

Chemical Analysis Report

NE-DIST-2019-08-28-01

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

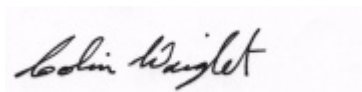
Event Description: **Alachua County August SMP**
Request ID: **RQ-2019-08-05-90**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 30-SEP-2019 11:59

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: Metals 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: Hogtown Creek - North of CR 30

Collection Date/Time: 08/27/2019 10:15

Field ID: G1NE0901

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115109	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P369883	
		2,4-D	0.33		ug/L	P369994	MS
		AMPA**	0.29	I	ug/L	P369883	
		Sucralose**	0.056		ug/L	P369883	
		Acetaminophen**	0.0080	U	ug/L	P369994	
		Endothall**	0.25	U	ug/L	P369883	
		Acetamiprid**	0.0020	U	ug/L	P369994	
		Glufosinate**	0.10	U	ug/L	P369883	
		Glyphosate**	1.9		ug/L	P369883	
		Afidopyropen**	0.0020	UJ	ug/L	P369994	
		Bentazon	8.2E-04	I	ug/L	P369994	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369994	
		Carbamazepine**	8.0E-04	U	ug/L	P369994	
		Clothianidin**	0.0022	I	ug/L	P369994	
		Dinotefuran**	0.0020	U	ug/L	P369994	
		Diuron	0.016		ug/L	P369994	
		Fenuron	0.016	U	ug/L	P369994	
		Fluridone**	8.5E-04	I	ug/L	P369994	
		Imazapyr**	0.11		ug/L	P369994	
		Hydrocodone**	0.0020	U	ug/L	P369994	
		Ibuprofen**	0.020	U	ug/L	P369994	
		Imidacloprid	0.074		ug/L	P369994	MS
		Linuron	0.0040	U	ug/L	P369994	
		Mandestrobin**	0.0020	UJ	ug/L	P369994	
		MCPP	0.0083		ug/L	P369994	MS
		Naproxen**	0.0080	U	ug/L	P369994	
		Primidone**	0.0040	U	ug/L	P369994	
		Pyraclostrobin**	0.0020	U	ug/L	P369994	RPD
		Thiamethoxam**	0.0020	U	ug/L	P369994	MS
		Tolfenpyrad**	0.0020	U	ug/L	P369994	RPD
		Triclopyr**	0.0040	U	ug/L	P369994	
2115111	EPA 200.7 Rev. 4.4	Barium	10.8		ug/L	P369856	
		Calcium	16.3		mg/L	P369856	
		Iron	550		ug/L	P369856	
		Magnesium	2.68		mg/L	P369856	
		Potassium	1.5		mg/L	P369856	
		Sodium	3.1		mg/L	P369856	
		Zinc	5.0	U	ug/L	P369856	
	EPA 200.8 Rev. 5.4	Aluminum	687		ug/L	P369856	
		Antimony	0.21		ug/L	P369856	
		Arsenic	1.20		ug/L	P369856	
		Boron**	18.6		ug/L	P369856	
		Cadmium	0.027	I	ug/L	P369856	
		Chromium	1.7		ug/L	P369856	

Field ID: G1NE0901

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115111	EPA 200.8 Rev. 5.4	Copper	1.54		ug/L	P369856	
		Lead	1.71		ug/L	P369856	
		Nickel	0.54	I	ug/L	P369856	
		Selenium	0.20	U	ug/L	P369856	
		Silver	0.010	U	ug/L	P369856	
		Thallium	0.10	U	ug/L	P369856	

Ref. Method and Comment:

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 200.8 Rev. 5.4: The lead result was confirmed on 09/27/2019.

Sample Location: Hogtown Creek - Ring Park, N of NW 16th Ave Collection Date/Time: 08/27/2019 11:10

Field ID: G1NE0912

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115110	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P369883	
		2,4-D	0.14		ug/L	P369994	MS
		AMPA**	0.25	I	ug/L	P369883	
		Sucralose**	0.024	I	ug/L	P369883	
		Acetaminophen**	0.0080	U	ug/L	P369994	
		Endothall**	0.25	U	ug/L	P369883	
		Acetamiprid**	0.0020	U	ug/L	P369994	
		Glufosinate**	0.10	U	ug/L	P369883	
		Glyphosate**	0.66		ug/L	P369883	
		Afidopyropen**	0.0020	UJ	ug/L	P369994	
		Bentazon	0.0024	I	ug/L	P369994	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369994	
		Carbamazepine**	8.0E-04	U	ug/L	P369994	
		Clothianidin**	0.0020	U	ug/L	P369994	
		Dinotefuran**	0.0020	U	ug/L	P369994	
		Diuron	0.0031	I	ug/L	P369994	
		Fenuron	0.016	U	ug/L	P369994	
		Fluridone**	9.7E-04	I	ug/L	P369994	
		Imazapyr**	0.039		ug/L	P369994	
		Hydrocodone**	0.0020	U	ug/L	P369994	
		Ibuprofen**	0.020	U	ug/L	P369994	
		Imidacloprid	0.049		ug/L	P369994	MS
		Linuron	0.0040	U	ug/L	P369994	
		Mandestrobin**	0.0020	UJ	ug/L	P369994	
		MCPP	0.0020		ug/L	P369994	MS
		Naproxen**	0.0080	U	ug/L	P369994	
		Primidone**	0.0040	U	ug/L	P369994	
		Pyraclostrobin**	0.0020	U	ug/L	P369994	RPD
		Thiamethoxam**	0.0020	U	ug/L	P369994	MS
		Tolfenpyrad**	0.0020	U	ug/L	P369994	RPD
		Triclopyr**	0.0040		ug/L	P369994	
2115112	EPA 200.7 Rev. 4.4	Barium	13.1		ug/L	P369856	
		Calcium	28.8		mg/L	P369856	
		Iron	950		ug/L	P369856	
		Magnesium	4.19		mg/L	P369856	
		Potassium	0.90	I	mg/L	P369856	
		Sodium	5.4		mg/L	P369856	
		Zinc	5.0	U	ug/L	P369856	
	EPA 200.8 Rev. 5.4	Aluminum	553		ug/L	P369856	
		Antimony	0.18	I	ug/L	P369856	
		Arsenic	1.99		ug/L	P369856	
		Boron**	24.9		ug/L	P369856	
		Cadmium	0.039	I	ug/L	P369856	
		Chromium	1.6	I	ug/L	P369856	

Field ID: G1NE0912

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2115112	EPA 200.8 Rev. 5.4	Copper	1.47		ug/L	P369856	
		Lead	1.76		ug/L	P369856	
		Nickel	0.88	I	ug/L	P369856	
		Selenium	0.37	I	ug/L	P369856	
		Silver	0.010	U	ug/L	P369856	
		Thallium	0.10	U	ug/L	P369856	

Ref. Method and Comment:

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369856

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369856

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P369883

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

Reference Method: EPA 8321B
Batch ID: P369994

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P369994

Component	Result	Code	Units
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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369856

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	80 - 120
Calcium	104		P	80 - 120
Iron	104		P	80 - 120
Magnesium	105		P	80 - 120
Potassium	107		P	80 - 120
Sodium	108		P	80 - 120
Zinc	97.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369856

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.1		P	85 - 115
Arsenic	99.6		P	85 - 115
Boron	100		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	97.4		P	85 - 115
Copper	96.7		P	85 - 115
Lead	97.8		P	85 - 115
Nickel	97.6		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	100		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 8321B
Batch ID: P369883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	137		P	40 - 150
AMPA	132		P	40 - 150
Endothall	95.6		P	40 - 150
Glufosinate	108		P	40 - 150
Glyphosate	110		P	40 - 140
Sucralose	93.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P369994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	106		P	40 - 160
Acetaminophen	83.8		P	30 - 160
Acetamiprid	92.6		P	40 - 160
Afidopyropen	97.8		P	40 - 160
Bentazon	99.9		P	30 - 160
Benzovindiflupyr	96.7		P	40 - 160
Carbamazepine	92.9		P	40 - 160
Clothianidin	96.4		P	40 - 160
Dinotefuran	99.6		P	40 - 160
Diuron	85.3		P	40 - 160
Fenuron	106		P	40 - 160
Fluridone	114		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P369994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Hydrocodone	98.6		P	40 - 160
Ibuprofen	114		P	30 - 160
Imazapyr	96.7		P	40 - 160
Imidacloprid	101		P	40 - 160
Linuron	84.8		P	40 - 160
Mandestrobin	101		P	40 - 160
MCPP	123		P	40 - 160
Naproxen	121		P	40 - 160
Primidone	95.4		P	40 - 160
Pyraclostrobin	95.2		P	30 - 160
Thiamethoxam	108		P	40 - 160
Tolfenpyrad	64.7		P	40 - 160
Triclopyr	72.4		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114588	Barium	97.5	97.1	P/P	80 - 120
2114588	Calcium	103		P	80 - 120
2114588	Iron	103	104	P/P	80 - 120
2114588	Magnesium	104		P	80 - 120
2114588	Potassium	108	99.1	P/P	80 - 120
2114588	Sodium	106		P	80 - 120
2114588	Zinc	96.0	95.7	P/P	80 - 120
2114889	Barium	98.2		P	80 - 120
2114889	Calcium	102		P	80 - 120
2114889	Iron	102		P	80 - 120
2114889	Magnesium	104		P	80 - 120
2114889	Potassium	106		P	80 - 120
2114889	Sodium	102		P	80 - 120
2114889	Zinc	95.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114588	Aluminum	98.7	99.6	P/P	80 - 120
2114588	Antimony	101	102	P/P	80 - 120
2114588	Arsenic	101	101	P/P	80 - 120
2114588	Boron	101	101	P/P	80 - 120
2114588	Cadmium	103	102	P/P	80 - 120
2114588	Chromium	98.4	98.6	P/P	80 - 120
2114588	Copper	93.0	93.7	P/P	80 - 120
2114588	Lead	98.1	98.8	P/P	80 - 120
2114588	Nickel	96.7	96.6	P/P	80 - 120
2114588	Selenium	99.3	99.5	P/P	80 - 120
2114588	Silver	99.3	100	P/P	80 - 120
2114588	Thallium	104	105	P/P	80 - 120
2114889	Aluminum	100		P	80 - 120
2114889	Antimony	101		P	80 - 120
2114889	Arsenic	102		P	80 - 120
2114889	Boron	104		P	80 - 120
2114889	Cadmium	101		P	80 - 120
2114889	Chromium	101		P	80 - 120
2114889	Copper	97.9		P	80 - 120
2114889	Lead	99.3		P	80 - 120
2114889	Nickel	102		P	80 - 120
2114889	Selenium	100		P	80 - 120
2114889	Silver	101		P	80 - 120
2114889	Thallium	105		P	80 - 120

Reference Method: EPA 8321B
Batch ID: P369883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114790	Acesulfame K	97.6	81.2	P/P	40 - 150
2114790	AMPA	61.6	64.5	P/P	40 - 150
2114790	Endothall	82.6	92.6	P/P	40 - 150
2114790	Glufosinate	72.5	72.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P369883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114790	Glyphosate	94.7	107	P/P	40 - 140
2114790	Sucralose	78.5	91.0	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P369994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115090	2,4-D	172	151	F/P	40 - 160
2115090	Acetaminophen	99.3	83.7	P/P	30 - 160
2115090	Acetamiprid	120	116	P/P	40 - 160
2115090	Afidopyropen	136	134	P/P	40 - 160
2115090	Benzovindiflupyr	106	85.4	P/P	40 - 160
2115090	Carbamazepine	111	105	P/P	40 - 160
2115090	Clothianidin	131	118	P/P	40 - 160
2115090	Dinotefuran	132	131	P/P	40 - 160
2115090	Diuron	99.4	81.6	P/P	40 - 160
2115090	Fenuron	105	96.8	P/P	40 - 160
2115090	Fluridone	124	106	P/P	40 - 160
2115090	Hydrocodone	117	105	P/P	40 - 160
2115090	Ibuprofen	153	127	P/P	30 - 160
2115090	Imazapyr	116	127	P/P	40 - 160
2115090	Imidacloprid	219	196	F/F	40 - 160
2115090	Linuron	94.6	88.3	P/P	40 - 160
2115090	Mandestrobin	112	99.3	P/P	40 - 160
2115090	MCPP	223	178	F/F	40 - 160
2115090	Naproxen	138	157	P/P	40 - 160
2115090	Primidone	120	113	P/P	40 - 160
2115090	Pyraclostrobin	111	75.2	P/P	30 - 160
2115090	Thiamethoxam	165	173	F/F	40 - 160
2115090	Tolfenpyrad	78.5	46.2	P/P	40 - 160
2115090	Triclopyr	128	97.0	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114588	Barium	0.449	Spike	P	0 - 20
2114588	Calcium	1.60	Spike	P	0 - 20
2114588	Iron	0.976	Spike	P	0 - 20
2114588	Magnesium	2.16	Spike	P	0 - 20
2114588	Potassium	4.67	Spike	P	0 - 20
2114588	Sodium	0.478	Spike	P	0 - 20
2114588	Zinc	0.302	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114588	Aluminum	0.839	Spike	P	0 - 20
2114588	Antimony	1.29	Spike	P	0 - 20
2114588	Arsenic	0.394	Spike	P	0 - 20
2114588	Boron	0.0156	Spike	P	0 - 20
2114588	Cadmium	0.853	Spike	P	0 - 20
2114588	Chromium	0.183	Spike	P	0 - 20
2114588	Copper	0.719	Spike	P	0 - 20
2114588	Lead	0.702	Spike	P	0 - 20
2114588	Nickel	0.0745	Spike	P	0 - 20
2114588	Selenium	0.233	Spike	P	0 - 20
2114588	Silver	0.677	Spike	P	0 - 20
2114588	Thallium	0.978	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P369883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114790	Acesulfame K	18.3	Spike	P	0 - 30
2114790	AMPA	3.04	Spike	P	0 - 30
2114790	Endothall	11.4	Spike	P	0 - 30
2114790	Glufosinate	0.171	Spike	P	0 - 30
2114790	Glyphosate	7.91	Spike	P	0 - 30
2114790	Sucralose	14.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115090	2,4-D	12.0	Spike	P	0 - 30
2115090	Acetaminophen	17.1	Spike	P	0 - 30
2115090	Acetamiprid	3.58	Spike	P	0 - 30
2115090	Afidopyropen	1.49	Spike	P	0 - 30
2115090	Bentazon	7.44	Spike	P	0 - 30
2115090	Benzovindiflupyr	21.4	Spike	P	0 - 30
2115090	Carbamazepine	4.70	Spike	P	0 - 30
2115090	Clothianidin	10.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P369994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115090	Dinotefuran	1.07	Spike	P	0 - 30
2115090	Diuron	17.1	Spike	P	0 - 30
2115090	Fenuron	8.30	Spike	P	0 - 30
2115090	Fluridone	9.99	Spike	P	0 - 30
2115090	Hydrocodone	10.2	Spike	P	0 - 30
2115090	Ibuprofen	19.1	Spike	P	0 - 30
2115090	Imazapyr	7.10	Spike	P	0 - 30
2115090	Imidacloprid	10.3	Spike	P	0 - 30
2115090	Linuron	6.88	Spike	P	0 - 30
2115090	Mandestrobin	11.6	Spike	P	0 - 30
2115090	MCPP	22.4	Spike	P	0 - 30
2115090	Naproxen	12.6	Spike	P	0 - 30
2115090	Primidone	6.63	Spike	P	0 - 30
2115090	Pyraclostrobin	38.5	Spike	F	0 - 30
2115090	Thiamethoxam	4.98	Spike	P	0 - 30
2115090	Tolfenpyrad	51.8	Spike	F	0 - 30
2115090	Triclopyr	27.5	Spike	P	0 - 30

* 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: 2115109
Field Sample ID: G1NE0901

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	152	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.1	P	30 - 160
EPA 8321B	Diuron-d6	94.8	P	30 - 160
EPA 8321B	Endothall-d6	81.4	P	30 - 160
EPA 8321B	Endothall-d6	81.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Ibuprofen-d3	97.4	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	75.0	P	30 - 160
EPA 8321B	Sucralose-d6	75.0	P	30 - 160

Lab Sample ID: 2115110
Field Sample ID: G1NE0912

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.9	P	30 - 160
EPA 8321B	Diuron-d6	86.0	P	30 - 160
EPA 8321B	Endothall-d6	87.9	P	30 - 160
EPA 8321B	Endothall-d6	87.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	97.6	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A93944

Included Lab Sample IDs: 2115109, 2115110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	68.6	125	P/P	60 - 160
Glufosinate	65.3	106	P/P	60 - 160
Glyphosate	77.3	114	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93946

Included Lab Sample IDs: 2115109, 2115110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	110	100	P/P	60 - 160
Endothall	99.4	107	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93964

Included Lab Sample IDs: 2115111, 2115112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	98.6	98.9	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	103	105	P/P	90 - 110
Zinc	97.6	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93996

Included Lab Sample IDs: 2115109, 2115110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	86.2	84.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A94124

Included Lab Sample IDs: 2115109, 2115110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	108	P/P	50 - 150
Acetaminophen	94.6	96.4	P/P	60 - 160
Acetamiprid	109	106	P/P	50 - 150
Afidopyropen	104	106	P/P	50 - 150
Bentazon	98.8	97.4	P/P	50 - 160
Benzovindiflupyr	113	104	P/P	50 - 150
Carbamazepine	109	108	P/P	60 - 150
Clothianidin	107	99.8	P/P	60 - 150
Dinotefuran	102	106	P/P	50 - 150
Diuron	91.6	96.2	P/P	60 - 150
Fenuron	108	111	P/P	60 - 150
Fluridone	119	123	P/P	60 - 160
Hydrocodone	106	109	P/P	60 - 150
Ibuprofen	98.8	103	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94124

Included Lab Sample IDs: 2115109, 2115110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	93.2	95.5	P/P	50 - 150
Imidacloprid	99.2	93.8	P/P	60 - 150
Linuron	94.0	90.5	P/P	60 - 150
Mandestrobin	121	121	P/P	50 - 150
MCPP	101	107	P/P	50 - 150
Naproxen	67.7	94.0	P/P	50 - 160
Primidone	107	106	P/P	60 - 150
Pyraclostrobin	105	105	P/P	60 - 150
Thiamethoxam	111	100	P/P	50 - 150
Tolfenpyrad	116	111	P/P	60 - 150
Triclopyr	98.2	110	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94220

Included Lab Sample IDs: 2115111, 2115112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.1	P/P	90 - 110
Antimony	98.5	99.2	P/P	90 - 110
Arsenic	102	103	P/P	90 - 110
Boron	101	99.6	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	102	102	P/P	90 - 110
Copper	98.6	99.1	P/P	90 - 110
Lead	98.8	98.9	P/P	90 - 110
Nickel	99.5	99.8	P/P	90 - 110
Selenium	103	104	P/P	90 - 110
Silver	97.5	97.9	P/P	90 - 110
Thallium	97.1	96.4	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 200.7 Rev. 4.4	Barium	100	97.5	97.1	98.2		0.449
	Calcium	104	103	102			1.60
	Iron	104	103	104	102		0.976
	Magnesium	105	104	104			2.16
	Potassium	107	108	99.1	106		4.67
	Sodium	108	106	102			0.478
	Zinc	97.0	96.0	95.7	95.3		0.302
EPA 200.8 Rev. 5.4	Aluminum	101	98.7	99.6	100		0.839
	Antimony	99.1	101	102	101		1.29
	Arsenic	99.6	101	101	102		0.394
	Boron	100	101	101	104		0.0156
	Cadmium	100	103	102	101		0.853
	Chromium	97.4	98.4	98.6	101		0.183
	Copper	96.7	93.0	93.7	97.9		0.719
	Lead	97.8	98.1	98.8	99.3		0.702
	Nickel	97.6	96.7	96.6	102		0.0745
	Selenium	99.0	99.3	99.5	100		0.233
	Silver	100	99.3	100	101		0.677
	Thallium	102	104	105	105		0.978
	2,4-D	106	172	151			12.0
	Acesulfame K	137	97.6	81.2			18.3
	Acetaminophen	83.8	99.3	83.7			17.1
EPA 8321B	Acetamiprid	92.6	120	116			3.58
	Afidopyropen	97.8	136	134			1.49
	AMPA	132	61.6	64.5			3.04
	Bentazon	99.9					7.44
	Benzovindiflupyr	96.7	106	85.4			21.4
	Carbamazepine	92.9	111	105			4.70
	Clothianidin	96.4	131	118			10.1
	Dinotefuran	99.6	132	131			1.07
	Diuron	85.3	99.4	81.6			17.1
	Endothall	95.6	82.6	92.6			11.4
	Fenuron	106	105	96.8			8.30
	Fluridone	114	124	106			9.99
	Glufosinate	108	72.5	72.4			0.171
	Glyphosate	110	94.7	107			7.91
	Hydrocodone	98.6	117	105			10.2
	Ibuprofen	114	153	127			19.1
	Imazapyr	96.7	116	127			7.10
	Imidacloprid	101	219	196			10.3
	Linuron	84.8	94.6	88.3			6.88
	Mandestrobin	101	112	99.3			11.6
	MCPP	123	223	178			22.4
	Naproxen	121	138	157			12.6
	Primidone	95.4	120	113			6.63
	Pyraclostrobin	95.2	111	75.2			38.5
	Sucralose	93.0	78.5	91.0			14.7
	Thiamethoxam	108	165	173			4.98
	Tolfenpyrad	64.7	78.5	46.2			51.8
	Triclopyr	72.4	128	97.0			27.5

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2115111, 2115112
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2115111, 2115112
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2115109, 2115110
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2115109, 2115110

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	08/28/2019	08/28/2019 17:20	Elliott D. Healy	09/03/2019 19:02	Alexander Thompson	2115111
	08/28/2019	08/28/2019 17:20	Elliott D. Healy	09/03/2019 19:09	Alexander Thompson	2115112
EPA 200.8 Rev. 5.4	08/28/2019	08/28/2019 17:20	Elliott D. Healy	09/13/2019 18:57	Justin Cutchin	2115111
	08/28/2019	08/28/2019 17:20	Elliott D. Healy	09/13/2019 19:06	Justin Cutchin	2115112
EPA 8321B	08/28/2019	08/29/2019 09:45	Rebecca Ware	08/29/2019 17:42	Rebecca Ware	2115109
	08/28/2019	08/29/2019 09:45	Rebecca Ware	08/29/2019 17:56	Rebecca Ware	2115110
	08/28/2019	08/29/2019 09:45	Rebecca Ware	08/30/2019 12:22	Rebecca Ware	2115109
	08/28/2019	08/29/2019 09:45	Rebecca Ware	08/30/2019 12:32	Rebecca Ware	2115110
	08/28/2019	08/29/2019 09:45	Rebecca Ware	09/04/2019 23:35	Rebecca Ware	2115109
	08/28/2019	08/29/2019 09:45	Rebecca Ware	09/04/2019 23:46	Rebecca Ware	2115110
	08/28/2019	09/03/2019 08:00	Fe-Val Siddell	09/03/2019 17:28	Juyoung Kim	2115109
	08/28/2019	09/03/2019 08:00	Fe-Val Siddell	09/03/2019 18:02	Juyoung Kim	2115110