

Chemical Analysis Report

NE-DIST-2016-05-27-01

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

Event Description: **Reference Streams-SCI**

Request ID: **RQ-2016-05-23-12**

Customer: **NE-DIST**

Project ID: **SCIREF**

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Date Certified: 20-JUN-2016 11:19



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: Metals, 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 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: PETERS CREEK @ 16

Collection Date/Time: 05/26/2016 08:50

Field ID: PETERS CREEK @ 16

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802625	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P305300	
	EPA 300.0	Bromide**	0.042		mg Br/L	P305253	
	EPA 300.0 Rev. 2.1	Chloride	8.1		mg Cl/L	P305249	
		Sulfate	4.7		mg SO4/L	P305251	
	SM 2120 B	Color (true)	110		PCU	P305212	
	SM 2320 B-97	Total Alkalinity	14		mg CaCO3/L	P305749	
	SM 2540 C-97	TDS	63		mg/L	P305708	
	SM 2540 D-97	TSS	3	I	mg/L	P305636	
	SM 4500 F-C-97	Fluoride	0.059	I	mg F/L	P305752	
1802626	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P305662	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P305533	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P305440	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P305789	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P305855	
1802627	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P305205	
1802642	EPA 200.7 Rev. 4.4	Calcium	7.68		mg/L	P305265	
		Magnesium	1.25		mg/L	P305265	
		Potassium	0.30	I	mg/L	P305265	
		Sodium	5.7		mg/L	P305265	
1802643	EPA 8321B	Diuron	0.0040	U	ug/L	P305228	
		Imidacloprid	0.0040	U	ug/L	P305228	
		Linuron	0.0040	U	ug/L	P305228	
		Sucralose**	0.010	U	ug/L	P305228	
		Acetaminophen**	0.0040	U	ug/L	P305228	
		Carbamazepine**	4.0E-04	U	ug/L	P305228	
		Primidone**	0.0080	U	ug/L	P305228	
		Fluridone**	4.0E-04	U	ug/L	P305228	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 8321B: Results confirmed in re-extraction.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P305300

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P305265

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305265

Component	Result	Code	Units
Sodium	0.50	U	mg/L

Reference Method: EPA 300.0
Batch ID: P305253

Component	Result	Code	Units
Bromide	0.016	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305249

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305251

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305662

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305533

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305440

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305789

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305205

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P305228

Component	Result	Code	Units
Acetaminophen	0.0040	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P305212

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P305749

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

Reference Method: SM 2540 C-97
Batch ID: P305708

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P305636

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P305752

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P305855

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

Quality Assurance Report Laboratory Control Sample Accuracy

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P305265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115

Reference Method: EPA 300.0

Batch ID: P305253

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305249

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305251

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P305662

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P305533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P305440

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P305789

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P305205

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P305228

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	60.8		P	40 - 140
Carbamazepine	97.6		P	40 - 140
Diuron	89.6		P	40 - 140
Fluridone	99.6		P	40 - 140
Imidacloprid	104		P	40 - 160
Linuron	72.8		P	40 - 140
Primidone	105		P	40 - 140
Sucralose	88.1		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P305749

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

Reference Method: SM 4500 F-C-97
Batch ID: P305752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P305855

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801486	Calcium	104		P	80 - 120
1801486	Magnesium	101		P	80 - 120
1801486	Potassium	97.3		P	80 - 120
1801486	Sodium	105		P	80 - 120
1801765	Calcium	106		P	80 - 120
1801765	Magnesium	108		P	80 - 120
1801765	Potassium	108	98.8	P/P	80 - 120
1801765	Sodium	104		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P305253

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1800845	Bromide	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305249

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1800845	Chloride	99.4	99.1	P/P	90 - 110
1801143	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1800845	Sulfate	96.6	96.6	P/P	90 - 110
1801143	Sulfate	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802581	Ammonia-N	99.1	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802626	Kjeldahl Nitrogen	97.6	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305440

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802581	NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802654	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802589	O-Phosphate-P	97.4	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P305228

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802755	Acetaminophen	67.2	75.6	P/P	40 - 140
1802755	Carbamazepine	74.4	80.0	P/P	40 - 140
1802755	Diuron	72.4	68.8	P/P	40 - 140
1802755	Fluridone	89.6	88.4	P/P	40 - 140
1802755	Imidacloprid	115	126	P/P	40 - 160
1802755	Linuron	62.4	69.6	P/P	40 - 140
1802755	Primidone	87.6	76.4	P/P	40 - 140
1802755	Sucralose	61.8	60.6	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P305752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802567	Fluoride	97.4	97.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P305855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802549	Organic Carbon	99.4	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802575	Turbidity	1.30	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P305265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801765	Calcium	4.01	Spike	P	0 - 20
1801765	Magnesium	5.90	Spike	P	0 - 20
1801765	Potassium	4.71	Spike	P	0 - 20
1801765	Sodium	3.82	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P305253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1800845	Bromide	0.385	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305249

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1800845	Chloride	0.235	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1800845	Sulfate	0.0227	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802581	Ammonia-N	0.140	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802626	Kjeldahl Nitrogen	2.27	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802581	NO2NO3-N	0.221	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802654	Total-P	1.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802589	O-Phosphate-P	0.410	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P305228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802755	Acetaminophen	11.8	Spike	P	0 - 30
1802755	Carbamazepine	7.25	Spike	P	0 - 30
1802755	Diuron	5.10	Spike	P	0 - 30
1802755	Fluridone	1.35	Spike	P	0 - 30
1802755	Imidacloprid	5.26	Spike	P	0 - 30
1802755	Linuron	10.9	Spike	P	0 - 30
1802755	Primidone	13.7	Spike	P	0 - 30
1802755	Sucralose	1.96	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P305212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802575	Color (true)	4.88	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P305749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802567	Total Alkalinity	0.672	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P305708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802666	TDS	1.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P305752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802567	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P305855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802549	Organic Carbon	0.747	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 Surrogates

Lab Sample ID: 1802643
Field Sample ID: PETERS CREEK @ 16

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	84.0	P	30 - 150
EPA 8321B	Acetaminophen-d4	84.0	P	30 - 150
EPA 8321B	Carbamazepine-d10	117	P	40 - 160
EPA 8321B	Carbamazepine-d10	117	P	40 - 160
EPA 8321B	Diuron-d6	78.4	P	40 - 150
EPA 8321B	Diuron-d6	78.4	P	40 - 150
EPA 8321B	Primidone-d5	112	P	40 - 150
EPA 8321B	Primidone-d5	112	P	40 - 150
EPA 8321B	Sucralose-d6	66.5	P	40 - 150
EPA 8321B	Sucralose-d6	66.5	P	40 - 150

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0
Run ID: A69676
Included Lab Sample IDs: 1802625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	104	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A69676
Included Lab Sample IDs: 1802625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	101	P/P	90 - 110
Sulfate	98.6	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A69738
Included Lab Sample IDs: 1802627

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

Reference Method: SM 2120 B
Run ID: A69740
Included Lab Sample IDs: 1802625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.4	98.7	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A69767
Included Lab Sample IDs: 1802625

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

Reference Method: EPA 8321B
Run ID: A69791
Included Lab Sample IDs: 1802643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	98.5	103	P/P	70 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A69794
Included Lab Sample IDs: 1802642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.3	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Potassium	99.5	100	P/P	90 - 110
Sodium	101	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69804

Included Lab Sample IDs: 1802626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	97.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A69821

Included Lab Sample IDs: 1802643

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	112	106	P/P	60 - 150
Carbamazepine	118	132	P/P	60 - 150
Diuron	117	114	P/P	60 - 150
Fluridone	114	122	P/P	60 - 150
Imidacloprid	111	114	P/P	60 - 150
Linuron	119	123	P/P	60 - 150
Primidone	120	101	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69862

Included Lab Sample IDs: 1802626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69882

Included Lab Sample IDs: 1802626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A69906

Included Lab Sample IDs: 1802625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.0	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A69906

Included Lab Sample IDs: 1802625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69933

Included Lab Sample IDs: 1802626

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69970

Included Lab Sample IDs: 1802626

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	97.0	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.30	
EPA 200.7 Rev. 4.4	Calcium	106	104 106			4.01
	Magnesium	106	101 108			5.90
	Potassium	103	97.3 108	98.8		4.71
	Sodium	102	105 104			3.82
EPA 300.0	Bromide	103	100 100			0.385
EPA 300.0 Rev. 2.1	Chloride	100	99.4 99.1	99.0		0.235
	Sulfate	98.5	96.6 96.6	98.0		0.0227
EPA 350.1 Rev. 2.0	Ammonia-N	98.1	99.1 99.2			0.140
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.8	97.6 100			2.27
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	97.5			0.221
EPA 365.1 Rev. 2.0	Total-P	102	100 102			1.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104	97.4 97.8			0.410
EPA 8321B	Acetaminophen	60.8	67.2 75.6			11.8
	Carbamazepine	97.6	74.4 80.0			7.25
	Diuron	89.6	72.4 68.8			5.10
	Fluridone	99.6	89.6 88.4			1.35
	Imidacloprid	104	115 126			5.26
	Linuron	72.8	62.4 69.6			10.9
	Primidone	105	87.6 76.4			13.7
	Sucralose	88.1	61.8 60.6			1.96
SM 2120 B	Color (true)				4.88	
SM 2320 B-97	Total Alkalinity	102			0.672	
SM 2540 C-97	TDS				1.64	
SM 4500 F-C-97	Fluoride	96.7	97.4 97.4			0.0
SM 5310 B-00	Organic Carbon	101	99.4 100			0.747

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1802625
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1802642
EPA 300.0 / E31780	Bromide in aqueous matrices	1802625
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1802625
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1802625

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1802626
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1802626
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1802626
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1802626
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1802627
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1802643
EPA 8321B / E31780	Personal Care Products and pesticides in water matrices by HPLC/MS/MS	1802643
SM 2120 B / E31780	True Color measured at 450 nm	1802625
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1802625
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1802625
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1802625
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1802625
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1802626

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	05/27/2016			05/27/2016 16:00	Blanca Fach	1802625
EPA 200.7 Rev. 4.4	05/27/2016	05/31/2016	Elliott D. Healy	06/01/2016	Joshua Ayres	1802642
EPA 300.0	05/27/2016			05/27/2016	Ping Hua	1802625
EPA 300.0 Rev. 2.1	05/27/2016			05/27/2016	Ping Hua	1802625
EPA 350.1 Rev. 2.0	05/27/2016			06/06/2016	Diana M. Turner	1802626
EPA 351.2 Rev. 2.0	05/27/2016		Sofia Elnemr	06/07/2016	Christopher Armour	1802626
EPA 353.2 Rev. 2.0	05/27/2016	06/03/2016		06/02/2016	Peter D. Kaus	1802626
EPA 365.1 Rev. 2.0	05/27/2016	06/08/2016	Vijayalakshmi Reddy	06/10/2016	Virginia P. Brown	1802626
EPA 365.1 Rev. 2.0 dissolved	05/27/2016			05/27/2016 14:58	Julia Storbeck	1802627
EPA 8321B	05/27/2016	06/01/2016	Hoor Shaik	06/01/2016	Juyoung Kim	1802643
	05/27/2016	06/01/2016	Hoor Shaik	06/01/2016	Mohammad Ghaffari	1802643
SM 2120 B	05/27/2016			05/27/2016 16:43	Chrisoulla Rakowski	1802625
SM 2320 B-97	05/27/2016			06/07/2016	Dale L. Simmons	1802625
SM 2540 C-97	05/27/2016			06/01/2016	Yijie Li	1802625
SM 2540 D-97	05/27/2016			06/01/2016	Yijie Li	1802625
SM 4500 F-C-97	05/27/2016			06/07/2016	Dale L. Simmons	1802625
SM 5310 B-00	05/27/2016			06/08/2016	Diana M. Turner	1802626