Chemical Analysis Report

NE-DIST-2021-11-09-02

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

Event Description: **Suwannee Spring**
Request ID: **RQ-2021-09-27-09**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 03-DEC-2021 17:24

B. Steinbock

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: Cow Creek at SR 138 **Collection Date/Time: 11/09/2021 11:40**

Field ID: 21030086 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2289048	EPA 8276	Chlordane	2.6	U	ng/L	P406394	
		Toxaphene	15	U	ng/L	P406394	

Ref. Method and Comment:
EPA 8276: Insufficient sample available to perform duplicate matrix spikes.

Sample Location: Twin Spring at Vent **Collection Date/Time: 11/09/2021 11:00**

Field ID: G1NE0943 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2289043	EPA 180.1 Rev. 2.0	Turbidity	0.25		NTU	P406256	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P406348	
		Sulfate	16		mg SO4/L	P406351	
	SM 2120 B-2011	Color (true)	7.0		PCU	P406270	
	SM 2320 B-2011	Total Alkalinity	139		mg CaCO3/L	P406439	
	SM 2540 C-2011	TDS	186		mg/L	P406692	
	SM 2540 D-2011	TSS	2	U	mg/L	P406689	
	SM 4500 F-C-2011	Fluoride	0.074	I	mg F/L	P406441	
2289044	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P406593	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.086	I	mg N/L	P406708	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P406302	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P406316	
	SM 5310 B-2011	Organic Carbon	1.2		mg C/L	P406623	
2289045	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P406250	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
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: P406256

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406348

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406351

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406593

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406708

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406302

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P406316

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406250

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

Reference Method: EPA 8276
Batch ID: P406394

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Chlordane	2.5	U	ng/L
Toxaphene	15	U	ng/L
Toxaphene	15	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P406270

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P406439

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

Reference Method: SM 2540 C-2011
Batch ID: P406692

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P406689

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P406441

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P406623

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: P406348

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406351

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406708

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: P406302

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: P406316

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: P406250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.1		P	90 - 110

Reference Method: EPA 8276
Batch ID: P406394

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	88.5	79.1	P/P	56 - 117
Toxaphene	80.7	73.8	P/P	45 - 116

Reference Method: SM 2120 B-2011
Batch ID: P406270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.1		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P406439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P406441

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.4		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P406623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289003	Chloride	100		P	90 - 110
2289064	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289003	Sulfate	103		P	90 - 110
2289064	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289044	Ammonia-N	96.0	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289057	Kjeldahl Nitrogen	90.3	85.7	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289068	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P406316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289057	Total-P	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289069	O-Phosphate-P	90.8	91.5	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P406394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286981	Chlordane	79.7		P	47 - 128
2286981	Toxaphene	89.1		P	11 - 163

Reference Method: SM 4500 F-C-2011
Batch ID: P406441

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289025	Fluoride	105	104	P/P	92 - 107

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P406623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2289012	Organic Carbon	97.6	97.7	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289003	Chloride	0.957	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289003	Sulfate	8.93	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289044	Ammonia-N	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289057	Kjeldahl Nitrogen	4.03	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P406302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289068	NO2NO3-N	0.254	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P406316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289057	Total-P	0.0844	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P406250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289069	O-Phosphate-P	0.551	Spike	P	0 - 20

Reference Method: EPA 8276
Batch ID: P406394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	11.2	LCS	P	0 - 30
LFB	Toxaphene	8.91	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2120 B-2011
Batch ID: P406270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289162	Color (true)	0.142	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P406439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289025	Total Alkalinity	3.07	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P406692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289026	TDS	1.75	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P406441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289025	Fluoride	0.542	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P406623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2289012	Organic Carbon	0.116	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2289048
Field Sample ID: 21030086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	70.9	P	29 - 92.0
EPA 8276	PCNB	70.7	P	43 - 134

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A108839
Included Lab Sample IDs: 2289045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A108846
Included Lab Sample IDs: 2289043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105

Reference Method: SM 2120 B-2011
Run ID: A108859
Included Lab Sample IDs: 2289043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	99.8	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A108873
Included Lab Sample IDs: 2289044

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A108907
Included Lab Sample IDs: 2289043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.8	P/P	90 - 110
Sulfate	100	99.9	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A108946
Included Lab Sample IDs: 2289043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A108946
Included Lab Sample IDs: 2289043

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A108996
Included Lab Sample IDs: 2289044

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A109005
Included Lab Sample IDs: 2289044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	99.6	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A109023
Included Lab Sample IDs: 2289044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	97.6	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A109043
Included Lab Sample IDs: 2289048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	99.2		P	80 - 120
Toxaphene	97.5		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A109088
Included Lab Sample IDs: 2289044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	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	SMP	MS
EPA 300.0 Rev. 2.1	Chloride	102		100	101		0.957	
	Sulfate	105		103	101		8.93	
EPA 350.1 Rev. 2.0	Ammonia-N	93.8		96.0	97.2			1.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		90.3	85.7			4.03
EPA 353.2 Rev. 2.0	NO2NO3-N	102		96.0	96.5			0.254
EPA 365.1 Rev. 2.0	Total-P	103		108	108			0.0844
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1		90.8	91.5			0.551
EPA 8276	Chlordane	88.5	79.1	79.7		11.2		
	Toxaphene	80.7	73.8	89.1		8.91		
SM 2120 B-2011	Color (true)	99.1					0.142	
SM 2320 B-2011	Total Alkalinity	100					3.07	
SM 2540 C-2011	TDS						1.75	
SM 4500 F-C-2011	Fluoride	98.4		105	104			0.542
SM 5310 B-2011	Organic Carbon	96.6		97.6	97.7			0.116

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2289043
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2289043
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2289043
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2289044
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2289044
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2289044
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2289044
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2289045
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2289048
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2289043
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2289043
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2289043
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2289043
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2289043
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2289044

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	11/09/2021			11/10/2021 16:37	Khloe J Berg	2289043
EPA 300.0 Rev. 2.1	11/09/2021			11/13/2021 06:20	James L Waggerby	2289043
EPA 350.1 Rev. 2.0	11/09/2021			11/19/2021 14:22	Ping Hua	2289044
EPA 351.2 Rev. 2.0	11/09/2021	11/23/2021 14:23	Benjamin T. Nordmann	11/24/2021 11:29	Alexandra J Mattheus	2289044
EPA 353.2 Rev. 2.0	11/09/2021			11/12/2021 12:22	Beverly Y. Sanders	2289044
EPA 365.1 Rev. 2.0	11/09/2021	11/16/2021 19:16	Simonne.V. Calhoun	11/17/2021 17:08	Sarah A Nixon	2289044
EPA 365.1 Rev. 2.0 dissolved	11/09/2021			11/10/2021 14:35	James L Waggerby	2289045
EPA 8276	11/09/2021	11/16/2021 08:00	Rasheda Ghaffari	11/23/2021 03:50	Arthur Maknenko	2289048
SM 2120 B-2011	11/09/2021			11/10/2021 15:43	Blanca Fach	2289043
SM 2320 B-2011	11/09/2021			11/16/2021 21:19	Dale L. Simmons	2289043
SM 2540 C-2011	11/09/2021			11/15/2021 14:05	Yijie Li	2289043
SM 2540 D-2011	11/09/2021			11/15/2021 14:05	Yijie Li	2289043
SM 4500 F-C-2011	11/09/2021			11/16/2021 21:19	Dale L. Simmons	2289043
SM 5310 B-2011	11/09/2021			11/19/2021 17:56	Khloe J Berg	2289044