

Chemical Analysis Report

CEN-DIST-2021-04-16-01

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

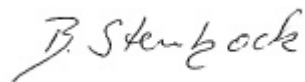
Event Description: **Bird Lake and Three Forks Marsh**
Request ID: **RQ-2021-04-12-78**
Customer: **CEN-DIST**
Project ID: **SMP**

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

Date Certified: 06-MAY-2021 18:49



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: Bird Lake Ditches 1.2mi W of 95

Collection Date/Time: 04/15/2021 11:39

Field ID: G3CE0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2240488	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P396716	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+03		mg Cl/L	P397040	
		Sulfate	350		mg SO4/L	P397042	
	SM 2120 B-2011	Color (true)	84		PCU	P396710	
	SM 2320 B-2011	Total Alkalinity	148		mg CaCO3/L	P396887	
	SM 2540 C-2011	TDS	2.53E+03		mg/L	P397228	
	SM 2540 D-2011	TSS	5	I	mg/L	P397225	
	SM 4500 F-C-2011	Fluoride	0.098	I	mg F/L	P397116	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P397507	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P397069	
2240490	EPA 353.2 Rev. 2.0	NO2NO3-N	0.052		mg N/L	P397036	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P396858	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P397238	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.042		mg P/L	P396706	
	dissolved						

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Roberts Branch @ Curryville Rd

Collection Date/Time: 04/15/2021 12:47

Field ID: G3CE0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2240489	EPA 180.1 Rev. 2.0	Turbidity	5.2		NTU	P396716	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P397040	
		Sulfate	9.4		mg SO4/L	P397042	
		Color (true)	87		PCU	P396710	
	SM 2320 B-2011	Total Alkalinity	9.7		mg CaCO3/L	P396887	
	SM 2540 C-2011	TDS	71		mg/L	P397228	
	SM 2540 D-2011	TSS	4	I	mg/L	P397225	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P397116	
2240491	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P397507	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P397069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P397036	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P396858	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P397238	
2240493	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P396706	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P396716

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397040

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397042

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397507

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397036

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396858

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P396706

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

Reference Method: SM 2120 B-2011
Batch ID: P396710

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P396887

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

Reference Method: SM 2540 C-2011
Batch ID: P397228

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P397225

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397116

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P397238

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: P397040

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397042

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397507

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: P397069

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397036

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: P396858

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: P396706

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

Reference Method: SM 2120 B-2011
Batch ID: P396710

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

Reference Method: SM 2320 B-2011
Batch ID: P396887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P397116

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

Reference Method: SM 5310 B-2011
Batch ID: P397238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240221	Chloride	100		P	90 - 110
2240489	Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240221	Sulfate	97.8		P	90 - 110
2240489	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240915	Ammonia-N	94.8	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240299	NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240298	Total-P	108	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P396706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240300	O-Phosphate-P	96.9	97.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P397116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240221	Fluoride	100	101	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P397238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2240082	Organic Carbon	99.4	99.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P396716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240256	Turbidity	4.23	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240221	Chloride	0.162	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P397042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240221	Sulfate	0.0466	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240915	Ammonia-N	1.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240260	Kjeldahl Nitrogen	0.245	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240299	NO2NO3-N	0.504	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P396858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240298	Total-P	0.173	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P396706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240300	O-Phosphate-P	0.588	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P396710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240256	Color (true)	1.14	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P396887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240221	Total Alkalinity	0.309	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P397228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240210	TDS	3.26	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P397116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240221	Fluoride	0.472	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P397238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2240082	Organic Carbon	0.197	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A104788

Included Lab Sample IDs: 2240488, 2240489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104789

Included Lab Sample IDs: 2240492, 2240493

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.1	98.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A104791

Included Lab Sample IDs: 2240488, 2240489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104869

Included Lab Sample IDs: 2240488, 2240489

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.0	99.4	P/P	90 - 110
Chloride	99.4	99.8	P/P	90 - 110
Sulfate	98.2	98.6	P/P	90 - 110
Sulfate	98.6	99.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A104870

Included Lab Sample IDs: 2240488, 2240489

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104877

Included Lab Sample IDs: 2240490, 2240491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	105	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104904

Included Lab Sample IDs: 2240490, 2240491

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A104962

Included Lab Sample IDs: 2240488, 2240489

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

Reference Method: SM 5310 B-2011

Run ID: A105018

Included Lab Sample IDs: 2240490, 2240491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	96.1	P/P	90 - 110
Organic Carbon	96.2	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105021

Included Lab Sample IDs: 2240490, 2240491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105117

Included Lab Sample IDs: 2240490, 2240491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.4	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				4.23	
EPA 300.0 Rev. 2.1	Chloride	101	100	98.4	0.162	
	Sulfate	99.1	97.8	96.6	0.0466	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	94.8	96.0		1.19
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105				0.245
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	99.0	99.5		0.504
EPA 365.1 Rev. 2.0	Total-P	107	108	109		0.173
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	96.9	97.5		0.588
SM 2120 B-2011	Color (true)	101			1.14	
SM 2320 B-2011	Total Alkalinity	101			0.309	
SM 2540 C-2011	TDS				3.26	
SM 4500 F-C-2011	Fluoride	98.8	100	101		0.472
SM 5310 B-2011	Organic Carbon	96.3	99.4	99.1		0.197

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2240488, 2240489
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2240488, 2240489
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2240488, 2240489
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2240490, 2240491
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2240490, 2240491
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2240490, 2240491
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2240490, 2240491
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2240492, 2240493
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2240488, 2240489
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2240488, 2240489
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2240488, 2240489
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2240488, 2240489
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2240488, 2240489
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2240490, 2240491

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	04/16/2021			04/16/2021 16:20	Yen Ta	2240488, 2240489
EPA 300.0 Rev. 2.1	04/16/2021			04/22/2021 21:23	Lipi Saha	2240489
	04/16/2021			04/23/2021 00:01	Lipi Saha	2240488
EPA 350.1 Rev. 2.0	04/16/2021			05/01/2021 09:44	Ping Hua	2240491
	04/16/2021			05/01/2021 09:51	Ping Hua	2240490
EPA 351.2 Rev. 2.0	04/16/2021	04/23/2021 14:33	Benjamin T. Nordmann	04/27/2021 12:33	Virginia P. Brown	2240490
	04/16/2021	04/23/2021 14:33	Benjamin T. Nordmann	04/27/2021 12:35	Virginia P. Brown	2240491
EPA 353.2 Rev. 2.0	04/16/2021			04/22/2021 10:52	Beverly Y. Sanders	2240490
	04/16/2021			04/22/2021 10:53	Beverly Y. Sanders	2240491
EPA 365.1 Rev. 2.0	04/16/2021	04/20/2021 14:25	Yen Ta	04/21/2021 12:08	Shengyu Ding	2240490
	04/16/2021	04/20/2021 14:25	Yen Ta	04/21/2021 12:09	Shengyu Ding	2240491
EPA 365.1 Rev. 2.0 dissolved	04/16/2021			04/16/2021 14:43	Blanca Fach	2240492
	04/16/2021			04/16/2021 14:44	Blanca Fach	2240493
SM 2120 B-2011	04/16/2021			04/16/2021 15:08	Madeline Gruver	2240488
	04/16/2021			04/16/2021 15:09	Madeline Gruver	2240489
SM 2320 B-2011	04/16/2021			04/20/2021 21:53	Dale L. Simmons	2240489
	04/16/2021			04/20/2021 22:17	Dale L. Simmons	2240488
SM 2540 C-2011	04/16/2021			04/20/2021 15:21	Yijie Li	2240488, 2240489
SM 2540 D-2011	04/16/2021			04/20/2021 15:21	Yijie Li	2240488, 2240489
SM 4500 F-C-2011	04/16/2021			04/24/2021 00:32	Dale L. Simmons	2240489
	04/16/2021			04/24/2021 00:52	Dale L. Simmons	2240488
SM 5310 B-2011	04/16/2021			04/23/2021 19:04	Lauren Lees	2240490
	04/16/2021			04/23/2021 19:37	Lauren Lees	2240491