

Chemical Analysis Report

NE-DIST-2018-09-11-02

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

Event Description: **Alachua County Sampling**
Request ID: **RQ-2018-09-10-56**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way W
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: Colin Wright, Program Administrator

Date Certified: 28-SEP-2018 13:41

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: MILL CREEK - E OF OLD BELAMY RD

Collection Date/Time: 09/10/2018 10:50

Field ID: G1NE0907

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023646	EPA 8321B	2,4-D	0.0038	I	ug/L	P351415	MS
		Bentazon	8.0E-04	U	ug/L	P351415	
		MCP	0.0020	U	ug/L	P351415	MS
		Triclopyr**	0.0040	U	ug/L	P351415	MS
		Imidacloprid	0.0020	U	ug/L	P351415	MS
		Diuron	0.15		ug/L	P351415	
		Pyraclostrobin**	0.0020	U	ug/L	P351415	
		Primidone**	0.0040	U	ug/L	P351415	RPD
		Linuron	0.0040	U	ug/L	P351415	
		Acetaminophen**	0.0080	U	ug/L	P351415	
		Fenuron	0.016	U	ug/L	P351415	
		Imazapyr**	0.0068	I	ug/L	P351415	
		Carbamazepine**	8.0E-04	U	ug/L	P351415	
		Fluridone**	4.0E-04	U	ug/L	P351415	
		Hydrocodone**	8.0E-04	U	ug/L	P351415	
		Naproxen**	0.0080	U	ug/L	P351415	
		Ibuprofen**	0.020	U	ug/L	P351415	
		Sucralose**	0.010	U	ug/L	P351382	
		Acesulfame K**	0.10	U	ug/L	P351382	
2023652	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P351609	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.92		mg P/L	P351501	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P351875	

Ref. Method and Comment:

EPA 8321B: MS accuracy for fenuron could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: TURKEY CREEK UPSTREAM OF THE BRIDGE ON NW 74TH TERR **Collection Date/Time: 09/10/2018 11:30**

Field ID: G1NE0915

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023647	EPA 8321B	2,4-D	0.0022	I	ug/L	P351415	MS
		Bentazon	0.0026	I	ug/L	P351415	
		MCP	0.0020	U	ug/L	P351415	MS
		Triclopyr**	0.0040	U	ug/L	P351415	MS
		Imidacloprid	0.013		ug/L	P351415	MS
		Diuron	0.032		ug/L	P351415	
		Pyraclostrobin**	0.0020	U	ug/L	P351415	
		Primidone**	0.0040	U	ug/L	P351415	RPD
		Linuron	0.0040	U	ug/L	P351415	
		Acetaminophen**	0.0080	U	ug/L	P351415	
		Fenuron	0.016	U	ug/L	P351415	
		Imazapyr**	0.066		ug/L	P351415	
		Carbamazepine**	8.0E-04	U	ug/L	P351415	
		Fluridone**	4.0E-04	U	ug/L	P351415	
		Hydrocodone**	8.0E-04	U	ug/L	P351415	
		Naproxen**	0.0080	U	ug/L	P351415	
		Ibuprofen**	0.020	U	ug/L	P351415	
		Sucralose**	0.14		ug/L	P351382	
		Acesulfame K**	0.10	U	ug/L	P351382	
2023653	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P351609	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P351502	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P351875	

Ref. Method and Comment:

EPA 8321B: MS accuracy for fenuron could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: POSSUM CREEK - S OF NW 16TH AVE

Collection Date/Time: 09/10/2018 12:45

Field ID: G1NE0900

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023648	EPA 8321B	2,4-D	0.016		ug/L	P351415	MS
		Bentazon	0.0031	I	ug/L	P351415	
		MCP	0.0020	U	ug/L	P351415	MS
		Triclopyr**	0.0040	U	ug/L	P351415	MS
		Imidacloprid	0.039		ug/L	P351415	MS
		Diuron	0.0030	I	ug/L	P351415	
		Pyraclostrobin**	0.0020	U	ug/L	P351415	
		Primidone**	0.0040	U	ug/L	P351415	RPD
		Linuron	0.0040	U	ug/L	P351415	
		Acetaminophen**	0.0080	U	ug/L	P351415	
		Fenuron	0.016	U	ug/L	P351415	
		Imazapyr**	0.053		ug/L	P351415	
		Carbamazepine**	8.0E-04	U	ug/L	P351415	
		Fluridone**	0.0054		ug/L	P351415	
		Hydrocodone**	8.0E-04	U	ug/L	P351415	
		Naproxen**	0.0080	U	ug/L	P351415	
		Ibuprofen**	0.020	U	ug/L	P351415	
		Sucralose**	0.23		ug/L	P351382	
		Acesulfame K**	0.10	U	ug/L	P351382	
2023654	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P351609	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.66		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.78		mg P/L	P351502	
	SM 5310 B-00	Organic Carbon	6.9		mg C/L	P351876	

Ref. Method and Comment:

EPA 8321B: MS accuracy for fenuron could not be assessed due to high concentration of parameter in the spiked sample.

**Sample Location: HOGTOWN CREEK - RING PARK, N OF NW
16TH AVE (BETWEEN NW 18TH)**

Collection Date/Time: 09/10/2018 13:20

Field ID: G1NE0912

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023649	EPA 8321B	2,4-D	0.025		ug/L	P351415	MS
		Bentazon	0.0031	I	ug/L	P351415	
		MCP	0.0020	U	ug/L	P351415	MS
		Triclopyr**	0.0040	U	ug/L	P351415	MS
		Imidacloprid	0.014		ug/L	P351415	MS
		Diuron	0.0020	I	ug/L	P351415	
		Pyraclostrobin**	0.0020	U	ug/L	P351415	
		Primidone**	0.0040	U	ug/L	P351415	RPD
		Linuron	0.0040	U	ug/L	P351415	
		Acetaminophen**	0.0080	U	ug/L	P351415	
		Fenuron	0.016	U	ug/L	P351415	
		Imazapyr**	0.026		ug/L	P351415	
		Carbamazepine**	8.0E-04	U	ug/L	P351415	
		Fluridone**	0.0015	I	ug/L	P351415	
		Hydrocodone**	8.0E-04	U	ug/L	P351415	
		Naproxen**	0.0080	U	ug/L	P351415	
		Ibuprofen**	0.020	U	ug/L	P351415	
		Sucralose**	0.065		ug/L	P351382	
		Acesulfame K**	0.10	U	ug/L	P351382	
2023655	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P351609	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P351569	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P351589	
	EPA 365.1 Rev. 2.0	Total-P	0.43		mg P/L	P351502	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P351876	

Ref. Method and Comment:

EPA 8321B: MS accuracy for fenuron could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351609

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351501

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

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

Reference Method: EPA 8321B
Batch ID: P351382

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P351415

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
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P351415

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 5310 B-00
Batch ID: P351875

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-00
Batch ID: P351876

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351609

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

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: P351501

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.6		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P351382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	78.3		P	40 - 150
Sucralose	100		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.6		P	40 - 150
Acetaminophen	95.9		P	30 - 150
Bentazon	109		P	30 - 150
Carbamazepine	91.6		P	40 - 150
Diuron	77.8		P	40 - 150
Fenuron	99.5		P	40 - 150
Fluridone	85.9		P	40 - 150
Hydrocodone	93.7		P	40 - 150
Ibuprofen	96.0		P	40 - 150
Imazapyr	78.8		P	40 - 150
Imidacloprid	88.9		P	40 - 160
Linuron	64.2		P	40 - 150
MCPP	96.4		P	40 - 150
Naproxen	94.9		P	40 - 150
Primidone	79.1		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351415

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	83.9		P	40 - 150
Triclopyr	92.2		P	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P351875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351876

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P351609

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023616	Ammonia-N	94.2	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P351569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023694	Kjeldahl Nitrogen	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P351589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023618	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023616	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023743	Total-P	97.0	97.4	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P351382

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023766	Acesulfame K	68.6	81.6	P/P	40 - 150
2023766	Sucralose	117	114	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P351415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023791	2,4-D	167	179	F/F	40 - 150
2023791	Acetaminophen	119	102	P/P	30 - 150
2023791	Bentazon	43.3	42.8	P/P	30 - 150
2023791	Carbamazepine	86.0	75.2	P/P	40 - 150
2023791	Diuron	72.3	63.8	P/P	40 - 150
2023791	Fluridone	92.5	80.6	P/P	40 - 150
2023791	Hydrocodone	93.9	75.6	P/P	40 - 150
2023791	Ibuprofen	92.0	108	P/P	40 - 150
2023791	Imazapyr	127	83.5	P/P	40 - 150
2023791	Imidacloprid	169	141	F/P	40 - 160
2023791	Linuron	68.7	64.8	P/P	40 - 150
2023791	MCP	164	185	F/F	40 - 150
2023791	Naproxen	149	147	P/P	40 - 150
2023791	Primidone	95.5	70.3	P/P	40 - 150
2023791	Pyraclostrobin	102	81.9	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P351415

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023791	Triclopyr	172	153	F/F	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P351875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023178	Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023654	Organic Carbon	101	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351609

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023616	Ammonia-N	0.986	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023694	Kjeldahl Nitrogen	0.561	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023618	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023616	Total-P	0.0686	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023743	Total-P	0.425	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P351382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023766	Acesulfame K	17.2	Spike	P	0 - 30
2023766	Sucralose	2.41	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023791	2,4-D	6.84	Spike	P	0 - 30
2023791	Acetaminophen	15.3	Spike	P	0 - 30
2023791	Bentazon	1.01	Spike	P	0 - 30
2023791	Carbamazepine	13.4	Spike	P	0 - 30
2023791	Diuron	12.4	Spike	P	0 - 30
2023791	Fenuron	11.2	Spike	P	0 - 30
2023791	Fluridone	13.7	Spike	P	0 - 30
2023791	Hydrocodone	21.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P351415

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023791	Ibuprofen	16.1	Spike	P	0 - 30
2023791	Imazapyr	18.8	Spike	P	0 - 30
2023791	Imidacloprid	17.7	Spike	P	0 - 30
2023791	Linuron	5.75	Spike	P	0 - 30
2023791	MCP	11.9	Spike	P	0 - 30
2023791	Naproxen	1.04	Spike	P	0 - 30
2023791	Primidone	30.3	Spike	F	0 - 30
2023791	Pyraclostrobin	21.7	Spike	P	0 - 30
2023791	Triclopyr	11.9	Spike	P	0 - 30

Reference Method: SM 5310 B-00
Batch ID: P351875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023178	Organic Carbon	0.433	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P351876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023654	Organic Carbon	0.403	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: 2023646
Field Sample ID: G1NE0907

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	156	P	30 - 160
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.2	P	30 - 160
EPA 8321B	Diuron-d6	69.9	P	30 - 160
EPA 8321B	Endothall-d6	137	P	40 - 160
EPA 8321B	Ibuprofen-d3	147	P	30 - 160
EPA 8321B	Primidone-d5	78.2	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2023647
Field Sample ID: G1NE0915

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.7	P	30 - 160
EPA 8321B	Diuron-d6	58.5	P	30 - 160
EPA 8321B	Endothall-d6	140	P	40 - 160
EPA 8321B	Ibuprofen-d3	141	P	30 - 160
EPA 8321B	Primidone-d5	77.3	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	40 - 160

Lab Sample ID: 2023648
Field Sample ID: G1NE0900

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	138	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.4	P	30 - 160
EPA 8321B	Diuron-d6	68.8	P	30 - 160
EPA 8321B	Endothall-d6	125	P	40 - 160
EPA 8321B	Ibuprofen-d3	124	P	30 - 160
EPA 8321B	Primidone-d5	94.5	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	40 - 160

Lab Sample ID: 2023649
Field Sample ID: G1NE0912

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	116	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.3	P	30 - 160
EPA 8321B	Diuron-d6	56.0	P	30 - 160
EPA 8321B	Diuron-d6	60.3	P	30 - 160
EPA 8321B	Endothall-d6	145	P	40 - 160
EPA 8321B	Ibuprofen-d3	110	P	30 - 160
EPA 8321B	Primidone-d5	86.2	P	30 - 160
EPA 8321B	Primidone-d5	82.6	P	30 - 160
EPA 8321B	Sucralose-d6	136	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86451

Included Lab Sample IDs: 2023652, 2023653, 2023654, 2023655

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86460

Included Lab Sample IDs: 2023652, 2023653, 2023654, 2023655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86462

Included Lab Sample IDs: 2023652, 2023653, 2023654, 2023655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.7	98.9	P/P	90 - 110
Ammonia-N	98.9	96.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86482

Included Lab Sample IDs: 2023646, 2023647, 2023648, 2023649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	105	P/P	60 - 160
Acesulfame K	68.6	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86520

Included Lab Sample IDs: 2023646, 2023647, 2023648, 2023649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	100	109	P/P	60 - 160
Sucralose	109	101	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86527

Included Lab Sample IDs: 2023652, 2023653, 2023654, 2023655

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

Reference Method: EPA 8321B

Run ID: A86528

Included Lab Sample IDs: 2023646, 2023647, 2023648, 2023649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.7	99.2	P/P	50 - 150
2,4-D	99.2	94.2	P/P	50 - 150
Bentazon	105	118	P/P	50 - 160
Ibuprofen	123	108	P/P	50 - 160
Ibuprofen	97.8	123	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86528

Included Lab Sample IDs: 2023646, 2023647, 2023648, 2023649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCP	98.5	95.7	P/P	50 - 150
MCP	98.5	98.5	P/P	50 - 150
Naproxen	79.8	85.2	P/P	50 - 160
Naproxen	85.2	107	P/P	50 - 160
Triclop	96.4	98.1	P/P	50 - 160
Triclop	96.7	96.4	P/P	50 - 160

Reference Method: SM 5310 B-00

Run ID: A86572

Included Lab Sample IDs: 2023652, 2023653, 2023654, 2023655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	98.3	P/P	90 - 110
Organic Carbon	99.1	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86696

Included Lab Sample IDs: 2023646, 2023647, 2023648, 2023649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	106	92.3	P/P	60 - 160
Acetaminophen	92.3	105	P/P	60 - 160
Carbamazepine	111	112	P/P	60 - 160
Carbamazepine	112	110	P/P	60 - 160
Diuron	106	110	P/P	60 - 150
Diuron	108	106	P/P	60 - 150
Fenuron	94.3	96.7	P/P	60 - 150
Fenuron	96.7	97.5	P/P	60 - 150
Fluridone	91.9	99.8	P/P	60 - 160
Fluridone	99.8	95.5	P/P	60 - 160
Hydrocodone	87.3	92.6	P/P	60 - 150
Hydrocodone	91.8	87.3	P/P	60 - 150
Imazapyr	84.8	89.2	P/P	50 - 150
Imazapyr	89.2	77.5	P/P	50 - 150
Imidacloprid	83.2	92.6	P/P	60 - 150
Imidacloprid	92.6	84.0	P/P	60 - 150
Linuron	105	98.9	P/P	60 - 150
Linuron	98.9	102	P/P	60 - 150
Primidone	83.8	74.7	P/P	60 - 150
Primidone	85.2	83.8	P/P	60 - 150
Pyraclostrobin	106	114	P/P	60 - 150
Pyraclostrobin	114	104	P/P	60 - 150

* 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 350.1 Rev. 2.0	Ammonia-N	98.6	94.2	95.4			0.986
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.5	100	101			0.561
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	99.8	101	101			0.0686
	Total-P	96.6	97.0	97.4			0.425
EPA 8321B	2,4-D	95.6	167	179			6.84
	Acesulfame K	78.3	68.6	81.6			17.2
	Acetaminophen	95.9	119	102			15.3
	Bentazon	109	43.3	42.8			1.01
	Carbamazepine	91.6	86.0	75.2			13.4
	Diuron	77.8	72.3	63.8			12.4
	Fenuron	99.5					11.2
	Fluridone	85.9	92.5	80.6			13.7
	Hydrocodone	93.7	93.9	75.6			21.6
	Ibuprofen	96.0	92.0	108			16.1
	Imazapyr	78.8	127	83.5			18.8
	Imidacloprid	88.9	169	141			17.7
	Linuron	64.2	68.7	64.8			5.75
	MCPP	96.4	164	185			11.9
	Naproxen	94.9	149	147			1.04
	Primidone	79.1	95.5	70.3			30.3
	Pyraclostrobin	83.9	102	81.9			21.7
	Sucralose	100	117	114			2.41
	Triclopyr	92.2	172	153			11.9
SM 5310 B-00	Organic Carbon	97.1	100				0.433
	Organic Carbon	100	101	102			0.403

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2023652, 2023653, 2023654, 2023655
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2023652, 2023653, 2023654, 2023655
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2023652, 2023653, 2023654, 2023655
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2023652, 2023653, 2023654, 2023655
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2023646, 2023647, 2023648, 2023649
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2023652, 2023653, 2023654, 2023655

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 350.1 Rev. 2.0	09/11/2018			09/12/2018 14:35	Ping Hua	2023652
	09/11/2018			09/12/2018 14:36	Ping Hua	2023653
	09/11/2018			09/12/2018 14:38	Ping Hua	2023654
	09/11/2018			09/12/2018 14:45	Ping Hua	2023655
EPA 351.2 Rev. 2.0	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:45	Joseph Suarez	2023652
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:46	Joseph Suarez	2023653
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:48	Joseph Suarez	2023654
	09/11/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 11:49	Joseph Suarez	2023655
EPA 353.2 Rev. 2.0	09/11/2018			09/13/2018 13:31	Lauren Bottorf	2023652
	09/11/2018			09/13/2018 13:32	Lauren Bottorf	2023653
	09/11/2018			09/13/2018 13:33	Lauren Bottorf	2023654
	09/11/2018			09/13/2018 13:34	Lauren Bottorf	2023655
EPA 365.1 Rev. 2.0	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:36	Beverly Y. Sanders	2023652
	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:45	Beverly Y. Sanders	2023653
	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:46	Beverly Y. Sanders	2023654
	09/11/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:47	Beverly Y. Sanders	2023655
EPA 8321B	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/15/2018 02:33	Juyoung Kim	2023646
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/15/2018 03:08	Juyoung Kim	2023647
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/15/2018 04:17	Juyoung Kim	2023648
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/15/2018 04:51	Juyoung Kim	2023649
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/22/2018 04:27	Mohammad Ghaffari	2023646
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/22/2018 05:02	Mohammad Ghaffari	2023647
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/22/2018 05:37	Mohammad Ghaffari	2023648
	09/11/2018	09/12/2018 09:00	Hoor Shaik	09/22/2018 08:30	Mohammad Ghaffari	2023649
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/13/2018 14:31	Mohammad Ghaffari	2023646
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/13/2018 14:46	Mohammad Ghaffari	2023647
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/13/2018 15:01	Mohammad Ghaffari	2023648
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/13/2018 15:30	Mohammad Ghaffari	2023649
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/14/2018 16:32	Mohammad Ghaffari	2023646
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/14/2018 16:46	Mohammad Ghaffari	2023647
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/14/2018 17:01	Mohammad Ghaffari	2023648
	09/11/2018	09/13/2018 13:00	Mohammad Ghaffari	09/14/2018 17:30	Mohammad Ghaffari	2023649
SM 5310 B-00	09/11/2018			09/18/2018 01:38	Megan Treadwell	2023652
	09/11/2018			09/18/2018 01:51	Megan Treadwell	2023653
	09/11/2018			09/18/2018 02:27	Megan Treadwell	2023654
	09/11/2018			09/18/2018 03:53	Megan Treadwell	2023655