Chemical Analysis Report

NE-DIST-2020-02-05-02

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

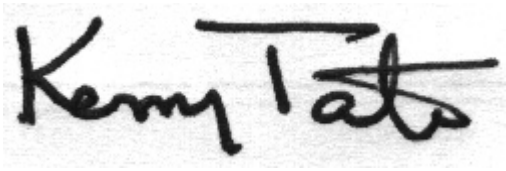
Event Description: **Bmap 1 2020**
Request ID: **RQ-2020-02-03-25**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 27-FEB-2020 12:14



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: 02/04/2020 11:10**

Field ID: 20030958 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2154804	EPA 180.1 Rev. 2.0	Turbidity	7.5	A	NTU	P378395	
	EPA 300.0 Rev. 2.1	Bromide	4.5		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	144		mg CaCO3/L	P378557	
	SM 2540 D-2011	TSS	7	I	mg/L	P378682	
	SM 4500 F-C-2011	Fluoride	0.29		mg F/L	P378561	
2154805	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P378887	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P379035	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P379222	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P378812	
	SM 5310 B-2011	Organic Carbon	9.3		mg C/L	P378535	
2154806	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P378355	
2154815	EPA 8321B	2,4-D	0.0063	I	ug/L	P378426	
		Acesulfame K**	0.10	U	ug/L	P378369	MS
		AMPA**	1.0	U	ug/L	P378369	
		Sucralose**	0.024	I J	ug/L	P378369	MS, SUR
		Acetaminophen**	0.0080	U	ug/L	P378426	
		Acetamiprid**	0.0020	U	ug/L	P378426	
		Endothall**	0.25	U	ug/L	P378369	
		Glufosinate**	1.0	U	ug/L	P378369	MS
		Glyphosate**	1.0	UJ	ug/L	P378369	LCS, MS
		Afidopyropen**	0.0020	UJ	ug/L	P378426	
		Bentazon	0.028		ug/L	P378426	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378426	
		Carbamazepine**	8.0E-04	U	ug/L	P378426	
		Clothianidin**	0.0020	U	ug/L	P378426	
		Dinotefuran**	0.0020	U	ug/L	P378426	
		Diuron	0.0027	I	ug/L	P378426	
		Fenuron	0.016	U	ug/L	P378426	
		Fluridone**	0.0045		ug/L	P378426	
		Imazapyr**	0.13		ug/L	P378426	
		Hydrocodone**	0.0020	U	ug/L	P378426	
		Ibuprofen**	0.020	U	ug/L	P378426	
		Imidacloprid	0.059		ug/L	P378426	
		Linuron	0.0040	U	ug/L	P378426	
		Mandestrobin**	0.0020	UJ	ug/L	P378426	
		MCPP	0.0020	U	ug/L	P378426	
		Naproxen**	0.0080	U	ug/L	P378426	RPD
		Primidone**	0.0040	U	ug/L	P378426	
		Pyraclostrobin**	0.0020	U	ug/L	P378426	
		Thiamethoxam**	0.0020	U	ug/L	P378426	
		Tolfenpyrad**	0.0020	U	ug/L	P378426	
		Triclopyr**	0.0040	U	ug/L	P378426	

Field ID: 20030958 Matrix: W-SURF-SLT

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

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: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378395

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379035

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379222

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378812

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378355

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

Reference Method: EPA 8321B
Batch ID: P378369

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: P378426

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: P378557

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

Reference Method: SM 2540 D-2011
Batch ID: P378682

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378561

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P378535

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: P378844

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379035

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: P379222

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378812

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378355

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

Reference Method: EPA 8321B
Batch ID: P378369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	122		P	40 - 150
AMPA	105		P	40 - 150
Endothall	102		P	40 - 150
Glufosinate	137		P	40 - 150
Glyphosate	149		F	40 - 140
Sucralose	104		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P378426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	122		P	30 - 160
Acetaminophen	76.7		P	30 - 160
Acetamiprid	88.1		P	30 - 160
Afidopyropen	82.6		P	30 - 160
Bentazon	65.9		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Benzovindiflupyr	77.4		P	30 - 160
Carbamazepine	77.8		P	30 - 160
Clothianidin	81.8		P	30 - 160
Dinotefuran	87.3		P	30 - 160
Diuron	88.5		P	30 - 160
Fenuron	98.0		P	30 - 160
Fluridone	83.9		P	30 - 160
Hydrocodone	92.2		P	30 - 160
Ibuprofen	76.6		P	30 - 160
Imazapyr	96.6		P	30 - 160
Imidacloprid	95.0		P	30 - 160
Linuron	69.6		P	30 - 160
Mandestrobin	92.4		P	30 - 160
MCPP	126		P	30 - 160
Naproxen	90.4		P	30 - 160
Primidone	90.0		P	30 - 160
Pyraclostrobin	96.1		P	30 - 160
Thiamethoxam	95.6		P	30 - 160
Tolfenpyrad	50.1		P	30 - 160
Triclopyr	104		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P378557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P378535

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: P378844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154804	Bromide	101		P	90 - 110
2155120	Bromide	100	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154621	Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155074	Kjeldahl Nitrogen	99.3	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154805	NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154805	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154806	O-Phosphate-P	97.4	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P378369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154578	Acesulfame K	37.2	38.2	F/F	40 - 150
2154578	AMPA	102	102	P/P	40 - 150
2154578	Endothall	114	124	P/P	40 - 150
2154578	Glufosinate	173	192	F/F	40 - 150
2154578	Glyphosate	156	172	F/F	40 - 140
2154578	Sucralose	29.4	32.3	F/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P378426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154702	2,4-D	108	116	P/P	30 - 160
2154702	Acetaminophen	88.6	92.7	P/P	30 - 160
2154702	Acetamiprid	91.4	84.7	P/P	30 - 160
2154702	Afidopyropen	92.6	96.1	P/P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P378426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154702	Benzovindiflupyr	77.4	78.8	P/P	30 - 160
2154702	Carbamazepine	75.4	80.6	P/P	30 - 160
2154702	Clothianidin	87.3	93.8	P/P	30 - 160
2154702	Dinotefuran	113	122	P/P	30 - 160
2154702	Diuron	75.0	64.9	P/P	30 - 160
2154702	Fenuron	79.4	74.8	P/P	30 - 160
2154702	Fluridone	89.6	84.5	P/P	30 - 160
2154702	Hydrocodone	101	90.1	P/P	30 - 160
2154702	Ibuprofen	71.4	67.7	P/P	30 - 160
2154702	Imazapyr	75.0	88.9	P/P	30 - 160
2154702	Imidacloprid	151	149	P/P	30 - 160
2154702	Linuron	65.1	63.0	P/P	30 - 160
2154702	Mandestrobin	90.4	92.1	P/P	30 - 160
2154702	MCPP	112	117	P/P	30 - 160
2154702	Naproxen	118	71.2	P/P	30 - 160
2154702	Primidone	90.3	88.0	P/P	30 - 160
2154702	Pyraclostrobin	89.3	91.9	P/P	30 - 160
2154702	Thiamethoxam	118	129	P/P	30 - 160
2154702	Tolfenpyrad	49.7	45.2	P/P	30 - 160
2154702	Triclopyr	104	102	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P378561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155025	Fluoride	104	105	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P378535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154805	Organic Carbon	101	103	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154804	Turbidity	2.28	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155120	Bromide	0.584	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154621	Ammonia-N	0.265	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155074	Kjeldahl Nitrogen	1.22	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154805	NO2NO3-N	0.238	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154805	Total-P	0.634	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154806	O-Phosphate-P	2.25	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P378369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154578	Acesulfame K	2.61	Spike	P	0 - 30
2154578	AMPA	0.111	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P378369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154578	Endothall	7.63	Spike	P	0 - 30
2154578	Glufosinate	10.1	Spike	P	0 - 30
2154578	Glyphosate	7.05	Spike	P	0 - 30
2154578	Sucralose	9.25	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P378426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154702	2,4-D	5.99	Spike	P	0 - 30
2154702	Acetaminophen	4.54	Spike	P	0 - 30
2154702	Acetamiprid	7.66	Spike	P	0 - 30
2154702	Afidopyropen	3.69	Spike	P	0 - 30
2154702	Bentazon	6.02	Spike	P	0 - 30
2154702	Benzovindiflupyr	1.82	Spike	P	0 - 30
2154702	Carbamazepine	6.61	Spike	P	0 - 30
2154702	Clothianidin	6.55	Spike	P	0 - 30
2154702	Dinotefuran	6.60	Spike	P	0 - 30
2154702	Diuron	14.4	Spike	P	0 - 30
2154702	Fenuron	5.99	Spike	P	0 - 30
2154702	Fluridone	4.71	Spike	P	0 - 30
2154702	Hydrocodone	11.9	Spike	P	0 - 30
2154702	Ibuprofen	5.36	Spike	P	0 - 30
2154702	Imazapyr	10.2	Spike	P	0 - 30
2154702	Imidacloprid	1.34	Spike	P	0 - 30
2154702	Linuron	3.30	Spike	P	0 - 30
2154702	Mandestrobin	1.90	Spike	P	0 - 30
2154702	MCPP	3.93	Spike	P	0 - 30
2154702	Naproxen	49.1	Spike	F	0 - 30
2154702	Primidone	2.64	Spike	P	0 - 30
2154702	Pyraclostrobin	2.95	Spike	P	0 - 30
2154702	Thiamethoxam	7.32	Spike	P	0 - 30
2154702	Tolfenpyrad	9.60	Spike	P	0 - 30
2154702	Triclopyr	1.94	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P378557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155025	Total Alkalinity	0.119	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P378561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155025	Fluoride	0.464	Spike	P	0 - 2.5

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P378535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154805	Organic Carbon	0.806	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2154815
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.3	P	30 - 160
EPA 8321B	Diuron-d6	75.5	P	30 - 160
EPA 8321B	Endothall-d6	153	P	30 - 160
EPA 8321B	Endothall-d6	153	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.8	P	30 - 160
EPA 8321B	Primidone-d5	97.8	P	30 - 160
EPA 8321B	Sucralose-d6	17.7	F	30 - 160
EPA 8321B	Sucralose-d6	17.7	F	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A97339
Included Lab Sample IDs: 2154806

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	97.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A97350
Included Lab Sample IDs: 2154804

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 5310 B-2011
Run ID: A97399
Included Lab Sample IDs: 2154805

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

Reference Method: SM 2320 B-2011
Run ID: A97407
Included Lab Sample IDs: 2154804

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

Reference Method: SM 4500 F-C-2011
Run ID: A97407
Included Lab Sample IDs: 2154804

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	106	104	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A97412
Included Lab Sample IDs: 2154815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.8	77.7	P/P	50 - 150
Acetaminophen	95.6	101	P/P	60 - 160
Acetamiprid	105	94.5	P/P	50 - 150
Afidopyropen	93.1	105	P/P	50 - 150
Bentazon	84.4	91.7	P/P	50 - 160
Benzovindiflupyr	98.8	101	P/P	50 - 150
Carbamazepine	101	91.5	P/P	60 - 150
Clothianidin	103	94.6	P/P	60 - 150
Dinotefuran	96.7	96.1	P/P	50 - 150
Diuron	114	106	P/P	60 - 150
Fenuron	103	101	P/P	60 - 150
Fluridone	108	107	P/P	60 - 160
Hydrocodone	93.8	89.9	P/P	60 - 150
Ibuprofen	84.0	86.8	P/P	50 - 160
Imazapyr	112	83.3	P/P	50 - 150
Imidacloprid	97.7	96.3	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A97412
Included Lab Sample IDs: 2154815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	103	98.0	P/P	60 - 150
Mandestrobin	109	108	P/P	50 - 150
MCPP	98.1	89.6	P/P	50 - 150
Naproxen	87.6	127	P/P	50 - 160
Primidone	99.9	93.9	P/P	60 - 150
Pyraclostrobin	108	101	P/P	60 - 150
Thiamethoxam	101	95.3	P/P	50 - 150
Tolfenpyrad	94.8	96.4	P/P	60 - 150
Triclopyr	107	90.9	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A97473
Included Lab Sample IDs: 2154815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	62.3	64.1	P/P	60 - 160
Endothall	99.2	96.1	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A97477
Included Lab Sample IDs: 2154815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	91.8	111	P/P	60 - 160
Glufosinate	120	114	P/P	60 - 160
Glyphosate	103	121	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A97501
Included Lab Sample IDs: 2154804

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.3	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A97525
Included Lab Sample IDs: 2154805

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A97595
Included Lab Sample IDs: 2154805

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A97615
Included Lab Sample IDs: 2154805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A97623
Included Lab Sample IDs: 2154805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A97796
Included Lab Sample IDs: 2154815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.3	94.0	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			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						2.28	
EPA 300.0 Rev. 2.1	Bromide	102	100	99.7	101			0.584
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	105	105				0.265
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.3	97.9				1.22
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.0					0.238
EPA 365.1 Rev. 2.0	Total-P	105	106	106				0.634
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	97.4	100				2.25
EPA 8321B	2,4-D	122	108	116				5.99
	Acesulfame K	122	37.2	38.2				2.61
	Acetaminophen	76.7	88.6	92.7				4.54
	Acetamiprid	88.1	91.4	84.7				7.66
	Afidopyropen	82.6	92.6	96.1				3.69
	AMPA	105	102	102				0.111
	Bentazon	65.9						6.02
	Benzovindiflupyr	77.4	77.4	78.8				1.82
	Carbamazepine	77.8	75.4	80.6				6.61
	Clothianidin	81.8	87.3	93.8				6.55
	Dinotefuran	87.3	113	122				6.60
	Diuron	88.5	75.0	64.9				14.4
	Endothall	102	114	124				7.63
	Fenuron	98.0	79.4	74.8				5.99
	Fluridone	83.9	89.6	84.5				4.71
	Glufosinate	137	192	173				10.1
	Glyphosate	149	156	172				7.05
	Hydrocodone	92.2	101	90.1				11.9
	Ibuprofen	76.6	71.4	67.7				5.36
	Imazapyr	96.6	75.0	88.9				10.2
	Imidacloprid	95.0	151	149				1.34
	Linuron	69.6	65.1	63.0				3.30
	Mandestrobin	92.4	90.4	92.1				1.90
	MCPP	126	112	117				3.93
	Naproxen	90.4	118	71.2				49.1
	Primidone	90.0	90.3	88.0				2.64
	Pyraclostrobin	96.1	89.3	91.9				2.95
	Sucralose	104	29.4	32.3				9.25
	Thiamethoxam	95.6	118	129				7.32
	Tolfenpyrad	50.1	49.7	45.2				9.60
	Triclopyr	104	104	102				1.94
SM 2320 B-2011	Total Alkalinity	102					0.119	
SM 4500 F-C-2011	Fluoride	102	104	105				0.464
SM 5310 B-2011	Organic Carbon	99.6	101	103				0.806

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2154804
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2154804
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2154805
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2154805
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2154805
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2154805
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2154806

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2154815
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2154815
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2154804
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2154804
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2154804
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2154805

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	02/05/2020			02/05/2020 16:54	Yen Ta	2154804
EPA 300.0 Rev. 2.1	02/05/2020			02/12/2020 06:27	Elliott Rodriguez	2154804
EPA 350.1 Rev. 2.0	02/05/2020			02/13/2020 11:13	Ping Hua	2154805
EPA 351.2 Rev. 2.0	02/05/2020	02/17/2020 14:52	Sima Feizi	02/18/2020 11:44	Jhamieka S. Greenwood	2154805
EPA 353.2 Rev. 2.0	02/05/2020			02/18/2020 12:14	Beverly Y. Sanders	2154805
EPA 365.1 Rev. 2.0	02/05/2020	02/12/2020 14:34	Yen Ta	02/14/2020 12:35	Benjamin T. Nordmann	2154805
EPA 365.1 Rev. 2.0 dissolved	02/05/2020			02/05/2020 18:08	Carlos Miranda	2154806
EPA 8321B	02/05/2020	02/06/2020 11:00	Rebecca Ware	02/08/2020 22:41	Rebecca Ware	2154815
	02/05/2020	02/06/2020 11:00	Rebecca Ware	02/10/2020 12:40	Rebecca Ware	2154815
	02/05/2020	02/06/2020 11:00	Rebecca Ware	02/22/2020 03:27	Rebecca Ware	2154815
	02/05/2020	02/07/2020 10:00	Hoor Shaik	02/08/2020 20:16	Juyoung Kim	2154815
SM 2320 B-2011	02/05/2020			02/08/2020 12:16	Dale L. Simmons	2154804
SM 2540 D-2011	02/05/2020			02/10/2020 17:30	Blanca Fach	2154804
SM 4500 F-C-2011	02/05/2020			02/08/2020 12:16	Dale L. Simmons	2154804
SM 5310 B-2011	02/05/2020			02/08/2020 00:39	Madeline Funaro	2154805