

Chemical Analysis Report

NE-DIST-2018-11-30-01

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

Event Description: **LSJR West 1**
Request ID: **RQ-2018-11-12-19**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 19-DEC-2018 13:42



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: Mccoys CR @ MCDUFF ave

Collection Date/Time: 11/29/2018 13:00

Field ID: 20030881

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2045302	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P355420	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P355798	
		Sulfate	48		mg SO4/L	P355800	
	SM 2120 B	Color (true)	16		PCU	P355432	
	SM 2320 B-97	Total Alkalinity	169		mg CaCO3/L	P355716	
	SM 2540 C-97	TDS	297		mg/L	P355923	
	SM 2540 D-97	TSS	3	I	mg/L	P355656	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P355719	
2045303	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P355625	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P355495	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P355549	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P355498	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P355583	
2045304	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.027		mg P/L	P355434	
2045328	EPA 8321B	2,4-D	0.0029	I	ug/L	P355375	
		Bentazon	0.0086		ug/L	P355375	
		MCP	0.0020	U	ug/L	P355375	
		Triclopyr**	0.0040	U	ug/L	P355375	
		Imidacloprid	0.012		ug/L	P355375	MS
		Diuron	0.0039	I	ug/L	P355375	
		Pyraclostrobin**	0.0020	U	ug/L	P355375	
		Primidone**	0.0040	U	ug/L	P355375	
		Linuron	0.0040	U	ug/L	P355375	
		Acetaminophen**	0.025	I	ug/L	P355375	
		Fenuron	0.016	U	ug/L	P355375	
		Imazapyr**	0.013	I	ug/L	P355375	
		Carbamazepine**	8.0E-04	U	ug/L	P355375	
		Fluridone**	4.0E-04	U	ug/L	P355375	
		Hydrocodone**	8.0E-04	U	ug/L	P355375	
		Naproxen**	0.0089	I	ug/L	P355375	MS, RPD
		Ibuprofen**	0.020	U	ug/L	P355375	
		Sucralose**	0.25		ug/L	P355297	
		Acesulfame K**	0.19	I	ug/L	P355297	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355420

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355798

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355800

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355625

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355495

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355549

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355498

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355434

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

Reference Method: EPA 8321B
Batch ID: P355297

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P355375

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
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: SM 2120 B
Batch ID: P355432

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P355716

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

Reference Method: SM 2540 C-97
Batch ID: P355923

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P355656

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P355719

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P355583

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P355583

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: P355798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355625

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355495

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355549

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: P355498

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355434

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

Reference Method: EPA 8321B
Batch ID: P355297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
Sucralose	109		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P355375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	60.3		P	40 - 150
Acetaminophen	71.3		P	30 - 150
Bentazon	31.6		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P355375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	82.4		P	40 - 150
Diuron	67.0		P	40 - 150
Fenuron	99.4		P	40 - 150
Fluridone	96.9		P	40 - 150
Hydrocodone	96.2		P	40 - 150
Ibuprofen	59.7		P	40 - 150
Imazapyr	76.3		P	40 - 150
Imidacloprid	90.9		P	40 - 160
Linuron	70.9		P	40 - 150
MCPP	81.7		P	40 - 150
Naproxen	52.5		P	40 - 150
Primidone	70.9		P	40 - 150
Pyraclostrobin	60.9		P	40 - 150
Triclopyr	49.6		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P355432

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P355716

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P355719

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P355583

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045198	Chloride	97.1		P	90 - 110
2045351	Chloride	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045198	Sulfate	97.4		P	90 - 110
2045351	Sulfate	97.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045303	Kjeldahl Nitrogen	96.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045303	NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045288	Total-P	99.2	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045304	O-Phosphate-P	93.3	95.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P355297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044792	Acesulfame K	127	122	P/P	40 - 150
2044792	Sucralose	101	120	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P355375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044604	2,4-D	85.9	94.2	P/P	40 - 150
2044604	Acetaminophen	83.5	85.3	P/P	30 - 150
2044604	Bentazon	34.5	39.4	P/P	30 - 150
2044604	Carbamazepine	77.3	82.2	P/P	40 - 150
2044604	Diuron	59.1	64.3	P/P	40 - 150
2044604	Fenuron	87.4	89.5	P/P	40 - 150
2044604	Fluridone	97.0	104	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P355375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044604	Hydrocodone	113	117	P/P	40 - 150
2044604	Ibuprofen	60.7	67.9	P/P	40 - 150
2044604	Imazapyr	113	98.3	P/P	40 - 150
2044604	Imidacloprid	177	180	F/F	40 - 160
2044604	Linuron	65.1	65.6	P/P	40 - 150
2044604	MCP	107	115	P/P	40 - 150
2044604	Naproxen	34.7	58.8	F/P	40 - 150
2044604	Primidone	85.8	87.1	P/P	40 - 150
2044604	Pyraclostrobin	60.6	60.2	P/P	40 - 150
2044604	Triclopyr	63.6	64.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P355719

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045910	Fluoride	99.2	99.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P355583

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2045303	Organic Carbon	96.6	97.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045350	Turbidity	0.206	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045198	Chloride	1.04	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045198	Sulfate	0.899	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045303	Ammonia-N	1.14	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045303	Kjeldahl Nitrogen	2.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045303	NO2NO3-N	0.495	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045288	Total-P	1.11	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045304	O-Phosphate-P	1.56	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P355297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044792	Acesulfame K	3.84	Spike	P	0 - 30
2044792	Sucralose	15.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P355375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044604	2,4-D	8.84	Spike	P	0 - 30
2044604	Acetaminophen	1.13	Spike	P	0 - 30
2044604	Bentazon	12.0	Spike	P	0 - 30
2044604	Carbamazepine	6.13	Spike	P	0 - 30
2044604	Diuron	6.61	Spike	P	0 - 30
2044604	Fenuron	2.34	Spike	P	0 - 30
2044604	Fluridone	6.65	Spike	P	0 - 30
2044604	Hydrocodone	3.32	Spike	P	0 - 30
2044604	Ibuprofen	11.2	Spike	P	0 - 30
2044604	Imazapyr	7.20	Spike	P	0 - 30
2044604	Imidacloprid	1.85	Spike	P	0 - 30
2044604	Linuron	0.692	Spike	P	0 - 30
2044604	MCP	6.79	Spike	P	0 - 30
2044604	Naproxen	39.6	Spike	F	0 - 30
2044604	Primidone	1.54	Spike	P	0 - 30
2044604	Pyraclostrobin	0.548	Spike	P	0 - 30
2044604	Triclopyr	1.39	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P355432

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045286	Color (true)	0.513	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P355716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045910	Total Alkalinity	0.529	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P355923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045198	TDS	2.93	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P355719

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045910	Fluoride	0.463	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P355583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2045303	Organic Carbon	0.959	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: 2045328
Field Sample ID: 20030881

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	78.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.3	P	30 - 160
EPA 8321B	Diuron-d6	70.3	P	30 - 160
EPA 8321B	Endothall-d6	105	P	40 - 160
EPA 8321B	Ibuprofen-d3	75.8	P	30 - 160
EPA 8321B	Primidone-d5	79.5	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A88066

Included Lab Sample IDs: 2045302

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

Reference Method: SM 2120 B

Run ID: A88072

Included Lab Sample IDs: 2045302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	104	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A88073

Included Lab Sample IDs: 2045304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.9	99.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A88074

Included Lab Sample IDs: 2045328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	72.1	87.0	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A88081

Included Lab Sample IDs: 2045328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	121	107	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A88128

Included Lab Sample IDs: 2045303

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A88137

Included Lab Sample IDs: 2045303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A88141

Included Lab Sample IDs: 2045303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A88157

Included Lab Sample IDs: 2045303

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A88160

Included Lab Sample IDs: 2045303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	97.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A88194

Included Lab Sample IDs: 2045302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.5	99.1	P/P	90 - 110
Sulfate	98.5	99.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A88201

Included Lab Sample IDs: 2045302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.8	98.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A88201

Included Lab Sample IDs: 2045302

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

Reference Method: EPA 8321B

Run ID: A88245

Included Lab Sample IDs: 2045328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.0	83.4	P/P	50 - 150
Acetaminophen	76.4	82.9	P/P	60 - 160
Bentazon	104	108	P/P	50 - 160
Carbamazepine	109	114	P/P	60 - 160
Diuron	107	104	P/P	60 - 150
Fenuron	93.9	92.1	P/P	60 - 150
Fluridone	106	104	P/P	60 - 160
Hydrocodone	93.2	90.7	P/P	60 - 150
Ibuprofen	79.0	74.1	P/P	50 - 160
Imazapyr	71.1	84.4	P/P	50 - 150
Imidacloprid	87.4	90.1	P/P	60 - 160
Linuron	92.0	107	P/P	60 - 150
MCPP	92.4	95.6	P/P	50 - 150
Naproxen	126	106	P/P	50 - 160
Primidone	84.3	95.6	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A88245

Included Lab Sample IDs: 2045328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	104	97.5	P/P	60 - 150
Triclopyr	86.3	106	P/P	50 - 160

* 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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.206	
EPA 300.0 Rev. 2.1	Chloride	97.0	97.1	97.7		1.04	
	Sulfate	97.0	97.4	97.7		0.899	
EPA 350.1 Rev. 2.0	Ammonia-N	97.9					1.14
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.3	96.7	101			2.63
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	100				0.495
EPA 365.1 Rev. 2.0	Total-P	100	99.2	101			1.11
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	93.3	95.2			1.56
EPA 8321B	2,4-D	60.3	85.9	94.2			8.84
	Acesulfame K	102	127	122			3.84
	Acetaminophen	71.3	83.5	85.3			1.13
	Bentazon	31.6	34.5	39.4			12.0
	Carbamazepine	82.4	77.3	82.2			6.13
	Diuron	67.0	59.1	64.3			6.61
	Fenuron	99.4	87.4	89.5			2.34
	Fluridone	96.9	97.0	104			6.65
	Hydrocodone	96.2	113	117			3.32
	Ibuprofen	59.7	60.7	67.9			11.2
	Imazapyr	76.3	113	98.3			7.20
	Imidacloprid	90.9	177	180			1.85
	Linuron	70.9	65.1	65.6			0.692
	MCP	81.7	107	115			6.79
	Naproxen	52.5	34.7	58.8			39.6
	Primidone	70.9	85.8	87.1			1.54
	Pyraclostrobin	60.9	60.6	60.2			0.548
	Sucralose	109	101	120			15.1
	Triclopyr	49.6	63.6	64.5			1.39
SM 2120 B	Color (true)	103				0.513	
SM 2320 B-97	Total Alkalinity	100				0.529	
SM 2540 C-97	TDS					2.93	
SM 4500 F-C-97	Fluoride	99.8	99.2	99.8			0.463
SM 5310 B-00	Organic Carbon	94.6	96.6	97.7			0.959

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2045302
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2045302
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2045302
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2045303
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2045303
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2045303
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2045303
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2045304
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2045328
SM 2120 B / E31780	True Color measured at 450 nm	2045302
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2045302

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2045302
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2045302
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2045302
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2045303

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	11/30/2018			11/30/2018 16:07	Megan Treadwell	2045302
EPA 300.0 Rev. 2.1	11/30/2018			12/06/2018 17:03	Lipi Saha	2045302
EPA 350.1 Rev. 2.0	11/30/2018			12/05/2018 10:21	Ping Hua	2045303
EPA 351.2 Rev. 2.0	11/30/2018	12/03/2018 17:15	Adrian Shelby	12/04/2018 15:32	Joseph Suarez	2045303
EPA 353.2 Rev. 2.0	11/30/2018			12/04/2018 14:08	Lauren Bottorf	2045303
EPA 365.1 Rev. 2.0	11/30/2018	12/03/2018 15:45	Adrian Shelby	12/05/2018 12:45	Beverly Y. Sanders	2045303
EPA 365.1 Rev. 2.0 dissolved	11/30/2018			11/30/2018 16:17	Jhamieka S. Greenwood	2045304
EPA 8321B	11/30/2018	11/30/2018 15:00	Rebecca Ware	11/30/2018 20:45	Rebecca Ware	2045328
	11/30/2018	11/30/2018 15:00	Rebecca Ware	12/01/2018 17:45	Mohammad Ghaffari	2045328
	11/30/2018	12/05/2018 10:00	Hoor Shaik	12/07/2018 08:14	Juyoung Kim	2045328
SM 2120 B	11/30/2018			11/30/2018 16:17	Chelsea Hernandez	2045302
SM 2320 B-97	11/30/2018			12/06/2018 04:19	Dale L. Simmons	2045302
SM 2540 C-97	11/30/2018			12/04/2018 13:26	Yijie Li	2045302
SM 2540 D-97	11/30/2018			12/04/2018 13:26	Yijie Li	2045302
SM 4500 F-C-97	11/30/2018			12/06/2018 04:19	Dale L. Simmons	2045302
SM 5310 B-00	11/30/2018			12/04/2018 08:25	Megan Treadwell	2045303