

Chemical Analysis Report

NW-DIST-2019-07-12-01

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

Event Description: **LVI FULLER & ALLEN LAKE**
Request ID: **RQ-2019-07-08-46**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 01-AUG-2019 13:17

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first few letters of the first name.

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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Fuller Lake Middle

Collection Date/Time: 07/11/2019 13:25

Field ID: G3NW0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2102723	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P367176	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P367341	
		Sulfate	3.4		mg SO4/L	P367343	
	SM 2120 B	Color (true)	210		PCU	P367166	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P367555	
	SM 2540 C-97	TDS	57		mg/L	P367546	
	SM 2540 D-97	TSS	2	I	mg/L	P367573	
2102724	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P367560	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P367716	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P367201	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P367264	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P367217	
2102725	SM 5310 B-00	Organic Carbon	14		mg C/L	P367489	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367174	
2102731	EPA 8321B	2,4-D	0.0020	U	ug/L	P366931	
		Acesulfame K**	0.10	U	ug/L	P367189	
		AMPA**	0.10	U	ug/L	P367189	
		Sucralose**	0.010	U	ug/L	P367189	
		Acetaminophen**	0.0080	U	ug/L	P366931	
		Endothall**	0.25	U	ug/L	P367189	
		Glufosinate**	0.10	U	ug/L	P367189	
		Glyphosate**	0.10	U	ug/L	P367189	
		Bentazon	8.0E-04	U	ug/L	P366931	
		Carbamazepine**	8.0E-04	U	ug/L	P366931	
		Diuron	0.0020	U	ug/L	P366931	
		Fenuron	0.016	U	ug/L	P366931	
		Fluridone**	8.0E-04	U	ug/L	P366931	
		Imazapyr**	0.0040	U	ug/L	P366931	
		Hydrocodone**	0.0020	U	ug/L	P366931	
		Ibuprofen**	0.020	U	ug/L	P366931	
		Imidacloprid	0.0020	U	ug/L	P366931	
		Linuron	0.0040	U	ug/L	P366931	
		MCP	0.0020	U	ug/L	P366931	MS
		Naproxen**	0.0080	U	ug/L	P366931	
		Primidone**	0.0040	U	ug/L	P366931	
		Pyraclostrobin**	0.0020	U	ug/L	P366931	
		Triclopyr**	0.0040	U	ug/L	P366931	MS

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy for some analytes is not available due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367176

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367264

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367217

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

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

Reference Method: EPA 8321B
Batch ID: P366931

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: P366931

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	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: P367189

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P367166

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P367555

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

Reference Method: SM 2540 C-97
Batch ID: P367546

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367573

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P367489

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: P367341

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367217

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: P367174

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

Reference Method: EPA 8321B
Batch ID: P366931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	138		P	40 - 150
Acetaminophen	93.9		P	30 - 150
Bentazon	108		P	30 - 150
Carbamazepine	114		P	40 - 150
Diuron	103		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	99.0		P	40 - 150
Hydrocodone	99.4		P	40 - 150
Ibuprofen	84.4		P	30 - 150
Imazapyr	108		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P366931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	98.9		P	40 - 150
Linuron	87.5		P	40 - 150
MCP	145		P	40 - 150
Naproxen	104		P	40 - 150
Primidone	85.3		P	40 - 150
Pyraclostrobin	96.2		P	30 - 150
Triclopyr	137		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P367189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	123		P	40 - 150
AMPA	98.7		P	40 - 150
Endothall	105		P	40 - 150
Glufosinate	94.4		P	40 - 150
Glyphosate	96.1		P	40 - 140
Sucralose	85.9		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P367166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P367555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P367489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102612	Chloride	101		P	90 - 110
2102723	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102612	Sulfate	101		P	90 - 110
2102723	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102724	Ammonia-N	90.5	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102702	Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102718	NO2NO3-N	96.8	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102725	O-Phosphate-P	95.9	96.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P366931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102580	Acetaminophen	96.7	99.6	P/P	30 - 150
2102580	Bentazon	52.6	61.5	P/P	30 - 150
2102580	Carbamazepine	98.2	98.0	P/P	40 - 150
2102580	Fenuron	74.7	75.7	P/P	40 - 150
2102580	Fluridone	103	103	P/P	40 - 150
2102580	Hydrocodone	103	97.6	P/P	40 - 150
2102580	Ibuprofen	106	92.3	P/P	30 - 150
2102580	Imazapyr	77.2	76.0	P/P	40 - 150
2102580	Linuron	86.4	84.2	P/P	40 - 150
2102580	MCP	219	191	F/F	40 - 150
2102580	Naproxen	121	101	P/P	40 - 150
2102580	Primidone	113	87.5	P/P	40 - 150
2102580	Pyraclostrobin	110	104	P/P	30 - 150
2102580	Triclopyr	185	177	F/F	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P367189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2101887	Acesulfame K	115	122	P/P	40 - 150
2101887	AMPA	86.9	96.5	P/P	40 - 150
2101887	Endothall	96.4	103	P/P	40 - 150
2101887	Glufosinate	89.5	99.2	P/P	40 - 150
2101887	Glyphosate	85.5	96.0	P/P	40 - 140
2101887	Sucralose	87.4	106	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102699	Fluoride	96.0	96.0	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P367489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2102895	Organic Carbon	98.3	99.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102763	Turbidity	1.92	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Chloride	0.101	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102612	Sulfate	0.645	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102724	Ammonia-N	5.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P367201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102702	Kjeldahl Nitrogen	2.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102718	NO2NO3-N	0.368	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102702	Total-P	0.176	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102725	O-Phosphate-P	0.624	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P366931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102580	2,4-D	2.80	Spike	P	0 - 30
2102580	Acetaminophen	2.92	Spike	P	0 - 30
2102580	Bentazon	12.2	Spike	P	0 - 30
2102580	Carbamazepine	0.174	Spike	P	0 - 30
2102580	Diuron	4.21	Spike	P	0 - 30
2102580	Fenuron	0.516	Spike	P	0 - 30
2102580	Fluridone	0.444	Spike	P	0 - 30
2102580	Hydrocodone	5.11	Spike	P	0 - 30
2102580	Ibuprofen	13.8	Spike	P	0 - 30
2102580	Imazapyr	1.39	Spike	P	0 - 30
2102580	Imidacloprid	5.75	Spike	P	0 - 30
2102580	Linuron	2.53	Spike	P	0 - 30
2102580	MCP	13.8	Spike	P	0 - 30
2102580	Naproxen	17.4	Spike	P	0 - 30
2102580	Primidone	25.2	Spike	P	0 - 30
2102580	Pyraclostrobin	6.16	Spike	P	0 - 30
2102580	Triclopyr	4.44	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P367189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2101887	Acesulfame K	5.82	Spike	P	0 - 30
2101887	AMPA	10.4	Spike	P	0 - 30
2101887	Endothall	6.65	Spike	P	0 - 30
2101887	Glufosinate	10.3	Spike	P	0 - 30
2101887	Glyphosate	11.6	Spike	P	0 - 30
2101887	Sucralose	19.3	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P367166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102652	Color (true)	0.270	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P367555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102699	Total Alkalinity	0.0798	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P367546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102623	TDS	6.88	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P367560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102699	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P367489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2102895	Organic Carbon	0.575	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: 2102731
Field Sample ID: G3NW0084

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	147	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.6	P	30 - 160
EPA 8321B	Diuron-d6	86.9	P	30 - 160
EPA 8321B	Endothall-d6	93.6	P	30 - 160
EPA 8321B	Endothall-d6	93.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	105	P	30 - 160
EPA 8321B	Primidone-d5	92.4	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
 Run ID: A92738
 Included Lab Sample IDs: 2102723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Run ID: A92740
 Included Lab Sample IDs: 2102725

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
 Run ID: A92741
 Included Lab Sample IDs: 2102723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A92781
 Included Lab Sample IDs: 2102724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Run ID: A92785
 Included Lab Sample IDs: 2102724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A92790
 Included Lab Sample IDs: 2102724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.5	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A92791
 Included Lab Sample IDs: 2102731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	112	125	P/P	60 - 160
Endothall	101	111	P/P	60 - 160

Reference Method: EPA 8321B
 Run ID: A92793
 Included Lab Sample IDs: 2102731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	98.7	93.1	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A92793
Included Lab Sample IDs: 2102731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	93.5	94.1	P/P	60 - 160
Glyphosate	98.1	86.9	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A92796
Included Lab Sample IDs: 2102723

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

Reference Method: EPA 8321B
Run ID: A92848
Included Lab Sample IDs: 2102731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	108	P/P	50 - 150
Acetaminophen	116	113	P/P	60 - 160
Bentazon	99.4	97.0	P/P	50 - 160
Carbamazepine	128	117	P/P	60 - 150
Diuron	126	124	P/P	60 - 150
Fenuron	122	122	P/P	60 - 150
Fluridone	118	116	P/P	60 - 160
Hydrocodone	108	113	P/P	60 - 150
Ibuprofen	102	107	P/P	50 - 160
Imazapyr	101	82.5	P/P	50 - 150
Imidacloprid	105	107	P/P	60 - 150
Linuron	117	127	P/P	60 - 150
MCPP	115	114	P/P	50 - 150
Naproxen	126	115	P/P	50 - 160
Primidone	126	119	P/P	60 - 150
Pyraclostrobin	126	122	P/P	60 - 150
Triclopyr	105	104	P/P	50 - 150

Reference Method: SM 5310 B-00
Run ID: A92860
Included Lab Sample IDs: 2102724

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

Reference Method: SM 2320 B-97
Run ID: A92887
Included Lab Sample IDs: 2102723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A92887

Included Lab Sample IDs: 2102723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A92956

Included Lab Sample IDs: 2102724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93136

Included Lab Sample IDs: 2102731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.7	97.1	P/P	60 - 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					1.92	
EPA 300.0 Rev. 2.1	Chloride	102	101	102		0.101	
	Sulfate	102	101	104		0.645	
EPA 350.1 Rev. 2.0	Ammonia-N	102	90.5	98.9			5.74
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	109	106			2.35
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	96.8	96.3			0.368
EPA 365.1 Rev. 2.0	Total-P	102					0.176
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	95.9	96.5			0.624
EPA 8321B	2,4-D	138					2.80
	Acesulfame K	123	115	122			5.82
	Acetaminophen	93.9	96.7	99.6			2.92
	AMPA	98.7	86.9	96.5			10.4
	Bentazon	108	52.6	61.5			12.2
	Carbamazepine	114	98.2	98.0			0.174
	Diuron	103					4.21
	Endothall	105	96.4	103			6.65
	Fenuron	111	74.7	75.7			0.516
	Fluridone	99.0	103	103			0.444
	Glufosinate	94.4	89.5	99.2			10.3
	Glyphosate	96.1	85.5	96.0			11.6
	Hydrocodone	99.4	103	97.6			5.11
	Ibuprofen	84.4	106	92.3			13.8
	Imazapyr	108	77.2	76.0			1.39
	Imidacloprid	98.9					5.75
	Linuron	87.5	86.4	84.2			2.53
	MCPP	145	219	191			13.8
	Naproxen	104	121	101			17.4
	Primidone	85.3	113	87.5			25.2
	Pyraclostrobin	96.2	110	104			6.16
	Sucralose	85.9	87.4	106			19.3
	Triclopyr	137	185	177			4.44
SM 2120 B	Color (true)	99.7				0.270	
SM 2320 B-97	Total Alkalinity	105				0.0798	
SM 2540 C-97	TDS					6.88	
SM 4500 F-C-97	Fluoride	96.9	96.0	96.0			0.0
SM 5310 B-00	Organic Carbon	98.4	98.3	99.0			0.575

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2102723
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2102723
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2102723
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2102724
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2102724
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2102724
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2102724

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2102725
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2102731
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2102731
SM 2120 B / E31780	True Color measured at 450 nm	2102723
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2102723
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2102723
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2102723
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2102723
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2102724

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	07/12/2019			07/12/2019 16:46	Samantha Davila	2102723
EPA 300.0 Rev. 2.1	07/12/2019			07/16/2019 22:58	Jhamieka S. Greenwood	2102723
EPA 350.1 Rev. 2.0	07/12/2019			07/22/2019 19:01	Julia Storbeck	2102724
EPA 351.2 Rev. 2.0	07/12/2019	07/15/2019 12:00	Sima Feizi	07/16/2019 09:59	Joseph Suarez	2102724
EPA 353.2 Rev. 2.0	07/12/2019			07/16/2019 10:50	Beverly Y. Sanders	2102724
EPA 365.1 Rev. 2.0	07/12/2019	07/15/2019 12:55	Sima Feizi	07/16/2019 11:33	Lipi Saha	2102724
EPA 365.1 Rev. 2.0 dissolved	07/12/2019			07/12/2019 15:57	Jhamieka S. Greenwood	2102725
EPA 8321B	07/12/2019	07/15/2019 09:00	Hoor Shaik	07/18/2019 16:08	Juyoung Kim	2102731
	07/12/2019	07/15/2019 10:30	Rebecca Ware	07/15/2019 14:06	Rebecca Ware	2102731
	07/12/2019	07/15/2019 10:30	Rebecca Ware	07/15/2019 18:53	Rebecca Ware	2102731
	07/12/2019	07/15/2019 10:30	Rebecca Ware	07/30/2019 13:05	Rebecca Ware	2102731
SM 2120 B	07/12/2019			07/12/2019 16:26	Madeline Funaro	2102723
SM 2320 B-97	07/12/2019			07/18/2019 18:49	Dale L. Simmons	2102723
SM 2540 C-97	07/12/2019			07/16/2019 21:03	Yijie Li	2102723
SM 2540 D-97	07/12/2019			07/16/2019 21:03	Yijie Li	2102723
SM 4500 F-C-97	07/12/2019			07/18/2019 18:49	Dale L. Simmons	2102723
SM 5310 B-00	07/12/2019			07/18/2019 02:44	Madeline Funaro	2102724