
Batch ID: P380162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160357	Chloride	96.9		P	90 - 110
2160425	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160357	Sulfate	97.5		P	90 - 110
2160425	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160343	Ammonia-N	99.3	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160383	Kjeldahl Nitrogen	101	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159580	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160380	Total-P	107	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160310	O-Phosphate-P	93.5	93.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379688

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160381	O-Phosphate-P	94.3	96.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P380680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160306	Fluoride	98.5	99.4	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P379711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160266	Organic Carbon	100		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160340	Turbidity	3.53	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160357	Chloride	0.524	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160357	Sulfate	0.344	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160343	Ammonia-N	1.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160383	Kjeldahl Nitrogen	2.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159580	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160380	Total-P	3.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160310	O-Phosphate-P	0.180	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379688

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160381	O-Phosphate-P	1.74	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P379672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160357	Color (true)	0.273	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P380175

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160306	Total Alkalinity	0.192	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P379978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160306	TDS	1.95	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P380680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160306	Fluoride	0.467	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P379711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160266	Organic Carbon	0.399	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: A97813

Included Lab Sample IDs: 2160357, 2160358, 2160359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A97827

Included Lab Sample IDs: 2160357, 2160358, 2160359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97828

Included Lab Sample IDs: 2160363, 2160364, 2160365

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.9	98.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A97841

Included Lab Sample IDs: 2160360, 2160361, 2160362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	99.8	P/P	90 - 110
Organic Carbon	99.8	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97877

Included Lab Sample IDs: 2160360, 2160361, 2160362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97928

Included Lab Sample IDs: 2160360, 2160361, 2160362

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A98001

Included Lab Sample IDs: 2160357, 2160358, 2160359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.4	P/P	90 - 110
Chloride	99.4	100	P/P	90 - 110
Sulfate	101	99.6	P/P	90 - 110
Sulfate	99.6	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A98012

Included Lab Sample IDs: 2160360, 2160361, 2160362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A98031

Included Lab Sample IDs: 2160357, 2160358, 2160359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A98204

Included Lab Sample IDs: 2160357, 2160358, 2160359

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98240

Included Lab Sample IDs: 2160360, 2160361, 2160362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	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	
EPA 180.1 Rev. 2.0	Turbidity					3.53	
EPA 300.0 Rev. 2.1	Chloride	98.7	96.9	103		0.524	
	Sulfate	98.5	97.5	103		0.344	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.3	102			1.79
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	101	97.5			2.01
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	107	107	104			3.21
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	93.3	93.5	93.7			0.180
	O-Phosphate-P	101	94.3	96.2			1.74
SM 2120 B-2011	Color (true)	98.8				0.273	
SM 2320 B-2011	Total Alkalinity	105				0.192	
SM 2540 C-2011	TDS					1.95	
SM 4500 F-C-2011	Fluoride	96.9	98.5	99.4			0.467
SM 5310 B-2011	Organic Carbon	98.0	100				0.399

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2160357, 2160358, 2160359
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2160357, 2160358, 2160359
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2160357, 2160358, 2160359
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2160360, 2160361, 2160362
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2160360, 2160361, 2160362
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2160360, 2160361, 2160362
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2160360, 2160361, 2160362
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2160363, 2160364, 2160365
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2160357, 2160358, 2160359
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2160357, 2160358, 2160359
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2160357, 2160358, 2160359
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2160357, 2160358, 2160359
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2160357, 2160358, 2160359
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2160360, 2160361, 2160362

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	02/25/2020			02/25/2020 16:14	Blanca Fach	2160357, 2160358, 2160359
EPA 300.0 Rev. 2.1	02/25/2020			03/05/2020 13:41	Lipi Saha	2160357
	02/25/2020			03/05/2020 16:06	Lipi Saha	2160358
	02/25/2020			03/05/2020 16:18	Lipi Saha	2160359
EPA 350.1 Rev. 2.0	02/25/2020			03/02/2020 12:39	Ping Hua	2160360
	02/25/2020			03/02/2020 12:40	Ping Hua	2160361
	02/25/2020			03/02/2020 12:48	Ping Hua	2160362
EPA 351.2 Rev. 2.0	02/25/2020	02/27/2020 12:00	Sima Feizi	02/28/2020 09:47	Jhamieka S. Greenwood	2160360
	02/25/2020	02/27/2020 12:00	Sima Feizi	02/28/2020 09:49	Jhamieka S. Greenwood	2160361
	02/25/2020	02/27/2020 12:00	Sima Feizi	02/28/2020 09:51	Jhamieka S. Greenwood	2160362
EPA 353.2 Rev. 2.0	02/25/2020			03/05/2020 09:55	Beverly Y. Sanders	2160360
	02/25/2020			03/05/2020 09:57	Beverly Y. Sanders	2160361
	02/25/2020			03/05/2020 11:33	Beverly Y. Sanders	2160362
EPA 365.1 Rev. 2.0	02/25/2020	03/13/2020 14:30	Yen Ta	03/16/2020 16:03	Benjamin T. Nordmann	2160360
	02/25/2020	03/13/2020 14:30	Yen Ta	03/16/2020 16:04	Benjamin T. Nordmann	2160361
	02/25/2020	03/13/2020 14:30	Yen Ta	03/16/2020 16:05	Benjamin T. Nordmann	2160362
EPA 365.1 Rev. 2.0 dissolved	02/25/2020			02/25/2020 16:42	Carlos Miranda	2160363
	02/25/2020			02/25/2020 16:43	Carlos Miranda	2160364
	02/25/2020			02/25/2020 16:48	Carlos Miranda	2160365
SM 2120 B-2011	02/25/2020			02/25/2020 16:45		2160357
	02/25/2020			02/25/2020 16:46		2160358, 2160359
SM 2320 B-2011	02/25/2020			03/05/2020 09:43	Dale L. Simmons	2160357
	02/25/2020			03/05/2020 09:51	Dale L. Simmons	2160358
	02/25/2020			03/05/2020 11:54	Dale L. Simmons	2160359
SM 2540 C-2011	02/25/2020			02/26/2020 14:06	Yijie Li	2160357, 2160358, 2160359
SM 2540 D-2011	02/25/2020			02/26/2020 14:06	Yijie Li	2160357, 2160358, 2160359
SM 4500 F-C-2011	02/25/2020			03/14/2020 01:02	Dale L. Simmons	2160357
	02/25/2020			03/14/2020 01:08	Dale L. Simmons	2160358
	02/25/2020			03/14/2020 01:13	Dale L. Simmons	2160359
SM 5310 B-2011	02/25/2020			02/26/2020 18:34	Lauren Lees	2160360
	02/25/2020			02/26/2020 19:14	Lauren Lees	2160361
	02/25/2020			02/26/2020 19:27	Lauren Lees	2160362