

Chemical Analysis Report

NE-DIST-2020-08-28-01

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

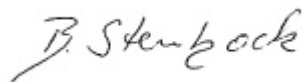
Event Description: **Bmap 1 SMP**
Request ID: **RQ-2020-08-24-15**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 18-SEP-2020 16:02



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: Craig CR 100m Down From Footbridge in Park Collection Date/Time: 08/27/2020 11:25

Field ID: 20030958

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2193035	EPA 180.1 Rev. 2.0	Turbidity	6.1	A	NTU	P386705	
	EPA 300.0 Rev. 2.1	Bromide	0.12		mg Br/L	P387262	MS
	SM 2320 B-2011	Total Alkalinity	154		mg CaCO3/L	P386763	
	SM 2540 D-2011	TSS	4	I	mg/L	P387003	
	SM 4500 F-C-2011	Fluoride	0.19		mg F/L	P386902	
2193036	EPA 350.1 Rev. 2.0	Ammonia-N	0.068		mg N/L	P387024	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P386867	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.27		mg N/L	P386781	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P386759	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P386768	
2193037	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P386706	
2193062	EPA 8321B	2,4-D	0.0022	I	ug/L	P386810	
		Acesulfame K**	0.10	U	ug/L	P386702	
		AMPA**	0.45		ug/L	P386702	
		Sucralose**	0.17		ug/L	P386702	
		Acetaminophen**	0.029	I	ug/L	P386810	
		Acetamiprid**	0.0020	U	ug/L	P386810	
		Endothall**	0.25	U	ug/L	P386702	
		Glufosinate**	0.10	U	ug/L	P386702	
		Glyphosate**	1.2		ug/L	P386702	
		Afidopyropen**	0.0020	U	ug/L	P386810	
		Bentazon	0.017		ug/L	P386810	
		Benzovindiflupyr**	0.0020	U	ug/L	P386810	
		Carbamazepine**	8.0E-04	U	ug/L	P386810	
		Clothianidin**	0.0020	U	ug/L	P386810	
		Dinotefuran**	0.0020	U	ug/L	P386810	
		Diuron	0.076		ug/L	P386810	
		Fenuron	0.016	U	ug/L	P386810	
		Fluridone**	0.0029	I	ug/L	P386810	
		Imazapyr**	0.15		ug/L	P386810	
		Hydrocodone**	0.0020	U	ug/L	P386810	
		Ibuprofen**	0.020	U	ug/L	P386810	
		Imidacloprid	0.032		ug/L	P386810	
		Linuron	0.0040	U	ug/L	P386810	
		Mandestrobin**	0.0020	U	ug/L	P386810	
		MCP	0.0020	U	ug/L	P386810	
		Naproxen**	0.0080	U	ug/L	P386810	
		Primidone**	0.0040	U	ug/L	P386810	
		Pyraclostrobin**	0.0020	U	ug/L	P386810	
		Thiamethoxam**	0.0020	U	ug/L	P386810	
		Tolfenpyrad**	0.0020	U	ug/L	P386810	
		Triclopyr**	0.0040	U	ug/L	P386810	

Field ID: 20030958

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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 imazapyr 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: P386705

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387024

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386867

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386781

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386759

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386706

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

Reference Method: EPA 8321B
Batch ID: P386702

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P386810

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 2320 B-2011
Batch ID: P386763

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

Reference Method: SM 2540 D-2011
Batch ID: P387003

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P386902

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P386768

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: P387262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387024

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: P386867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386781

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: P386759

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386706

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

Reference Method: EPA 8321B
Batch ID: P386702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	72.0		P	40 - 150
AMPA	70.2		P	40 - 150
Endothall	109		P	40 - 150
Glufosinate	95.9		P	40 - 150
Glyphosate	116		P	40 - 140
Sucralose	100		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P386810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.1		P	30 - 160
Acetaminophen	92.7		P	30 - 160
Acetamiprid	75.6		P	30 - 160
Afidopyropen	56.9		P	30 - 160
Bentazon	75.0		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P386810

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Benzovindiflupyr	71.8		P	30 - 160
Carbamazepine	64.1		P	30 - 160
Clothianidin	89.3		P	30 - 160
Dinotefuran	100		P	30 - 160
Diuron	66.9		P	30 - 160
Fenuron	105		P	30 - 160
Fluridone	77.3		P	30 - 160
Hydrocodone	93.4		P	30 - 160
Ibuprofen	77.7		P	30 - 160
Imazapyr	80.5		P	30 - 160
Imidacloprid	105		P	30 - 160
Linuron	75.9		P	30 - 160
Mandestrobin	77.5		P	30 - 160
MCPP	101		P	30 - 160
Naproxen	47.6		P	30 - 160
Primidone	87.0		P	30 - 160
Pyraclostrobin	57.6		P	30 - 160
Thiamethoxam	90.6		P	30 - 160
Tolfenpyrad	44.7		P	30 - 160
Triclopyr	63.1		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P386763

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P386902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P386768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192715	Bromide	91.5	89.4	P/F	90 - 110
2192716	Bromide	87.1		F	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193045	Ammonia-N	106	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192998	Kjeldahl Nitrogen	93.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193006	NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192982	Total-P	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192954	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P386702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193053	Acesulfame K	78.9	85.6	P/P	40 - 150
2193053	AMPA	92.9	97.4	P/P	40 - 150
2193053	Endothall	113	124	P/P	40 - 150
2193053	Glufosinate	120	115	P/P	40 - 150
2193053	Glyphosate	96.1	98.4	P/P	40 - 140
2193053	Sucralose	101	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P386810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193354	2,4-D	91.3	88.1	P/P	30 - 160
2193354	Acetaminophen	77.5	81.7	P/P	30 - 160
2193354	Acetamiprid	67.1	68.2	P/P	30 - 160
2193354	Afidopyropen	53.5	53.1	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P386810

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193354	Bentazon	39.6	46.3	P/P	30 - 160
2193354	Benzovindiflupyr	64.8	63.2	P/P	30 - 160
2193354	Carbamazepine	53.9	56.6	P/P	30 - 160
2193354	Clothianidin	59.9	61.4	P/P	30 - 160
2193354	Dinotefuran	78.8	83.2	P/P	30 - 160
2193354	Diuron	54.1	52.8	P/P	30 - 160
2193354	Fenuron	68.2	72.4	P/P	30 - 160
2193354	Fluridone	75.4	94.7	P/P	30 - 160
2193354	Hydrocodone	64.7	70.3	P/P	30 - 160
2193354	Ibuprofen	83.5	71.2	P/P	30 - 160
2193354	Imidacloprid	109	118	P/P	30 - 160
2193354	Linuron	67.1	68.9	P/P	30 - 160
2193354	Mandestrobin	70.5	75.6	P/P	30 - 160
2193354	MCPP	111	110	P/P	30 - 160
2193354	Naproxen	49.2	63.2	P/P	30 - 160
2193354	Primidone	76.8	79.3	P/P	30 - 160
2193354	Pyraclostrobin	59.1	60.2	P/P	30 - 160
2193354	Thiamethoxam	72.7	71.8	P/P	30 - 160
2193354	Tolfenpyrad	51.7	48.2	P/P	30 - 160
2193354	Triclopyr	87.5	87.4	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P386902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192997	Fluoride	102	102	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P386768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192839	Organic Carbon	99.0	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193035	Turbidity	0.984	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192715	Bromide	1.76	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193045	Ammonia-N	2.11	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192998	Kjeldahl Nitrogen	4.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193006	NO2NO3-N	1.49	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192982	Total-P	0.404	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192954	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P386702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193053	Acesulfame K	8.11	Spike	P	0 - 30
2193053	AMPA	4.71	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P386702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193053	Endothall	9.19	Spike	P	0 - 30
2193053	Glufosinate	4.71	Spike	P	0 - 30
2193053	Glyphosate	2.31	Spike	P	0 - 30
2193053	Sucralose	2.12	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P386810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193354	2,4-D	3.11	Spike	P	0 - 30
2193354	Acetaminophen	5.28	Spike	P	0 - 30
2193354	Acetamiprid	1.62	Spike	P	0 - 30
2193354	Afidopyropen	0.775	Spike	P	0 - 30
2193354	Bentazon	4.84	Spike	P	0 - 30
2193354	Benzovindiflupyr	2.40	Spike	P	0 - 30
2193354	Carbamazepine	4.85	Spike	P	0 - 30
2193354	Clothianidin	2.53	Spike	P	0 - 30
2193354	Dinotefuran	4.79	Spike	P	0 - 30
2193354	Diuron	2.22	Spike	P	0 - 30
2193354	Fenuron	5.91	Spike	P	0 - 30
2193354	Fluridone	17.2	Spike	P	0 - 30
2193354	Hydrocodone	8.37	Spike	P	0 - 30
2193354	Ibuprofen	15.8	Spike	P	0 - 30
2193354	Imazapyr	7.74	Spike	P	0 - 30
2193354	Imidacloprid	6.78	Spike	P	0 - 30
2193354	Linuron	2.58	Spike	P	0 - 30
2193354	Mandestrobin	7.03	Spike	P	0 - 30
2193354	MCPP	0.860	Spike	P	0 - 30
2193354	Naproxen	24.9	Spike	P	0 - 30
2193354	Primidone	3.13	Spike	P	0 - 30
2193354	Pyraclostrobin	1.77	Spike	P	0 - 30
2193354	Thiamethoxam	1.14	Spike	P	0 - 30
2193354	Tolfenpyrad	6.96	Spike	P	0 - 30
2193354	Triclopyr	0.124	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P386763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192997	Total Alkalinity	0.323	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P386902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192997	Fluoride	0.0	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P386768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192839	Organic Carbon	1.61	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2193062
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.1	P	30 - 160
EPA 8321B	Diuron-d6	60.5	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Endothall-d6	111	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.8	P	30 - 160
EPA 8321B	Primidone-d5	96.3	P	30 - 160
EPA 8321B	Sucralose-d6	60.6	P	30 - 160
EPA 8321B	Sucralose-d6	60.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100711

Included Lab Sample IDs: 2193035

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100712

Included Lab Sample IDs: 2193037

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

Reference Method: EPA 8321B

Run ID: A100723

Included Lab Sample IDs: 2193062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	103	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A100734

Included Lab Sample IDs: 2193035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100736

Included Lab Sample IDs: 2193036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100738

Included Lab Sample IDs: 2193062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	72.6	71.0	P/P	60 - 160
Endothall	108	106	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100742

Included Lab Sample IDs: 2193036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100757

Included Lab Sample IDs: 2193036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A100779
Included Lab Sample IDs: 2193062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	82.7	80.4	P/P	60 - 160
Glufosinate	91.6	89.7	P/P	60 - 160
Glyphosate	111	112	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A100781
Included Lab Sample IDs: 2193062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	140	109	P/P	50 - 150
Acetaminophen	136	142	P/P	60 - 160
Acetamiprid	141	142	P/P	50 - 150
Afidopyropen	101	123	P/P	50 - 150
Bentazon	113	125	P/P	50 - 160
Benzovindiflupyr	133	116	P/P	50 - 150
Carbamazepine	132	135	P/P	60 - 150
Clothianidin	131	134	P/P	60 - 150
Dinotefuran	118	124	P/P	50 - 150
Diuron	134	137	P/P	60 - 160
Fenuron	129	127	P/P	60 - 150
Fluridone	102	110	P/P	60 - 160
Hydrocodone	129	132	P/P	60 - 150
Ibuprofen	123	103	P/P	50 - 160
Imazapyr	106	102	P/P	50 - 160
Imidacloprid	132	138	P/P	60 - 150
Linuron	135	131	P/P	60 - 150
Mandestrobin	136	128	P/P	50 - 150
MCPP	122	123	P/P	50 - 150
Naproxen	103	80.8	P/P	50 - 160
Primidone	133	135	P/P	60 - 150
Pyraclostrobin	117	117	P/P	60 - 150
Thiamethoxam	140	137	P/P	50 - 150
Tolfenpyrad	121	117	P/P	60 - 150
Triclopyr	118	111	P/P	50 - 150

Reference Method: SM 4500 F-C-2011
Run ID: A100801
Included Lab Sample IDs: 2193035

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A100807
Included Lab Sample IDs: 2193036

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100834

Included Lab Sample IDs: 2193036

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100925

Included Lab Sample IDs: 2193035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	95.4	98.8	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					0.984	
EPA 300.0 Rev. 2.1	Bromide	96.7	91.5	89.4	87.1		1.76
EPA 350.1 Rev. 2.0	Ammonia-N	102	106	109			2.11
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.2	93.0	100			4.01
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	100			1.49
EPA 365.1 Rev. 2.0	Total-P	106	106	107			0.404
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	100	100			0.0
EPA 8321B	2,4-D	89.1	88.1	91.3			3.11
	Acesulfame K	72.0	78.9	85.6			8.11
	Acetaminophen	92.7	77.5	81.7			5.28
	Acetamiprid	75.6	67.1	68.2			1.62
	Afidopyropen	56.9	53.5	53.1			0.775
	AMPA	70.2	92.9	97.4			4.71
	Bentazon	75.0	46.3	39.6			4.84
	Benzovindiflupyr	71.8	64.8	63.2			2.40
	Carbamazepine	64.1	53.9	56.6			4.85
	Clothianidin	89.3	59.9	61.4			2.53
	Dinotefuran	100	78.8	83.2			4.79
	Diuron	66.9	54.1	52.8			2.22
	Endothall	109	113	124			9.19
	Fenuron	105	68.2	72.4			5.91
	Fluridone	77.3	75.4	94.7			17.2
	Glufosinate	95.9	120	115			4.71
	Glyphosate	116	96.1	98.4			2.31
	Hydrocodone	93.4	64.7	70.3			8.37
	Ibuprofen	77.7	71.2	83.5			15.8
	Imazapyr	80.5					7.74
	Imidacloprid	105	109	118			6.78
	Linuron	75.9	67.1	68.9			2.58
	Mandestrobin	77.5	70.5	75.6			7.03
	MCPP	101	110	111			0.860
	Naproxen	47.6	63.2	49.2			24.9
	Primidone	87.0	76.8	79.3			3.13
	Pyraclostrobin	57.6	60.2	59.1			1.77
	Sucralose	100	101	103			2.12
	Thiamethoxam	90.6	72.7	71.8			1.14
	Tolfenpyrad	44.7	48.2	51.7			6.96
	Triclopyr	63.1	87.4	87.5			0.124
SM 2320 B-2011	Total Alkalinity	100				0.323	
SM 4500 F-C-2011	Fluoride	102	102	102			0.0
SM 5310 B-2011	Organic Carbon	99.6	99.0	101			1.61

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2193035
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2193035
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2193036
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2193036
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2193036
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2193036
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2193037

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2193062
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2193062
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2193035
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2193035
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2193035
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2193036

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	08/28/2020			08/28/2020 14:51	Yen Ta	2193035
EPA 300.0 Rev. 2.1	08/28/2020			09/10/2020 01:13	Lipi Saha	2193035
EPA 350.1 Rev. 2.0	08/28/2020			09/06/2020 10:16	Ping Hua	2193036
EPA 351.2 Rev. 2.0	08/28/2020	09/02/2020 12:20	David Boose	09/03/2020 13:51	Virginia P. Brown	2193036
EPA 353.2 Rev. 2.0	08/28/2020			09/01/2020 11:36	Beverly Y. Sanders	2193036
EPA 365.1 Rev. 2.0	08/28/2020	08/31/2020 15:00	Yen Ta	09/01/2020 13:35	Benjamin T. Nordmann	2193036
EPA 365.1 Rev. 2.0 dissolved	08/28/2020			08/28/2020 15:31	Samantha Davila	2193037
EPA 8321B	08/28/2020	08/28/2020 16:15	Rebecca Ware	08/28/2020 18:06	Rebecca Ware	2193062
	08/28/2020	08/28/2020 16:15	Rebecca Ware	08/31/2020 22:17	Rebecca Ware	2193062
	08/28/2020	08/28/2020 16:15	Rebecca Ware	09/01/2020 18:35	Rebecca Ware	2193062
	08/28/2020	09/02/2020 14:30	Hoor Shaik	09/02/2020 22:45	Mohammad Ghaffari	2193062
SM 2320 B-2011	08/28/2020			08/31/2020 19:43	Dale L. Simmons	2193035
SM 2540 D-2011	08/28/2020			08/31/2020 14:39	Yijie Li	2193035
SM 4500 F-C-2011	08/28/2020			09/03/2020 04:42	Dale L. Simmons	2193035
SM 5310 B-2011	08/28/2020			08/31/2020 19:34	David Boose	2193036