

Chemical Analysis Report

SO-DIST-2020-09-25-01

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

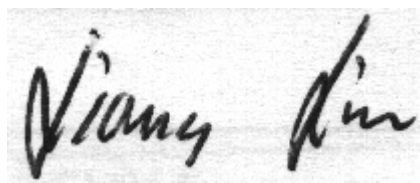
Event Description: **2020 SMP : Myrtle Slough**
Request ID: **RQ-2020-09-14-49**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 14-OCT-2020 11:35

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 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: Myrtle Slough @ Pine Island St

Collection Date/Time: 09/24/2020 09:50

Field ID: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2198245	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P387873	
	EPA 300.0 Rev. 2.1	Chloride	34		mg Cl/L	P388092	
		Sulfate	2.6		mg SO4/L	P388096	
	SM 2120 B-2011	Color (true)	660		PCU	P387875	
	SM 2320 B-2011	Total Alkalinity	39		mg CaCO3/L	P388087	
	SM 2540 C-2011	TDS	205		mg/L	P388198	
	SM 2540 D-2011	TSS	5	I	mg/L	P388201	
2198246	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P388090	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P387893	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.7		mg N/L	P387980	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P387913	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P388276	MS
2198247	SM 5310 B-2011	Organic Carbon	52		mg C/L	P387983	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P387881	
2198250	EPA 8321B	2,4-D	0.0020	U	ug/L	P388044	
		Acesulfame K**	0.10	U	ug/L	P387903	MS
		AMPA**	0.10	U	ug/L	P387903	
		Sucralose**	0.010	U	ug/L	P387903	
		Acetaminophen**	0.0080	U	ug/L	P388044	
		Acetamiprid**	0.0020	U	ug/L	P388044	
		Endothall**	0.25	U	ug/L	P387903	
		Glufosinate**	0.10	U	ug/L	P387903	
		Glyphosate**	0.10	U	ug/L	P387903	
		Afidopyrophen**	0.0020	U	ug/L	P388044	
		Bentazon	8.0E-04	U	ug/L	P388044	
		Benzovindiflupyr**	0.0020	U	ug/L	P388044	
		Carbamazepine**	8.0E-04	U	ug/L	P388044	
		Clothianidin**	0.0020	U	ug/L	P388044	
		Dinotefuran**	0.0020	U	ug/L	P388044	
		Diuron	0.0020	U	ug/L	P388044	
		Fenuron	0.018	I	ug/L	P388044	
		Fluridone**	8.0E-04	U	ug/L	P388044	
		Imazapyr**	0.0040	U	ug/L	P388044	
		Hydrocodone**	0.0020	U	ug/L	P388044	
		Ibuprofen**	0.020	U	ug/L	P388044	
		Imidacloprid	0.0020	U	ug/L	P388044	
		Linuron	0.0040	U	ug/L	P388044	
		Mandestrobin**	0.0020	U	ug/L	P388044	
		MCP	0.0020	U	ug/L	P388044	
		Naproxen**	0.0080	U	ug/L	P388044	
		Primidone**	0.0040	U	ug/L	P388044	
		Pyraclostrobin**	0.0020	U	ug/L	P388044	
		Thiamethoxam**	0.0020	U	ug/L	P388044	

Field ID: G3SD0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2198250	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P388044	
		Triclopyr**	0.0040	U	ug/L	P388044	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: MS accuracy for imidacloprid could not be assessed 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: P387873

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388092

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388096

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387893

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387980

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387913

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388276

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387881

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

Reference Method: EPA 8321B
Batch ID: P387903

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P387903

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P388044

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
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
Mandestrobin	0.0020	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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B-2011
Batch ID: P387875

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P388087

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

Reference Method: SM 2540 C-2011
Batch ID: P388198

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P388201

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P388090

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P387983

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: P388092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388096

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387893

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388276

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387881

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

Reference Method: EPA 8321B
Batch ID: P387903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	114		P	40 - 150
AMPA	104		P	40 - 150
Endothall	99.7		P	40 - 150
Glufosinate	99.9		P	40 - 150
Glyphosate	99.2		P	40 - 140
Sucralose	99.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P388044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	87.0		P	30 - 160
Acetaminophen	66.2		P	30 - 160
Acetamiprid	82.1		P	30 - 160
Afidopyropen	40.5		P	30 - 160
Bentazon	46.0		P	30 - 160
Benzovindiflupyr	71.4		P	30 - 160
Carbamazepine	59.0		P	30 - 160
Clothianidin	80.4		P	30 - 160
Dinotefuran	88.0		P	30 - 160
Diuron	56.8		P	30 - 160
Fenuron	84.3		P	30 - 160
Fluridone	71.9		P	30 - 160
Hydrocodone	87.7		P	30 - 160
Ibuprofen	44.7		P	30 - 160
Imazapyr	84.4		P	30 - 160
Imidacloprid	116		P	30 - 160
Linuron	61.8		P	30 - 160
Mandestrobin	72.7		P	30 - 160
MCPP	74.3		P	30 - 160
Naproxen	63.3		P	30 - 160
Primidone	60.0		P	30 - 160
Pyraclostrobin	60.5		P	30 - 160
Thiamethoxam	79.2		P	30 - 160
Tolfenpyrad	51.8		P	30 - 160
Triclopyr	61.3		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P387875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P388087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P388090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P387983

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2197720	Chloride	103		P	90 - 110
2197931	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2197720	Sulfate	98.9		P	90 - 110
2197931	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198190	Ammonia-N	100	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198295	Kjeldahl Nitrogen	99.2	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198190	NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198162	Total-P	110	109	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198233	O-Phosphate-P	99.7	99.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P387903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198127	Acesulfame K	34.3	36.0	F/F	40 - 150
2198127	AMPA	85.2	73.5	P/P	40 - 150
2198127	Endothall	105	114	P/P	40 - 150
2198127	Glufosinate	86.4	94.1	P/P	40 - 150
2198127	Glyphosate	129	94.1	P/P	40 - 140
2198127	Sucralose	57.4	48.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P388044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198240	2,4-D	87.4	76.4	P/P	30 - 160
2198240	Acetaminophen	57.0	61.7	P/P	30 - 160
2198240	Acetamiprid	80.2	84.3	P/P	30 - 160
2198240	Afidopyropen	43.7	45.4	P/P	30 - 160
2198240	Bentazon	39.3	38.0	P/P	30 - 160
2198240	Benzovindiflupyr	73.2	71.7	P/P	30 - 160
2198240	Carbamazepine	56.4	56.0	P/P	30 - 160
2198240	Clothianidin	75.3	72.7	P/P	30 - 160
2198240	Dinotefuran	96.1	96.7	P/P	30 - 160
2198240	Diuron	52.5	53.3	P/P	30 - 160
2198240	Fenuron	77.6	80.0	P/P	30 - 160
2198240	Fluridone	74.2	74.3	P/P	30 - 160
2198240	Hydrocodone	75.5	84.6	P/P	30 - 160
2198240	Ibuprofen	45.3	47.0	P/P	30 - 160
2198240	Imazapyr	87.8	74.9	P/P	30 - 160
2198240	Linuron	69.9	67.1	P/P	30 - 160
2198240	Mandestrobin	79.1	80.5	P/P	30 - 160
2198240	MCCP	66.0	68.9	P/P	30 - 160
2198240	Naproxen	72.5	55.2	P/P	30 - 160
2198240	Primidone	84.5	73.8	P/P	30 - 160
2198240	Pyraclostrobin	63.8	64.8	P/P	30 - 160
2198240	Thiamethoxam	75.6	74.2	P/P	30 - 160
2198240	Tolfenpyrad	57.9	58.3	P/P	30 - 160
2198240	Triclopyr	52.4	53.7	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P388090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198231	Fluoride	97.6	98.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198168	Organic Carbon	98.4	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198231	Turbidity	0.733	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197720	Chloride	0.719	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197720	Sulfate	0.320	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198190	Ammonia-N	1.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198295	Kjeldahl Nitrogen	3.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198190	NO2NO3-N	0.506	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198162	Total-P	0.649	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198233	O-Phosphate-P	0.100	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P387903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198127	Acesulfame K	4.72	Spike	P	0 - 30
2198127	AMPA	6.64	Spike	P	0 - 30
2198127	Endothall	7.91	Spike	P	0 - 30
2198127	Glufosinate	8.45	Spike	P	0 - 30
2198127	Glyphosate	8.12	Spike	P	0 - 30
2198127	Sucralose	10.2	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P388044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198240	2,4-D	13.4	Spike	P	0 - 30
2198240	Acetaminophen	7.96	Spike	P	0 - 30
2198240	Acetamiprid	4.94	Spike	P	0 - 30
2198240	Afidopyropen	3.98	Spike	P	0 - 30
2198240	Bentazon	3.44	Spike	P	0 - 30
2198240	Benzovindiflupyr	2.04	Spike	P	0 - 30
2198240	Carbamazepine	0.719	Spike	P	0 - 30
2198240	Clothianidin	2.94	Spike	P	0 - 30
2198240	Dinotefuran	0.605	Spike	P	0 - 30
2198240	Diuron	1.33	Spike	P	0 - 30
2198240	Fenuron	3.08	Spike	P	0 - 30
2198240	Fluridone	0.119	Spike	P	0 - 30
2198240	Hydrocodone	11.3	Spike	P	0 - 30
2198240	Ibuprofen	3.60	Spike	P	0 - 30
2198240	Imazapyr	15.9	Spike	P	0 - 30
2198240	Imidacloprid	7.74	Spike	P	0 - 30
2198240	Linuron	4.21	Spike	P	0 - 30
2198240	Mandestrobin	1.79	Spike	P	0 - 30
2198240	MCPP	4.32	Spike	P	0 - 30
2198240	Naproxen	27.1	Spike	P	0 - 30
2198240	Primidone	13.6	Spike	P	0 - 30
2198240	Pyraclostrobin	1.57	Spike	P	0 - 30
2198240	Thiamethoxam	1.38	Spike	P	0 - 30
2198240	Tolfenpyrad	0.718	Spike	P	0 - 30
2198240	Triclopyr	2.34	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
 Batch ID: P387875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198098	Color (true)	2.53	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P388087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198231	Total Alkalinity	2.24	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P388198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198167	TDS	1.35	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P388090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198231	Fluoride	0.514	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P387983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198168	Organic Carbon	0.927	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2198250
Field Sample ID: G3SD0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	44.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	32.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	42.4	P	30 - 160
EPA 8321B	Diuron-d6	30.3	P	30 - 160
EPA 8321B	Endothall-d6	113	P	30 - 160
EPA 8321B	Endothall-d6	113	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	44.0	P	30 - 160
EPA 8321B	Primidone-d5	46.4	P	30 - 160
EPA 8321B	Sucralose-d6	49.4	P	30 - 160
EPA 8321B	Sucralose-d6	49.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101205

Included Lab Sample IDs: 2198245

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

Reference Method: SM 2120 B-2011

Run ID: A101207

Included Lab Sample IDs: 2198245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	102	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101209

Included Lab Sample IDs: 2198247

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101212

Included Lab Sample IDs: 2198246

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101223

Included Lab Sample IDs: 2198246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101248

Included Lab Sample IDs: 2198250

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	100	P/P	60 - 160
Glufosinate	92.3	95.8	P/P	60 - 160
Glyphosate	99.5	103	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101258

Included Lab Sample IDs: 2198250

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.4	90.3	P/P	60 - 160
Endothall	113	113	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A101262

Included Lab Sample IDs: 2198246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	99.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101281

Included Lab Sample IDs: 2198245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	107	107	P/P	90 - 110
Sulfate	105	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101288

Included Lab Sample IDs: 2198246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	96.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A101307

Included Lab Sample IDs: 2198245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101307

Included Lab Sample IDs: 2198245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101350

Included Lab Sample IDs: 2198250

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	102	102	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101380

Included Lab Sample IDs: 2198250

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	91.9	P/P	50 - 150
Acetaminophen	90.4	97.0	P/P	60 - 160
Acetamiprid	96.8	106	P/P	50 - 150
Afidopyropen	92.3	92.4	P/P	50 - 150
Bentazon	101	92.0	P/P	50 - 160
Benzovindiflupyr	104	97.9	P/P	50 - 150
Carbamazepine	101	103	P/P	60 - 150
Clothianidin	100	99.2	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A101380
 Included Lab Sample IDs: 2198250

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dinotefuran	100	99.1	P/P	50 - 150
Diuron	100	103	P/P	60 - 160
Fenuron	106	106	P/P	60 - 150
Fluridone	101	101	P/P	60 - 160
Hydrocodone	113	114	P/P	60 - 150
Ibuprofen	75.7	72.5	P/P	50 - 160
Imazapyr	88.3	93.5	P/P	50 - 160
Imidacloprid	105	111	P/P	60 - 150
Linuron	96.6	78.3	P/P	60 - 150
Mandestrobin	99.1	99.7	P/P	50 - 150
MCPP	100	91.6	P/P	50 - 150
Naproxen	102	81.1	P/P	50 - 160
Primidone	91.4	94.5	P/P	60 - 150
Pyraclostrobin	100	94.2	P/P	60 - 150
Thiamethoxam	93.0	105	P/P	50 - 150
Tolfenpyrad	102	90.6	P/P	60 - 150
Triclopyr	99.7	85.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A101416
 Included Lab Sample IDs: 2198246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.733	
EPA 300.0 Rev. 2.1	Chloride	105	103	103		0.719	
	Sulfate	103	98.9	100		0.320	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	100	98.4			1.89
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.8	99.2	105			3.48
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.0	99.0	98.5			0.506
EPA 365.1 Rev. 2.0	Total-P	103	110	109			0.649
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	99.7	99.6			0.100
EPA 8321B	2,4-D	87.0	87.4	76.4			13.4
	Acesulfame K	114	34.3	36.0			4.72
	Acetaminophen	66.2	57.0	61.7			7.96
	Acetamiprid	82.1	80.2	84.3			4.94
	Afidopyropen	40.5	43.7	45.4			3.98
	AMPA	104	85.2	73.5			6.64
	Bentazon	46.0	39.3	38.0			3.44
	Benzovindiflupyr	71.4	73.2	71.7			2.04
	Carbamazepine	59.0	56.4	56.0			0.719
	Clothianidin	80.4	75.3	72.7			2.94
	Dinotefuran	88.0	96.1	96.7			0.605
	Diuron	56.8	52.5	53.3			1.33
	Endothall	99.7	105	114			7.91
	Fenuron	84.3	77.6	80.0			3.08
	Fluridone	71.9	74.2	74.3			0.119
	Glufosinate	99.9	86.4	94.1			8.45
	Glyphosate	99.2	129	94.1			8.12
	Hydrocodone	87.7	75.5	84.6			11.3
	Ibuprofen	44.7	45.3	47.0			3.60
	Imazapyr	84.4	87.8	74.9			15.9
	Imidacloprid	116					7.74
	Linuron	61.8	69.9	67.1			4.21
	Mandestrobin	72.7	79.1	80.5			1.79
	MCPP	74.3	66.0	68.9			4.32
	Naproxen	63.3	72.5	55.2			27.1
	Primidone	60.0	84.5	73.8			13.6
	Pyraclostrobin	60.5	63.8	64.8			1.57
	Sucralose	99.7	57.4	48.7			10.2
	Thiamethoxam	79.2	75.6	74.2			1.38
	Tolfenpyrad	51.8	57.9	58.3			0.718
	Triclopyr	61.3	52.4	53.7			2.34
SM 2120 B-2011	Color (true)	98.9				2.53	
SM 2320 B-2011	Total Alkalinity	99.2				2.24	
SM 2540 C-2011	TDS					1.35	
SM 4500 F-C-2011	Fluoride	97.3	97.6	98.2			0.514
SM 5310 B-2011	Organic Carbon	101	98.4	100			0.927

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2198245
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2198245
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2198245
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2198246
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2198246

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2198246
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2198246
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2198247
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2198250
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2198250
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2198245
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2198245
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2198245
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2198245
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2198245
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2198246

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	09/25/2020			09/25/2020 14:41	Yen Ta	2198245
EPA 300.0 Rev. 2.1	09/25/2020			10/01/2020 00:11	Lipi Saha	2198245
EPA 350.1 Rev. 2.0	09/25/2020			09/27/2020 11:01	Ping Hua	2198246
EPA 351.2 Rev. 2.0	09/25/2020	09/29/2020 15:45	David Boose	09/30/2020 13:12	Elliott Rodriguez	2198246
EPA 353.2 Rev. 2.0	09/25/2020			09/28/2020 10:03	Beverly Y. Sanders	2198246
EPA 365.1 Rev. 2.0	09/25/2020	10/06/2020 12:50	Yen Ta	10/07/2020 14:50	Benjamin T. Nordmann	2198246
EPA 365.1 Rev. 2.0 dissolved	09/25/2020			09/25/2020 17:21	Julia Storbeck	2198247
EPA 8321B	09/25/2020	09/28/2020 09:15	Rebecca Ware	09/28/2020 12:54	Rebecca Ware	2198250
	09/25/2020	09/28/2020 09:15	Rebecca Ware	09/29/2020 13:19	Rebecca Ware	2198250
	09/25/2020	09/28/2020 09:15	Rebecca Ware	09/30/2020 20:05	Rebecca Ware	2198250
	09/25/2020	10/01/2020 09:00	Hoor Shaik	10/06/2020 07:04	Juyoung Kim	2198250
SM 2120 B-2011	09/25/2020			09/25/2020 15:54	Benjamin T. Nordmann	2198245
SM 2320 B-2011	09/25/2020			09/30/2020 21:16	Dale L. Simmons	2198245
SM 2540 C-2011	09/25/2020			09/28/2020 15:25	Yijie Li	2198245
SM 2540 D-2011	09/25/2020			09/28/2020 15:25	Yijie Li	2198245
SM 4500 F-C-2011	09/25/2020			09/30/2020 21:16	Dale L. Simmons	2198245
SM 5310 B-2011	09/25/2020			09/29/2020 11:19	David Boose	2198246