

Chemical Analysis Report

TLH-ROC-2021-01-13-01

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

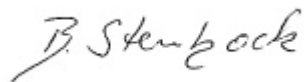
Event Description: **Run 6**
Request ID: **RQ-2021-01-04-28**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

For additional information please contact
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Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 03-FEB-2021 17:59



NON-CONFORMANCE REPORT INCLUDED

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 groups are included in this report: Nutrients and Pesticides.

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: FB_01132021

Collection Date/Time: 01/13/2021 09:00

Field ID: FB_01132021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2218881	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P392385	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P392555	
		Sulfate	0.20	U	mg SO4/L	P392560	
		Color (true)	2.5	U	PCU	P392352	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P392583	
	SM 2540 C-2011	TDS	15	U	mg/L	P392804	
	SM 2540 D-2011	TSS	2	U	mg/L	P392887	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P392585	
2218882	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P392847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P392831	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P392665	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P392594	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P392643	
2218883	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392345	
2218891	EPA 8276	Chlordane	5.7	U	ng/L	P392264	
		Toxaphene	34	U	ng/L	P392264	

Sample Location: Moore Branch @ Cody Church Rd

Collection Date/Time: 01/13/2021 09:35

Field ID: G1TLHR0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2218878	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P392385	
	EPA 300.0 Rev. 2.1	Chloride	6.0		mg Cl/L	P392555	
		Sulfate	1.4		mg SO4/L	P392560	
		Color (true)	49		PCU	P392352	
	SM 2120 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P392583	
	SM 2540 C-2011	TDS	27		mg/L	P392808	
	SM 2540 D-2011	TSS	2	I	mg/L	P392891	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P392585	
2218879	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P392847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P392831	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P392665	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P392594	
	SM 5310 B-2011	Organic Carbon	6.7		mg C/L	P392643	
2218880	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P392345	
2218890	EPA 8276	Chlordane	5.8	U	ng/L	P392264	
		Toxaphene	35	U	ng/L	P392264	

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: Bailey Mill Creek @ Wilson Rd

Collection Date/Time: 01/13/2021 11:50

Field ID: G1TLHR0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2218875	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P392385	
	EPA 300.0 Rev. 2.1	Chloride	6.1		mg Cl/L	P392555	
		Sulfate	0.29	I	mg SO4/L	P392560	
	SM 2120 B-2011	Color (true)	260		PCU	P392352	
	SM 2320 B-2011	Total Alkalinity	30		mg CaCO3/L	P392583	
	SM 2540 C-2011	TDS	95		mg/L	P392808	
	SM 2540 D-2011	TSS	2	U	mg/L	P392891	
	SM 4500 F-C-2011	Fluoride	0.049	I	mg F/L	P392585	
2218876	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P392847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P392831	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P392665	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P392594	
	SM 5310 B-2011	Organic Carbon	26		mg C/L	P392643	
2218877	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.027		mg P/L	P392345	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 8611

Event(s)

TLH-ROC-2021-01-13-01

Job(s)

TLH-2021-01-13-52

Sample(s)

2218881

Test(s)

NCR Type: CUSTODY

NCR Category: General

Observation: Control sensor malfunctioned in Refrigerator #4; temperature fell below normal operating range. Samples discovered frozen solid on 1/25/2021 @ 11:30.

Resolution: Refrigerator control sensor replaced.
Chemistry supervisor was notified
Data will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 1/29/2021

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392385

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392555

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392560

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392847

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392831

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392665

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392594

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392345

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

Reference Method: EPA 8276
Batch ID: P392264

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P392352

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P392583

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

Reference Method: SM 2540 C-2011
Batch ID: P392804

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P392808

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P392887

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P392891

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P392643

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: P392555

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P392560

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P392847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P392831

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: P392665

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P392594

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P392345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.8		P	90 - 110

Reference Method: EPA 8276
 Batch ID: P392264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	96.4	97.9	P/P	56 - 117
Toxaphene	101	103	P/P	45 - 116

Reference Method: SM 2120 B-2011
 Batch ID: P392352

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P392583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.8		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P392643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392555

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218770	Chloride	101		P	90 - 110
2219059	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218770	Sulfate	105		P	90 - 110
2219059	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218771	Ammonia-N	96.0	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218804	Kjeldahl Nitrogen	108	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218879	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218771	Total-P	105	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218880	O-Phosphate-P	96.6	96.7	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P392264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218379	Chlordane	96.1	99.3	P/P	47 - 128
2218379	Toxaphene	132	140	P/P	11 - 163

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218606	Fluoride	98.6	99.3	P/P	94 - 107

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P392643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218945	Organic Carbon	102	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P392385

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218666	Turbidity	3.47	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P392555

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218770	Chloride	0.357	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P392560

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218770	Sulfate	0.499	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P392847

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218771	Ammonia-N	3.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P392831

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218804	Kjeldahl Nitrogen	0.453	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P392665

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218879	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P392594

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218771	Total-P	3.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P392345

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218880	O-Phosphate-P	0.0853	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P392264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218379	Chlordane	3.27	Spike	P	0 - 30
2218379	Toxaphene	5.55	Spike	P	0 - 30
LFB	Chlordane	1.52	LCS	P	0 - 30
LFB	Toxaphene	2.13	LCS	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P392352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218803	Color (true)	1.73	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P392583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218606	Total Alkalinity	2.35	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P392804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218042	TDS	6.73	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P392808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218770	TDS	5.45	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P392887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218042	TSS	4.08	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218606	Fluoride	0.467	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P392643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218945	Organic Carbon	0.927	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2218890
Field Sample ID: G1TLHR0041

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	65.7	P	29 - 92.0
EPA 8276	PCNB	87.9	P	43 - 134

Lab Sample ID: 2218891
Field Sample ID: FB_01132021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	68.1	P	29 - 92.0
EPA 8276	PCNB	85.5	P	43 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103033

Included Lab Sample IDs: 2218877, 2218880, 2218883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.5	98.0	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A103037

Included Lab Sample IDs: 2218875, 2218878, 2218881

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103056

Included Lab Sample IDs: 2218875, 2218878, 2218881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 8276

Run ID: A103096

Included Lab Sample IDs: 2218890, 2218891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	96.4		P	80 - 120
Toxaphene	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103125

Included Lab Sample IDs: 2218875, 2218878, 2218881

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

Reference Method: SM 2320 B-2011

Run ID: A103129

Included Lab Sample IDs: 2218875, 2218878, 2218881

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.4	97.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103129

Included Lab Sample IDs: 2218875, 2218878, 2218881

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

Reference Method: SM 5310 B-2011

Run ID: A103143

Included Lab Sample IDs: 2218876, 2218879, 2218882

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

Reference Method: SM 5310 B-2011

Run ID: A103143

Included Lab Sample IDs: 2218876, 2218879, 2218882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	104	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103152

Included Lab Sample IDs: 2218876, 2218879, 2218882

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103197

Included Lab Sample IDs: 2218876, 2218879, 2218882

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103199

Included Lab Sample IDs: 2218876, 2218879, 2218882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A103247

Included Lab Sample IDs: 2218876, 2218879, 2218882

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	106	P/P	90 - 110
Kjeldahl Nitrogen	106	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		LCS	Precision	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						3.47	
EPA 300.0 Rev. 2.1	Chloride	103		101	103		0.357	
	Sulfate	104		105	104		0.499	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2		96.0	99.6			3.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		108	108			0.453
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	103		105	109			3.93
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8		96.6	96.7			0.0853
EPA 8276	Chlordane	96.4	97.9	96.1	99.3	1.52		3.27
	Toxaphene	101	103	132	140	2.13		5.55
SM 2120 B-2011	Color (true)	101					1.73	
SM 2320 B-2011	Total Alkalinity	97.8					2.35	
SM 2540 C-2011	TDS						6.73	
	TDS						5.45	
SM 2540 D-2011	TSS						4.08	
SM 4500 F-C-2011	Fluoride	98.8		98.6	99.3			0.467
SM 5310 B-2011	Organic Carbon	98.8		102	101			0.927

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2218875, 2218878, 2218881
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2218875, 2218878, 2218881
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2218875, 2218878, 2218881
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2218876, 2218879, 2218882
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2218876, 2218879, 2218882
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2218876, 2218879, 2218882
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2218876, 2218879, 2218882
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2218877, 2218880, 2218883
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2218890, 2218891
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2218875, 2218878, 2218881
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2218875, 2218878, 2218881
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2218875, 2218878, 2218881
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2218875, 2218878, 2218881
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2218875, 2218878, 2218881
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2218876, 2218879, 2218882

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	01/13/2021			01/13/2021 15:34	Yen Ta	2218875, 2218878, 2218881
EPA 300.0 Rev. 2.1	01/13/2021			01/16/2021 08:13	Julia Storbeck	2218875
	01/13/2021			01/16/2021 08:25	Julia Storbeck	2218878
	01/13/2021			01/16/2021 08:37	Julia Storbeck	2218881
EPA 350.1 Rev. 2.0	01/13/2021			01/23/2021 14:50	Ping Hua	2218876
	01/13/2021			01/23/2021 14:51	Ping Hua	2218879
	01/13/2021			01/23/2021 14:53	Ping Hua	2218882
EPA 351.2 Rev. 2.0	01/13/2021	01/25/2021 12:37	Yen Ta	01/26/2021 15:01	Julia Storbeck	2218876
	01/13/2021	01/25/2021 12:37	Yen Ta	01/26/2021 15:03	Julia Storbeck	2218879
	01/13/2021	01/25/2021 12:37	Yen Ta	01/26/2021 15:08	Julia Storbeck	2218882
EPA 353.2 Rev. 2.0	01/13/2021			01/21/2021 09:11	Beverly Y. Sanders	2218879
	01/13/2021			01/21/2021 09:17	Beverly Y. Sanders	2218876
	01/13/2021			01/21/2021 09:18	Beverly Y. Sanders	2218882
EPA 365.1 Rev. 2.0	01/13/2021	01/20/2021 18:21	Madeline Gruver	01/22/2021 16:12	Shengyu Wang	2218876
	01/13/2021	01/20/2021 18:21	Madeline Gruver	01/22/2021 16:13	Shengyu Wang	2218879
	01/13/2021	01/20/2021 18:21	Madeline Gruver	01/22/2021 16:14	Shengyu Wang	2218882
EPA 365.1 Rev. 2.0 dissolved	01/13/2021			01/13/2021 14:57	Blanca Fach	2218880
	01/13/2021			01/13/2021 15:00	Blanca Fach	2218877
	01/13/2021			01/13/2021 15:01	Blanca Fach	2218883
EPA 8276	01/13/2021	01/14/2021 08:30	Rasheda Ghaffari	01/16/2021 08:11	Michael Poppell	2218890
	01/13/2021	01/14/2021 08:30	Rasheda Ghaffari	01/16/2021 09:06	Michael Poppell	2218891
SM 2120 B-2011	01/13/2021			01/13/2021 16:09	Benjamin T. Nordmann	2218878
	01/13/2021			01/13/2021 16:10	Benjamin T. Nordmann	2218881
	01/13/2021			01/13/2021 16:14	Benjamin T. Nordmann	2218875
SM 2320 B-2011	01/13/2021			01/15/2021 20:35	Dale L. Simmons	2218875
	01/13/2021			01/15/2021 20:44	Dale L. Simmons	2218878
	01/13/2021			01/15/2021 20:52	Dale L. Simmons	2218881
SM 2540 C-2011	01/13/2021			01/15/2021 15:02	Yijie Li	2218875, 2218878, 2218881
SM 2540 D-2011	01/13/2021			01/15/2021 15:02	Yijie Li	2218875, 2218878, 2218881
SM 4500 F-C-2011	01/13/2021			01/15/2021 20:35	Dale L. Simmons	2218875
	01/13/2021			01/15/2021 20:44	Dale L. Simmons	2218878
	01/13/2021			01/15/2021 20:52	Dale L. Simmons	2218881
SM 5310 B-2011	01/13/2021			01/19/2021 22:22	Touraj Touran	2218876
	01/13/2021			01/19/2021 22:34	Touraj Touran	2218879
	01/13/2021			01/19/2021 22:46	Touraj Touran	2218882