

Chemical Analysis Report

NE-DIST-2018-06-27-01

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

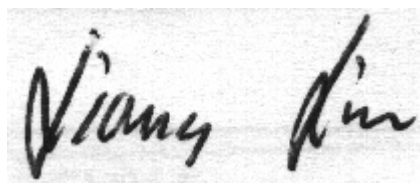
Event Description: **Gville**
Request ID: **RQ-2018-06-25-22**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-JUL-2018 16:15

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

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: BLUES CREEK AT NW 71ST STREET
GAINESVILLE**

Collection Date/Time: 06/26/2018 09:45

Field ID: 21030089

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003446	EPA 8321B	2,4-D	0.0020	U	ug/L	P347238	
		Sucralose**	0.010	U	ug/L	P347494	
		Bentazon	0.013		ug/L	P347238	
		MCP	0.0020	U	ug/L	P347238	
		Triclopyr**	0.0040	U	ug/L	P347238	
		Imidacloprid	0.014		ug/L	P347238	
		Diuron	0.0092		ug/L	P347238	
		Pyraclostrobin**	0.0020	U	ug/L	P347238	
		Primidone**	0.0040	U	ug/L	P347238	
		Linuron	0.0040	U	ug/L	P347238	
		Acetaminophen**	0.0080	U	ug/L	P347238	
		Fenuron	0.014	T	ug/L	P347238	
		Imazapyr**	0.12		ug/L	P347238	
		Carbamazepine**	0.0058		ug/L	P347238	
		Fluridone**	4.8E-04	I	ug/L	P347238	
		Hydrocodone**	8.0E-04	U	ug/L	P347238	

Sample Location: Blue Creek @ NW 71st Street, Gainesville

Collection Date/Time: 06/26/2018 09:50

Field ID: 21030089DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003447	EPA 8321B	2,4-D	0.0020	U	ug/L	P347238	
		Sucralose**	0.010	U	ug/L	P347494	
		Bentazon	0.013		ug/L	P347238	
		MCP	0.0020	U	ug/L	P347238	
		Triclopyr**	0.0040	U	ug/L	P347238	
		Imidacloprid	0.013		ug/L	P347238	
		Diuron	0.0083		ug/L	P347238	
		Pyraclostrobin**	0.0020	U	ug/L	P347238	
		Primidone**	0.0040	U	ug/L	P347238	
		Linuron	0.0040	U	ug/L	P347238	
		Acetaminophen**	0.0080	U	ug/L	P347238	
		Fenuron	0.018	I	ug/L	P347238	
		Imazapyr**	0.11		ug/L	P347238	
		Carbamazepine**	0.0050		ug/L	P347238	
		Fluridone**	4.3E-04	I	ug/L	P347238	
		Hydrocodone**	8.0E-04	U	ug/L	P347238	

Sample Location: TUMBLIN CREEK @ SW 9TH

Collection Date/Time: 06/26/2018 11:40

Field ID: G1NE0894

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003429	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P347625	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P347791	
		Sulfate	45		mg SO4/L	P347792	
		Color (true)	11		PCU	P347604	
	SM 2320 B-97	Total Alkalinity	115		mg CaCO3/L	P347808	
	SM 2540 C-97	TDS	229	A	mg/L	P347909	
	SM 2540 D-97	TSS	2	IA	mg/L	P347904	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P347812	
2003431	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P347940	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P348026	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.38		mg N/L	P347683	
	EPA 365.1 Rev. 2.0	Total-P	0.096		mg P/L	P347837	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P347986	
2003433	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.082		mg P/L	P347614	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: FIELD BLANK

Collection Date/Time: 06/26/2018 11:55

Field ID: BLANK062618

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2003430	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P347625	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P347791	
		Sulfate	0.20	U	mg SO4/L	P347792	
	SM 2120 B	Color (true)	2.5	U	PCU	P347604	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P347808	
	SM 2540 C-97	TDS	15	U	mg/L	P347908	
	SM 2540 D-97	TSS	2	U	mg/L	P347903	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P347812	
2003432	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P347940	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P348026	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P347683	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P347837	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P347986	
2003434	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P347614	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: P347625

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347791

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347792

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347940

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348026

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347683

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347837

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P347614

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

Reference Method: EPA 8321B
Batch ID: P347238

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	4.0E-04	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P347238

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
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	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: P347494

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P347604

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P347808

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

Reference Method: SM 2540 C-97
Batch ID: P347908

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P347909

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P347903

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P347904

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P347904

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P347812

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P347986

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: P347791

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P347792

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P347940

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P348026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P347683

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P347837

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P347614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.9		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P347238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	40 - 150
Acetaminophen	108		P	30 - 150
Bentazon	111		P	30 - 150
Carbamazepine	92.3		P	40 - 150
Diuron	85.7		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	89.0		P	40 - 150
Hydrocodone	101		P	40 - 150
Imazapyr	90.5		P	40 - 150
Imidacloprid	97.2		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P347238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	63.6		P	40 - 150
MCPP	118		P	40 - 150
Primidone	91.4		P	40 - 150
Pyraclostrobin	87.4		P	40 - 150
Triclopyr	113		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P347494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	108		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P347604

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

Reference Method: SM 2320 B-97
Batch ID: P347808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P347812

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P347986

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347791

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003262	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003262	Sulfate	102		P	90 - 110
2003448	Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003281	Ammonia-N	96.3	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003452	Kjeldahl Nitrogen	97.2	94.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003163	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003431	Total-P	97.5	94.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P347614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003456	O-Phosphate-P	94.5	96.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P347238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003323	2,4-D	109	108	P/P	40 - 150
2003323	Acetaminophen	80.3	82.9	P/P	30 - 150
2003323	Bentazon	39.3	40.8	P/P	30 - 150
2003323	Carbamazepine	62.4	65.7	P/P	40 - 150
2003323	Diuron	59.4	62.2	P/P	40 - 150
2003323	Fenuron	70.3	71.6	P/P	40 - 150
2003323	Fluridone	79.7	77.6	P/P	40 - 150
2003323	Hydrocodone	80.5	80.8	P/P	40 - 150
2003323	Imazapyr	99.3	113	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P347238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003323	Imidacloprid	129	141	P/P	40 - 160
2003323	Linuron	57.2	51.2	P/P	40 - 150
2003323	MCP	128	132	P/P	40 - 150
2003323	Primidone	79.5	74.8	P/P	40 - 150
2003323	Pyraclostrobin	77.7	82.2	P/P	40 - 150
2003323	Triclopyr	117	132	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P347494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003557	Sucralose	110	127	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P347812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003212	Fluoride	96.3	97.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P347986

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2003263	Organic Carbon	100		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P347625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003448	Turbidity	2.86	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003448	Chloride	2.60	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P347792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003448	Sulfate	2.69	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003281	Ammonia-N	1.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P348026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003452	Kjeldahl Nitrogen	1.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P347683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003163	NO2NO3-N	0.995	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P347837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003431	Total-P	2.33	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P347614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003456	O-Phosphate-P	1.78	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P347238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003323	2,4-D	0.495	Spike	P	0 - 30
2003323	Acetaminophen	3.25	Spike	P	0 - 30
2003323	Bentazon	2.66	Spike	P	0 - 30
2003323	Carbamazepine	4.22	Spike	P	0 - 30
2003323	Diuron	4.60	Spike	P	0 - 30
2003323	Fenuron	1.74	Spike	P	0 - 30
2003323	Fluridone	2.55	Spike	P	0 - 30
2003323	Hydrocodone	0.333	Spike	P	0 - 30
2003323	Imazapyr	2.32	Spike	P	0 - 30
2003323	Imidacloprid	7.45	Spike	P	0 - 30
2003323	Linuron	11.1	Spike	P	0 - 30
2003323	MCPP	2.77	Spike	P	0 - 30
2003323	Primidone	5.66	Spike	P	0 - 30
2003323	Pyraclostrobin	5.60	Spike	P	0 - 30
2003323	Triclopyr	11.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P347494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003557	Sucralose	13.8	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P347604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003448	Color (true)	2.75	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P347808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003212	Total Alkalinity	0.951	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P347908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003280	TDS	3.68	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P347909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003429	TDS	3.49	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P347812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003212	Fluoride	0.988	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P347986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2003263	Organic Carbon	0.0	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: 2003446
Field Sample ID: 21030089

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	91.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.7	P	30 - 160
EPA 8321B	Diuron-d6	55.3	P	30 - 160
EPA 8321B	Primidone-d5	76.3	P	30 - 160
EPA 8321B	Sucralose-d6	85.9	P	40 - 160

Lab Sample ID: 2003447
Field Sample ID: 21030089DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	64.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.9	P	30 - 160
EPA 8321B	Diuron-d6	45.2	P	30 - 160
EPA 8321B	Primidone-d5	62.8	P	30 - 160
EPA 8321B	Sucralose-d6	83.3	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A84847
Included Lab Sample IDs: 2003429, 2003430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	97.3	P/P	90 - 110
Sulfate	100	98.9	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A84873
Included Lab Sample IDs: 2003429, 2003430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	98.9	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A84876
Included Lab Sample IDs: 2003433, 2003434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A84882
Included Lab Sample IDs: 2003429, 2003430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A84911
Included Lab Sample IDs: 2003431, 2003432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A84959
Included Lab Sample IDs: 2003429, 2003430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A84959
Included Lab Sample IDs: 2003429, 2003430

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

Reference Method: EPA 8321B
Run ID: A84988
Included Lab Sample IDs: 2003446, 2003447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	121	108	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A84988

Included Lab Sample IDs: 2003446, 2003447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	119	103	P/P	60 - 160
Acetaminophen	124	121	P/P	60 - 160
Bentazon	141	142	P/P	50 - 150
Carbamazepine	111	99.4	P/P	60 - 160
Carbamazepine	114	112	P/P	60 - 160
Diuron	111	98.1	P/P	60 - 150
Diuron	117	112	P/P	60 - 150
Fenuron	103	104	P/P	60 - 150
Fenuron	105	96.6	P/P	60 - 150
Fluridone	105	105	P/P	60 - 160
Fluridone	106	100	P/P	60 - 160
Hydrocodone	106	97.7	P/P	60 - 150
Hydrocodone	108	108	P/P	60 - 150
Imazapyr	102	93.4	P/P	50 - 150
Imazapyr	92.8	89.1	P/P	50 - 150
Imidacloprid	93.3	96.7	P/P	60 - 150
Imidacloprid	98.8	99.4	P/P	60 - 150
Linuron	104	100	P/P	60 - 150
Linuron	95.8	80.8	P/P	60 - 150
MCPP	124	116	P/P	50 - 150
Primidone	96.8	86.5	P/P	60 - 150
Primidone	98.0	95.3	P/P	60 - 150
Pyraclostrobin	107	97.6	P/P	60 - 150
Pyraclostrobin	113	105	P/P	60 - 150
Triclopyr	113	117	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84991

Included Lab Sample IDs: 2003431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85013

Included Lab Sample IDs: 2003431, 2003432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A85034

Included Lab Sample IDs: 2003431, 2003432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	96.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85037

Included Lab Sample IDs: 2003432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A85066

Included Lab Sample IDs: 2003446, 2003447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	114	121	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85090

Included Lab Sample IDs: 2003431, 2003432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	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	MS
EPA 180.1 Rev. 2.0	Turbidity				2.86	
EPA 300.0 Rev. 2.1	Chloride	100	103		2.60	
	Sulfate	100	97.9 102		2.69	
EPA 350.1 Rev. 2.0	Ammonia-N	96.9	96.3 98.0			1.66
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	97.2 94.8			1.48
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100 101			0.995
EPA 365.1 Rev. 2.0	Total-P	94.6	97.5 94.7			2.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	94.5 96.2			1.78
EPA 8321B	2,4-D	104	109 108			0.495
	Acetaminophen	108	82.9 80.3			3.25
	Bentazon	111	39.3 40.8			2.66
	Carbamazepine	92.3	65.7 62.4			4.22
	Diuron	85.7	62.2 59.4			4.60
	Fenuron	106	71.6 70.3			1.74
	Fluridone	89.0	77.6 79.7			2.55
	Hydrocodone	101	80.8 80.5			0.333
	Imazapyr	90.5	113 99.3			2.32
	Imidacloprid	97.2	141 129			7.45
	Linuron	63.6	51.2 57.2			11.1
	MCP	118	128 132			2.77
	Primidone	91.4	74.8 79.5			5.66
	Pyraclostrobin	87.4	82.2 77.7			5.60
	Sucralose	108	110 127			13.8
	Triclopyr	113	117 132			11.9
SM 2120 B	Color (true)	100			2.75	
SM 2320 B-97	Total Alkalinity	103			0.951	
SM 2540 C-97	TDS				3.68	
	TDS				3.49	
SM 4500 F-C-97	Fluoride	98.2	96.3 97.4			0.988
SM 5310 B-00	Organic Carbon	94.4	100			0.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2003429, 2003430
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2003429, 2003430
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2003429, 2003430
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2003431, 2003432
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2003431, 2003432
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2003431, 2003432
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2003431, 2003432
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2003433, 2003434
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2003446, 2003447
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2003446, 2003447
SM 2120 B / E31780	True Color measured at 450 nm	2003429, 2003430
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2003429, 2003430
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2003429, 2003430

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2003429, 2003430
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2003429, 2003430
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2003431, 2003432

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	06/27/2018			06/27/2018 17:02	William L. Brown IV	2003429, 2003430
EPA 300.0 Rev. 2.1	06/27/2018			06/28/2018 16:48	Lipi Saha	2003429
	06/27/2018			06/28/2018 17:00	Lipi Saha	2003430
EPA 350.1 Rev. 2.0	06/27/2018			07/03/2018 14:28	Julia Storbeck	2003431
	06/27/2018			07/03/2018 14:31	Julia Storbeck	2003432
EPA 351.2 Rev. 2.0	06/27/2018	07/06/2018 14:45	Adrian Shelby	07/09/2018 14:50	Joseph Suarez	2003431
	06/27/2018	07/06/2018 14:45	Adrian Shelby	07/09/2018 14:51	Joseph Suarez	2003432
EPA 353.2 Rev. 2.0	06/27/2018			06/28/2018 12:38	Lauren Bottorf	2003432
	06/27/2018			06/28/2018 12:39	Lauren Bottorf	2003431
EPA 365.1 Rev. 2.0	06/27/2018	07/02/2018 12:00	Sima Feizi	07/03/2018 09:23	Beverly Y. Sanders	2003431
	06/27/2018	07/02/2018 12:00	Sima Feizi	07/03/2018 12:19	Beverly Y. Sanders	2003432
EPA 365.1 Rev. 2.0 dissolved	06/27/2018			06/27/2018 14:56	Megan Treadwell	2003433, 2003434
EPA 8321B	06/27/2018	06/27/2018 14:00	Hoor Shaik	07/01/2018 02:41	Juyoung Kim	2003446
	06/27/2018	06/27/2018 14:00	Hoor Shaik	07/02/2018 19:08	Juyoung Kim	2003447
	06/27/2018	06/27/2018 14:00	Hoor Shaik	07/03/2018 06:40	Juyoung Kim	2003446
	06/27/2018	06/27/2018 14:00	Hoor Shaik	07/03/2018 07:15	Juyoung Kim	2003447
	06/27/2018	07/02/2018 13:00	Mohammad Ghaffari	07/05/2018 21:31	Mohammad Ghaffari	2003446
	06/27/2018	07/02/2018 13:00	Mohammad Ghaffari	07/05/2018 21:50	Mohammad Ghaffari	2003447
SM 2120 B	06/27/2018			06/27/2018 14:45	Tanya Welborn	2003429
	06/27/2018			06/27/2018 14:46	Tanya Welborn	2003430
SM 2320 B-97	06/27/2018			07/01/2018 01:37	Dale L. Simmons	2003429
	06/27/2018			07/01/2018 01:50	Dale L. Simmons	2003430
SM 2540 C-97	06/27/2018			06/28/2018 15:21	Yijie Li	2003429, 2003430
SM 2540 D-97	06/27/2018			06/28/2018 15:21	Yijie Li	2003429, 2003430
SM 4500 F-C-97	06/27/2018			07/01/2018 01:37	Dale L. Simmons	2003429
	06/27/2018			07/01/2018 01:50	Dale L. Simmons	2003430
SM 5310 B-00	06/27/2018			07/03/2018 14:40	Megan Treadwell	2003431
	06/27/2018			07/03/2018 15:00	Megan Treadwell	2003432