Chemical Analysis Report

SW-DIST-2016-11-04-01

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

Event Description: **Kreamer**
Request ID: **RQ-2016-10-31-59**
Customer: **SW-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 01-DEC-2016 14:08

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 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: Kraemer Bayou **Collection Date/Time: 11/03/2016 11:45**

Field ID: G5SW0079 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847478	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P314635	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P314853	
	SM 2540 D-97	TSS	4	I	mg/L	P315052	
	SM 4500 F-C-97	Fluoride	0.82		mg F/L	P314856	
1847482	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P315182	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P315438	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P315091	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P315148	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P314744	
1847486	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P314638	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Spring Bayou TP596 **Collection Date/Time: 11/03/2016 12:05**

Field ID: G5SW0078 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847479	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P314635	
	SM 2320 B-97	Total Alkalinity	119		mg CaCO3/L	P314853	
	SM 2540 D-97	TSS	5	I	mg/L	P315052	
	SM 4500 F-C-97	Fluoride	0.80		mg F/L	P314856	
1847483	EPA 350.1 Rev. 2.0	Ammonia-N	0.040		mg N/L	P315182	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P315613	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P315091	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P315148	
	SM 5310 B-00	Organic Carbon	6.1		mg C/L	P314744	
1847487	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P314638	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Kraemer Bayou TP12014E **Collection Date/Time: 11/03/2016 12:25**

Field ID: G5SW0125 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847480	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P314635	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P314853	
	SM 2540 D-97	TSS	5	I	mg/L	P315052	
	SM 4500 F-C-97	Fluoride	0.80		mg F/L	P314856	
1847484	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P315186	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P315613	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P315091	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P315148	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P314744	

Field ID: G5SW0125 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847488	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P314638	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Kraemer Bayou TP216 **Collection Date/Time: 11/03/2016 12:40**

Field ID: G5SW0124 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1847481	EPA 180.1 Rev. 2.0	Turbidity	3.6	A	NTU	P314636	
	SM 2320 B-97	Total Alkalinity	127		mg CaCO3/L	P314853	
	SM 2540 D-97	TSS	7	I	mg/L	P315052	
	SM 4500 F-C-97	Fluoride	0.80		mg F/L	P314856	
1847485	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P315186	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P315613	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P315091	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P315148	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P314744	
1847489	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P314638	

Ref. Method and Comment:
SM 2540 D-97: 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: P314635

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314636

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315182

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315186

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315438

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315613

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P315091

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315148

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314638

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

Reference Method: SM 2320 B-97
Batch ID: P314853

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

Reference Method: SM 2540 D-97
Batch ID: P315052

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P314856

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P314744

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315182

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315186

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315438

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P315091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315148

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314638

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P314853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P314856

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P314744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.9		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847484	Ammonia-N	107	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1846966	Kjeldahl Nitrogen	108	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847508	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P315091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847482	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847509	Total-P	93.8	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314638

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847486	O-Phosphate-P	95.9	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P314856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1846996	Fluoride	96.6	98.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P314744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P314744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847482	Organic Carbon	89.3	90.5	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847379	Turbidity	0.866	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847481	Turbidity	4.46	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1844812	Ammonia-N	0.680	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847484	Ammonia-N	1.34	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1846966	Kjeldahl Nitrogen	7.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847508	Kjeldahl Nitrogen	0.355	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P315091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847482	NO2NO3-N	0.943	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847509	Total-P	1.51	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847486	O-Phosphate-P	1.84	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P314853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1846996	Total Alkalinity	0.349	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P314856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1846996	Fluoride	1.46	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P314744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847482	Organic Carbon	1.15	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A72634
Included Lab Sample IDs: 1847478, 1847479, 1847480, 1847481

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	100	P/P	95 - 105

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72635
Included Lab Sample IDs: 1847486, 1847487, 1847488, 1847489

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

Reference Method: SM 5310 B-00
Run ID: A72671
Included Lab Sample IDs: 1847482, 1847483, 1847484, 1847485

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	93.2	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A72710
Included Lab Sample IDs: 1847478, 1847479, 1847480, 1847481

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

Reference Method: SM 4500 F-C-97
Run ID: A72710
Included Lab Sample IDs: 1847478, 1847479, 1847480, 1847481

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72782
Included Lab Sample IDs: 1847482, 1847483, 1847484, 1847485

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: A72814
Included Lab Sample IDs: 1847482, 1847483, 1847484, 1847485

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	100	P/P	90 - 110
Ammonia-N	99.9	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A72891
Included Lab Sample IDs: 1847482, 1847483, 1847484, 1847485

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A72920
Included Lab Sample IDs: 1847482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A73001
Included Lab Sample IDs: 1847483, 1847484, 1847485

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	107	P/P	90 - 110
Kjeldahl Nitrogen	97.1	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.866	
	Turbidity					4.46	
EPA 350.1 Rev. 2.0	Ammonia-N	103					0.680
	Ammonia-N	103	107	109			1.34
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	108	99.4			7.17
	Kjeldahl Nitrogen	109	106	106			0.355
EPA 353.2 Rev. 2.0	NO2NO3-N	105	106	106			0.943
EPA 365.1 Rev. 2.0	Total-P	101	93.8	95.3			1.51
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	95.9	97.8			1.84
SM 2320 B-97	Total Alkalinity	101				0.349	
SM 4500 F-C-97	Fluoride	97.9	96.6	98.8			1.46
SM 5310 B-00	Organic Carbon	98.9	89.3	90.5			1.15

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1847478, 1847479, 1847480, 1847481
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1847482, 1847483, 1847484, 1847485
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1847482, 1847483, 1847484, 1847485
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1847482, 1847483, 1847484, 1847485
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1847482, 1847483, 1847484, 1847485
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1847486, 1847487, 1847488, 1847489
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1847478, 1847479, 1847480, 1847481
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1847478, 1847479, 1847480, 1847481
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1847478, 1847479, 1847480, 1847481
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1847482, 1847483, 1847484, 1847485

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	11/04/2016			11/04/2016 16:03	Sima Feizi	1847478, 1847479, 1847480, 1847481
EPA 350.1 Rev. 2.0	11/04/2016			11/15/2016	Julie Michelle Frank	1847482, 1847483, 1847484, 1847485
EPA 351.2 Rev. 2.0	11/04/2016	11/18/2016	Adrian Shelby	11/21/2016	Joseph Suarez	1847482
	11/04/2016	11/22/2016	Adrian Shelby	11/23/2016	Joseph Suarez	1847483, 1847484, 1847485
EPA 353.2 Rev. 2.0	11/04/2016			11/14/2016	Beverly Y. Sanders	1847482, 1847483, 1847484, 1847485
EPA 365.1 Rev. 2.0	11/04/2016	11/15/2016	Adrian Shelby	11/18/2016	Lipi Saha	1847482, 1847483, 1847484, 1847485
EPA 365.1 Rev. 2.0 dissolved	11/04/2016			11/04/2016 16:03	Julia Storbeck	1847486
	11/04/2016			11/04/2016 16:18	Julia Storbeck	1847487
	11/04/2016			11/04/2016 16:19	Julia Storbeck	1847488
	11/04/2016			11/04/2016 16:20	Julia Storbeck	1847489
SM 2320 B-97	11/04/2016			11/09/2016	Dale L. Simmons	1847478, 1847479, 1847480, 1847481
SM 2540 D-97	11/04/2016			11/09/2016	Yijie Li	1847478, 1847479, 1847480, 1847481
SM 4500 F-C-97	11/04/2016			11/08/2016	Dale L. Simmons	1847478, 1847479, 1847480, 1847481
SM 5310 B-00	11/04/2016			11/08/2016	Julie Michelle Frank	1847482, 1847483, 1847484, 1847485