

Chemical Analysis Report

CEN-DIST-2018-11-15-01

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

Event Description: **Salt Creek + HA**
Request ID: **RQ-2018-11-12-66**
Customer: **CEN-DIST**
Project ID: **SMP**

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Date Certified: 30-NOV-2018 11:11



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 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: SALT CREEK @ PACKARD AVENUE

Collection Date/Time: 11/14/2018 10:00

Field ID: G2CE0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2041614	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P354766	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+03		mg Cl/L	P355285	
		Sulfate	170		mg SO4/L	P355288	
	SM 2120 B	Color (true)	75	A	PCU	P354773	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P355201	
	SM 2540 C-97	TDS	2.32E+03		mg/L	P355133	
	SM 2540 D-97	TSS	4	I	mg/L	P354858	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P355205	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.092		mg N/L	P355160	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P354905	
2041615	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P354824	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P354923	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P354886	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.23		mg P/L	P354772	
	dissolved						
2041667	EPA 8321B	2,4-D	0.95		ug/L	P354661	
		Bentazon	8.0E-04	U	ug/L	P354661	
		MCP	0.0020	U	ug/L	P354661	
		Triclopyr**	0.0040	U	ug/L	P354661	
		Imidacloprid	0.0020	UJ	ug/L	P354661	MS
		Diuron	0.0020	U	ug/L	P354661	
		Pyraclostrobin**	0.0020	U	ug/L	P354661	
		Primidone**	0.0040	U	ug/L	P354661	
		Linuron	0.0040	U	ug/L	P354661	
		Acetaminophen**	0.0080	U	ug/L	P354661	
		Fenuron	0.016	U	ug/L	P354661	
		Imazapyr**	0.0040	U	ug/L	P354661	
		Carbamazepine**	8.0E-04	U	ug/L	P354661	
		Fluridone**	7.6E-04	I	ug/L	P354661	
		Hydrocodone**	8.0E-04	U	ug/L	P354661	
		Naproxen**	0.0080	U	ug/L	P354661	
		Ibuprofen**	0.020	U	ug/L	P354661	
		Sucralose**	0.14		ug/L	P354685	
		Acesulfame K**	0.11	I	ug/L	P354685	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P354766

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355285

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355288

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355160

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354905

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P354824

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354923

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354772

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

Reference Method: EPA 8321B
Batch ID: P354661

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P354661

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P354685

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P354773

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P355201

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

Reference Method: SM 2540 C-97
Batch ID: P355133

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P354858

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P355205

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P354886

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: P355285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355288

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354905

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: P354824

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354923

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: P354772

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

Reference Method: EPA 8321B
Batch ID: P354661

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.5		P	40 - 150
Acetaminophen	86.8		P	30 - 150
Bentazon	99.3		P	30 - 150
Carbamazepine	71.8		P	40 - 150
Diuron	67.5		P	40 - 150
Fenuron	105		P	40 - 150
Fluridone	99.2		P	40 - 150
Hydrocodone	108		P	40 - 150
Ibuprofen	75.3		P	40 - 150
Imazapyr	80.9		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P354661

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	102		P	40 - 160
Linuron	64.5		P	40 - 150
MCPP	105		P	40 - 150
Naproxen	93.8		P	40 - 150
Primidone	78.8		P	40 - 150
Pyraclostrobin	58.9		P	40 - 150
Triclopyr	97.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P354685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	92.2		P	40 - 150
Sucralose	113		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P354773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.6		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P355201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P355205

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P354886

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041584	Chloride	97.4		P	90 - 110
2041671	Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355288

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041584	Sulfate	95.2		P	90 - 110
2041671	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041606	Ammonia-N	98.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041589	Kjeldahl Nitrogen	103	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P354824

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041603	NO2NO3-N	100	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041639	Total-P	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354772

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041610	O-Phosphate-P	95.5	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P354661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041667	Acetaminophen	96.9	96.8	P/P	30 - 150
2041667	Bentazon	35.7	34.8	P/P	30 - 150
2041667	Carbamazepine	73.3	71.2	P/P	40 - 150
2041667	Diuron	50.2	59.7	P/P	40 - 150
2041667	Fenuron	92.3	89.3	P/P	40 - 150
2041667	Fluridone	97.2	105	P/P	40 - 150
2041667	Hydrocodone	114	130	P/P	40 - 150
2041667	Ibuprofen	72.2	76.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P354661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041667	Imazapyr	111	100	P/P	40 - 150
2041667	Imidacloprid	190	180	F/F	40 - 160
2041667	Linuron	61.1	60.0	P/P	40 - 150
2041667	MCPP	144	146	P/P	40 - 150
2041667	Naproxen	110	104	P/P	40 - 150
2041667	Primidone	91.7	98.4	P/P	40 - 150
2041667	Pyraclostrobin	64.6	56.5	P/P	40 - 150
2041667	Triclopyr	144	134	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P354685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041076	Acesulfame K	143	140	P/P	40 - 150
2041076	Sucralose	104	107	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P355205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041636	Fluoride	101	101	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P354886

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041615	Organic Carbon	94.6	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P354766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041602	Turbidity	0.612	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041584	Chloride	0.471	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355288

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041584	Sulfate	0.954	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041606	Ammonia-N	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041589	Kjeldahl Nitrogen	2.86	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P354824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041603	NO2NO3-N	0.905	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P354923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041639	Total-P	1.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P354772

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041610	O-Phosphate-P	2.17	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P354661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041667	2,4-D	1.90	Spike	P	0 - 30
2041667	Acetaminophen	0.0403	Spike	P	0 - 30
2041667	Bentazon	2.67	Spike	P	0 - 30
2041667	Carbamazepine	2.92	Spike	P	0 - 30
2041667	Diuron	17.2	Spike	P	0 - 30
2041667	Fenuron	3.38	Spike	P	0 - 30
2041667	Fluridone	7.25	Spike	P	0 - 30
2041667	Hydrocodone	13.0	Spike	P	0 - 30
2041667	Ibuprofen	5.66	Spike	P	0 - 30
2041667	Imazapyr	10.1	Spike	P	0 - 30
2041667	Imidacloprid	5.29	Spike	P	0 - 30
2041667	Linuron	1.84	Spike	P	0 - 30
2041667	MCP	1.32	Spike	P	0 - 30
2041667	Naproxen	5.63	Spike	P	0 - 30
2041667	Primidone	7.10	Spike	P	0 - 30
2041667	Pyraclostrobin	13.4	Spike	P	0 - 30
2041667	Triclopyr	7.30	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P354685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041076	Acesulfame K	1.58	Spike	P	0 - 30
2041076	Sucralose	2.73	Spike	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P354773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041614	Color (true)	1.38	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P355201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041636	Total Alkalinity	0.861	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P355133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041635	TDS	3.44	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P355205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041636	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P354886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2041615	Organic Carbon	0.336	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: 2041667
Field Sample ID: G2CE0088

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	158	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.6	P	30 - 160
EPA 8321B	Diuron-d6	64.6	P	30 - 160
EPA 8321B	Endothall-d6	87.3	P	40 - 160
EPA 8321B	Ibuprofen-d3	127	P	30 - 160
EPA 8321B	Primidone-d5	92.8	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A87801

Included Lab Sample IDs: 2041614

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

Reference Method: EPA 8321B

Run ID: A87802

Included Lab Sample IDs: 2041667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	81.7	80.5	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A87803

Included Lab Sample IDs: 2041616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.2	98.6	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A87804

Included Lab Sample IDs: 2041614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.2	100	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87823

Included Lab Sample IDs: 2041615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87832

Included Lab Sample IDs: 2041667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	94.7	104	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A87846

Included Lab Sample IDs: 2041615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	93.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87856

Included Lab Sample IDs: 2041667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	83.7	98.1	P/P	50 - 150
Acetaminophen	92.5	80.4	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A87856

Included Lab Sample IDs: 2041667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	82.2	102	P/P	50 - 160
Carbamazepine	108	103	P/P	60 - 160
Diuron	100	98.4	P/P	60 - 150
Fenuron	100	101	P/P	60 - 150
Fluridone	109	111	P/P	60 - 160
Hydrocodone	115	115	P/P	60 - 150
Ibuprofen	146	92.2	P/P	50 - 160
Imazapyr	84.0	88.9	P/P	50 - 150
Imidacloprid	83.5	99.9	P/P	60 - 160
Linuron	93.0	98.1	P/P	60 - 150
MCPP	88.1	89.1	P/P	50 - 150
Naproxen	71.1	125	P/P	50 - 160
Primidone	90.8	108	P/P	60 - 160
Pyraclostrobin	88.5	93.2	P/P	60 - 150
Triclopyr	93.8	91.2	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87890

Included Lab Sample IDs: 2041615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A87893

Included Lab Sample IDs: 2041615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87980

Included Lab Sample IDs: 2041615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87993

Included Lab Sample IDs: 2041614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A87999

Included Lab Sample IDs: 2041614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.6	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A87999

Included Lab Sample IDs: 2041614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	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				0.612	
EPA 300.0 Rev. 2.1	Chloride	99.3	97.4	99.1	0.471	
	Sulfate	98.3	95.2	101	0.954	
EPA 350.1 Rev. 2.0	Ammonia-N	97.7	98.5	100		1.29
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	103	106		2.86
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	100	99.2		0.905
EPA 365.1 Rev. 2.0	Total-P	102	102	100		1.65
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	95.5	97.8		2.17
EPA 8321B	2,4-D	96.5				1.90
	Acesulfame K	92.2	143	140		1.58
	Acetaminophen	86.8	96.8	96.9		0.0403
	Bentazon	99.3	35.7	34.8		2.67
	Carbamazepine	71.8	71.2	73.3		2.92
	Diuron	67.5	59.7	50.2		17.2
	Fenuron	105	89.3	92.3		3.38
	Fluridone	99.2	105	97.2		7.25
	Hydrocodone	108	130	114		13.0
	Ibuprofen	75.3	72.2	76.4		5.66
	Imazapyr	80.9	111	100		10.1
	Imidacloprid	102	180	190		5.29
	Linuron	64.5	60.0	61.1		1.84
	MCPP	105	144	146		1.32
	Naproxen	93.8	110	104		5.63
	Primidone	78.8	98.4	91.7		7.10
	Pyraclostrobin	58.9	56.5	64.6		13.4
	Sucralose	113	104	107		2.73
	Triclopyr	97.2	144	134		7.30
SM 2120 B	Color (true)	98.6			1.38	
SM 2320 B-97	Total Alkalinity	102			0.861	
SM 2540 C-97	TDS				3.44	
SM 4500 F-C-97	Fluoride	99.2	101	101		0.0
SM 5310 B-00	Organic Carbon	93.2	94.6	94.2		0.336

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2041614
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2041614
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2041614
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2041615
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2041615
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2041615
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2041615
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2041616
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2041667
SM 2120 B / E31780	True Color measured at 450 nm	2041614
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2041614

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2041614
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2041614
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2041614
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2041615

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	11/15/2018			11/15/2018 16:42	Megan Treadwell	2041614
EPA 300.0 Rev. 2.1	11/15/2018			11/28/2018 19:36	Lipi Saha	2041614
EPA 350.1 Rev. 2.0	11/15/2018			11/26/2018 14:15	Ping Hua	2041615
EPA 351.2 Rev. 2.0	11/15/2018	11/19/2018 11:15	Adrian Shelby	11/20/2018 12:03	Joseph Suarez	2041615
EPA 353.2 Rev. 2.0	11/15/2018			11/16/2018 13:01	Beverly Y. Sanders	2041615
EPA 365.1 Rev. 2.0	11/15/2018	11/19/2018 13:00	Sima Feizi	11/20/2018 12:04	Beverly Y. Sanders	2041615
EPA 365.1 Rev. 2.0 dissolved	11/15/2018			11/15/2018 18:01	Jhamieka S. Greenwood	2041616
EPA 8321B	11/15/2018	11/15/2018 15:45	Rebecca Ware	11/15/2018 16:21	Rebecca Ware	2041667
	11/15/2018	11/15/2018 15:45	Rebecca Ware	11/16/2018 19:06	Rebecca Ware	2041667
	11/15/2018	11/16/2018 10:00	Hoor Shaik	11/17/2018 04:14	Juyoung Kim	2041667
	11/15/2018	11/16/2018 10:00	Hoor Shaik	11/17/2018 21:32	Juyoung Kim	2041667
SM 2120 B	11/15/2018			11/15/2018 16:59	Chelsea Hernandez	2041614
SM 2320 B-97	11/15/2018			11/21/2018 05:54	Dale L. Simmons	2041614
SM 2540 C-97	11/15/2018			11/16/2018 17:06	Yijie Li	2041614
SM 2540 D-97	11/15/2018			11/16/2018 17:06	Yijie Li	2041614
SM 4500 F-C-97	11/15/2018			11/21/2018 05:54	Dale L. Simmons	2041614
SM 5310 B-00	11/15/2018			11/16/2018 21:55	Megan Treadwell	2041615