Chemical Analysis Report

NE-DIST-2019-09-11-03

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
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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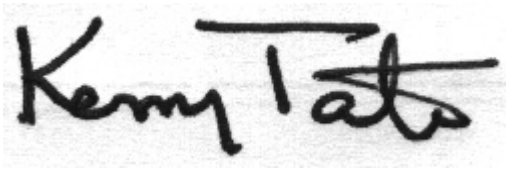
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 30-SEP-2019 13:21



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: PARANERS BRANCH - E of CR 1491 S of NW 276th LN **Collection Date/Time: 09/10/2019 09:55**

Field ID: G1NE0906 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117918	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P370512	
		2,4-D	0.0020	UJ	ug/L	P370469	LCS, MS
		AMPA**	0.40	I	ug/L	P370512	
		Sucralose**	0.079		ug/L	P370512	MS
		Acetaminophen**	0.020	I	ug/L	P370469	
		Endothall**	0.25	U	ug/L	P370512	
		Acetamiprid**	0.0020	U	ug/L	P370469	
		Glufosinate**	0.10	U	ug/L	P370512	
		Glyphosate**	0.22	I	ug/L	P370512	
		Afidopyropen**	0.0020	UJ	ug/L	P370469	
		Bentazon	8.0E-04	U	ug/L	P370469	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370469	
		Carbamazepine**	8.0E-04	U	ug/L	P370469	
		Clothianidin**	0.018		ug/L	P370469	
		Dinotefuran**	0.0020	U	ug/L	P370469	
		Diuron	0.060		ug/L	P370469	
		Fenuron	0.029	I	ug/L	P370469	
		Fluridone**	0.0018	I	ug/L	P370469	
		Imazapyr**	0.0040	U	ug/L	P370469	
		Hydrocodone**	0.0020	U	ug/L	P370469	
		Ibuprofen**	0.020	U	ug/L	P370469	
		Imidacloprid	0.0040	I	ug/L	P370469	MS
		Linuron	0.0040	U	ug/L	P370469	
		Mandestrobin**	0.0020	UJ	ug/L	P370469	
		MCPP	0.0020	UJ	ug/L	P370469	LCS, MS
		Naproxen**	0.0080	U	ug/L	P370469	
		Primidone**	0.0040	U	ug/L	P370469	
		Pyraclostrobin**	0.0020	U	ug/L	P370469	
		Thiamethoxam**	0.0020	U	ug/L	P370469	MS
		Tolfenpyrad**	0.0020	U	ug/L	P370469	
		Triclopyr**	0.0040	U	ug/L	P370469	
2117922	EPA 200.7 Rev. 4.4	Barium	7.9		ug/L	P370561	
		Calcium	21.7		mg/L	P370561	
		Iron	310		ug/L	P370561	
		Magnesium	7.63		mg/L	P370561	
		Potassium	3.6		mg/L	P370561	
		Sodium	8.8		mg/L	P370561	
		Zinc	5.0	U	ug/L	P370561	
	EPA 200.8 Rev. 5.4	Aluminum	413		ug/L	P370561	
		Antimony	0.079	I	ug/L	P370561	
		Arsenic	0.68		ug/L	P370561	
		Boron**	22.3		ug/L	P370561	
		Cadmium	0.064	I	ug/L	P370561	

Field ID: G1NE0906 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117922	EPA 200.8 Rev. 5.4	Chromium	0.86	I	ug/L	P370561	
		Copper	0.52	I	ug/L	P370561	
		Lead	0.35	I	ug/L	P370561	
		Nickel	0.51	I	ug/L	P370561	
		Selenium	0.40	I	ug/L	P370561	
		Silver	0.010	U	ug/L	P370561	
		Thallium	0.10	U	ug/L	P370561	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. Refer to the narrative for an explanation of QC Codes.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: PARANERS BRANCH **Collection Date/Time: 09/10/2019 10:20**

Field ID: G1NE0917 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117919	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P370512	
		2,4-D	0.0020	UJ	ug/L	P370469	LCS, MS
		AMPA**	0.35	I	ug/L	P370512	
		Sucralose**	0.042		ug/L	P370512	MS
		Acetaminophen**	0.016	I	ug/L	P370469	
		Endothall**	0.25	U	ug/L	P370512	
		Acetamiprid**	0.0020	U	ug/L	P370469	
		Glufosinate**	0.10	U	ug/L	P370512	
		Glyphosate**	0.20	I	ug/L	P370512	
		Afidopyropen**	0.0020	UJ	ug/L	P370469	
		Bentazon	8.0E-04	U	ug/L	P370469	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370469	
		Carbamazepine**	8.0E-04	U	ug/L	P370469	
		Clothianidin**	0.018		ug/L	P370469	
		Dinotefuran**	0.0020	U	ug/L	P370469	
		Diuron	0.037		ug/L	P370469	
		Fenuron	0.016	U	ug/L	P370469	
		Fluridone**	8.0E-04	U	ug/L	P370469	
		Imazapyr**	0.0040	U	ug/L	P370469	
		Hydrocodone**	0.0020	U	ug/L	P370469	
		Ibuprofen**	0.020	U	ug/L	P370469	
		Imidacloprid	0.0053	I	ug/L	P370469	MS
		Linuron	0.0040	U	ug/L	P370469	
		Mandestrobin**	0.0020	UJ	ug/L	P370469	
		MCPP	0.0020	UJ	ug/L	P370469	LCS, MS
		Naproxen**	0.0080	U	ug/L	P370469	
		Primidone**	0.0040	U	ug/L	P370469	
		Pyraclostrobin**	0.0020	U	ug/L	P370469	
		Thiamethoxam**	0.0020	U	ug/L	P370469	MS
		Tolfenpyrad**	0.0020	U	ug/L	P370469	
		Triclopyr**	0.0040	U	ug/L	P370469	
2117923	EPA 200.7 Rev. 4.4	Barium	9.2		ug/L	P370561	
		Calcium	23.9		mg/L	P370561	
		Iron	380		ug/L	P370561	
		Magnesium	8.34		mg/L	P370561	
		Potassium	2.8		mg/L	P370561	
		Sodium	9.3		mg/L	P370561	
		Zinc	5.0	U	ug/L	P370561	
	EPA 200.8 Rev. 5.4	Aluminum	379		ug/L	P370561	
		Antimony	0.088	I	ug/L	P370561	
		Arsenic	0.63		ug/L	P370561	
		Boron**	22.7		ug/L	P370561	
		Cadmium	0.131		ug/L	P370561	
		Chromium	0.95	I	ug/L	P370561	

Field ID: G1NE0917 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117923	EPA 200.8 Rev. 5.4	Copper	0.54	I	ug/L	P370561	
		Lead	0.34	I	ug/L	P370561	
		Nickel	0.59	I	ug/L	P370561	
		Selenium	0.20	U	ug/L	P370561	
		Silver	0.010	U	ug/L	P370561	
		Thallium	0.10	U	ug/L	P370561	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. Refer to the narrative for an explanation of QC Codes.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: MILL CREEK - E of OLD BELAMY RD **Collection Date/Time: 09/10/2019 10:50**

Field ID: G1NE0907 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117920	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P370512	
		2,4-D	0.0020	UJ	ug/L	P370469	LCS, MS
		AMPA**	0.10	U	ug/L	P370512	
		Sucralose**	0.023	I	ug/L	P370512	MS
		Acetaminophen**	0.0080	U	ug/L	P370469	
		Endothall**	0.25	U	ug/L	P370512	
		Acetamiprid**	0.0020	U	ug/L	P370469	
		Glufosinate**	0.10	U	ug/L	P370512	
		Glyphosate**	0.10	U	ug/L	P370512	
		Afidopyropen**	0.0020	UJ	ug/L	P370469	
		Bentazon	8.0E-04	U	ug/L	P370469	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370469	
		Carbamazepine**	8.0E-04	U	ug/L	P370469	
		Clothianidin**	0.0020	U	ug/L	P370469	
		Dinotefuran**	0.0020	U	ug/L	P370469	
		Diuron	0.0029	I	ug/L	P370469	
		Fenuron	0.016	U	ug/L	P370469	
		Fluridone**	8.0E-04	U	ug/L	P370469	
		Imazapyr**	0.0040	U	ug/L	P370469	
		Hydrocodone**	0.0020	U	ug/L	P370469	
		Ibuprofen**	0.020	U	ug/L	P370469	
		Imidacloprid	0.0020	U	ug/L	P370469	MS
		Linuron	0.0040	U	ug/L	P370469	
		Mandestrobin**	0.0020	UJ	ug/L	P370469	
		MCPP	0.0020	UJ	ug/L	P370469	LCS, MS
		Naproxen**	0.0080	U	ug/L	P370469	
		Primidone**	0.0040	U	ug/L	P370469	
		Pyraclostrobin**	0.0020	U	ug/L	P370469	
		Thiamethoxam**	0.0020	U	ug/L	P370469	MS
		Tolfenpyrad**	0.0020	U	ug/L	P370469	
		Triclopyr**	0.0040	U	ug/L	P370469	
2117924	EPA 200.7 Rev. 4.4	Barium	3.0	I	ug/L	P370561	
		Calcium	10.7		mg/L	P370561	
		Iron	320		ug/L	P370561	
		Magnesium	4.00		mg/L	P370561	
		Potassium	0.73	I	mg/L	P370561	
		Sodium	5.8		mg/L	P370561	
		Zinc	5.0	U	ug/L	P370561	
	EPA 200.8 Rev. 5.4	Aluminum	188		ug/L	P370561	
		Antimony	0.050	U	ug/L	P370561	
		Arsenic	0.50		ug/L	P370561	
		Boron**	19.8		ug/L	P370561	
		Cadmium	0.024	I	ug/L	P370561	
		Chromium	0.93	I	ug/L	P370561	

Field ID: G1NE0907 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117924	EPA 200.8 Rev. 5.4	Copper	0.78	I	ug/L	P370561	
		Lead	0.20	U	ug/L	P370561	
		Nickel	0.50	U	ug/L	P370561	
		Selenium	0.20	U	ug/L	P370561	
		Silver	0.010	U	ug/L	P370561	
		Thallium	0.10	U	ug/L	P370561	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. Refer to the narrative for an explanation of QC Codes.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: TURKEY CREEK UPSTREAM OF THE BRIDGE ON NW 74th TERR **Collection Date/Time: 09/10/2019 12:40**

Field ID: G1NE0915 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117921	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P370512	
		2,4-D	0.0020	UJ	ug/L	P370469	LCS, MS
		AMPA**	0.38	I	ug/L	P370512	
		Sucralose**	0.090		ug/L	P370512	MS
		Acetaminophen**	0.0080	U	ug/L	P370469	
		Endothall**	0.25	U	ug/L	P370512	
		Acetamiprid**	0.0020	U	ug/L	P370469	
		Glufosinate**	0.10	U	ug/L	P370512	
		Glyphosate**	0.33	I	ug/L	P370512	
		Afidopyropen**	0.0020	UJ	ug/L	P370469	
		Bentazon	0.0018	I	ug/L	P370469	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370469	
		Carbamazepine**	8.0E-04	U	ug/L	P370469	
		Clothianidin**	0.0020	U	ug/L	P370469	
		Dinotefuran**	0.0020	U	ug/L	P370469	
		Diuron	0.016		ug/L	P370469	
		Fenuron	0.016	U	ug/L	P370469	
		Fluridone**	8.0E-04	U	ug/L	P370469	
		Imazapyr**	0.29		ug/L	P370469	
		Hydrocodone**	0.0020	U	ug/L	P370469	
		Ibuprofen**	0.020	U	ug/L	P370469	
		Imidacloprid	0.0098		ug/L	P370469	MS
		Linuron	0.0040	U	ug/L	P370469	
		Mandestrobin**	0.0020	UJ	ug/L	P370469	
		MCPP	0.0020	UJ	ug/L	P370469	LCS, MS
		Naproxen**	0.0080	U	ug/L	P370469	
		Primidone**	0.0040	U	ug/L	P370469	
		Pyraclostrobin**	0.0020	U	ug/L	P370469	
		Thiamethoxam**	0.0020	U	ug/L	P370469	MS
		Tolfenpyrad**	0.0020	U	ug/L	P370469	
		Triclopyr**	0.0040	U	ug/L	P370469	
2117925	EPA 200.7 Rev. 4.4	Barium	6.7		ug/L	P370561	
		Calcium	30.1		mg/L	P370561	
		Iron	700		ug/L	P370561	
		Magnesium	8.95		mg/L	P370561	
		Potassium	1.0	I	mg/L	P370561	
		Sodium	9.0		mg/L	P370561	
		Zinc	5.0	U	ug/L	P370561	
	EPA 200.8 Rev. 5.4	Aluminum	216		ug/L	P370561	
		Antimony	0.070	I	ug/L	P370561	
		Arsenic	1.14		ug/L	P370561	
		Boron**	26.0		ug/L	P370561	
		Cadmium	0.020	U	ug/L	P370561	

Field ID: G1NE0915 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2117925	EPA 200.8 Rev. 5.4	Chromium	0.80	I	ug/L	P370561	
		Copper	0.48	I	ug/L	P370561	
		Lead	0.22	I	ug/L	P370561	
		Nickel	1.5	I	ug/L	P370561	
		Selenium	0.30	I	ug/L	P370561	
		Silver	0.010	U	ug/L	P370561	
		Thallium	0.10	U	ug/L	P370561	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis. Refer to the narrative for an explanation of QC Codes.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370561

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: P370561

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: P370469

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P370469

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

Reference Method: EPA 8321B
Batch ID: P370512

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
Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	105		P	85 - 115
Iron	107		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	108		P	85 - 115
Sodium	105		P	85 - 115
Zinc	98.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	101		P	85 - 115
Boron	94.3		P	80 - 120
Cadmium	101		P	85 - 115
Chromium	91.2		P	80 - 120
Copper	101		P	85 - 115
Lead	105		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	107		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 8321B
Batch ID: P370469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	165		F	40 - 160
Acetaminophen	85.8		P	30 - 160
Acetamiprid	118		P	40 - 160
Afidopyropen	108		P	40 - 160
Bentazon	148		P	30 - 160
Benzovindiflupyr	97.0		P	40 - 160
Carbamazepine	118		P	40 - 160
Clothianidin	103		P	40 - 160
Dinotefuran	93.2		P	40 - 160
Diuron	139		P	40 - 160
Fenuron	122		P	40 - 160
Fluridone	98.7		P	40 - 160
Hydrocodone	102		P	40 - 160
Ibuprofen	87.3		P	30 - 160
Imazapyr	107		P	40 - 160
Imidacloprid	110		P	40 - 160
Linuron	78.9		P	40 - 160
Mandestrobin	98.9		P	40 - 160
MCPP	176		F	40 - 160
Naproxen	110		P	40 - 160
Primidone	91.0		P	40 - 160
Pyraclostrobin	86.8		P	30 - 160
Thiamethoxam	113		P	40 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P370469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Tolfenpyrad	73.7		P	40 - 160
Triclopyr	142		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	128		P	40 - 150
AMPA	122		P	40 - 150
Endothall	94.1		P	40 - 150
Glufosinate	119		P	40 - 150
Glyphosate	123		P	40 - 140
Sucralose	146		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117773	Barium	99.0		P	75 - 125
2117773	Iron	106		P	75 - 125
2117773	Magnesium	103		P	75 - 125
2117773	Potassium	113		P	75 - 125
2117773	Sodium	110		P	75 - 125
2117773	Zinc	97.0		P	75 - 125
2117924	Barium	101	101	P/P	80 - 120
2117924	Calcium	106		P	80 - 120
2117924	Iron	109	110	P/P	80 - 120
2117924	Magnesium	104		P	80 - 120
2117924	Potassium	111	111	P/P	80 - 120
2117924	Sodium	106		P	80 - 120
2117924	Zinc	99.2	99.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117773	Aluminum	99.0		P	75 - 125
2117773	Antimony	103		P	75 - 125
2117773	Arsenic	104		P	75 - 125
2117773	Boron	92.5		P	75 - 125
2117773	Cadmium	103		P	75 - 125
2117773	Chromium	90.4		P	75 - 125
2117773	Copper	97.8		P	75 - 125
2117773	Lead	106		P	75 - 125
2117773	Nickel	98.2		P	75 - 125
2117773	Selenium	100		P	75 - 125
2117773	Silver	108		P	80 - 120
2117773	Thallium	104		P	75 - 125
2117924	Aluminum	109	104	P/P	80 - 120
2117924	Antimony	102	99.4	P/P	80 - 120
2117924	Arsenic	103	99.8	P/P	80 - 120
2117924	Boron	97.3	96.2	P/P	80 - 120
2117924	Cadmium	105	101	P/P	80 - 120
2117924	Chromium	90.0	89.4	P/P	80 - 120
2117924	Copper	97.5	94.1	P/P	80 - 120
2117924	Lead	107	105	P/P	80 - 120
2117924	Nickel	101	98.4	P/P	80 - 120
2117924	Selenium	99.8	97.3	P/P	80 - 120
2117924	Silver	106	103	P/P	80 - 120
2117924	Thallium	103	101	P/P	80 - 120

Reference Method: EPA 8321B
Batch ID: P370469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117512	2,4-D	167	154	F/P	40 - 160
2117512	Acetaminophen	104	95.5	P/P	30 - 160
2117512	Acetamiprid	117	123	P/P	40 - 160
2117512	Afidopyropen	101	117	P/P	40 - 160
2117512	Bentazon	104	110	P/P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P370469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117512	Benzovindiflupyr	106	92.7	P/P	40 - 160
2117512	Carbamazepine	111	111	P/P	40 - 160
2117512	Clothianidin	123	110	P/P	40 - 160
2117512	Dinotefuran	117	111	P/P	40 - 160
2117512	Diuron	125	125	P/P	40 - 160
2117512	Fenuron	117	118	P/P	40 - 160
2117512	Fluridone	102	99.5	P/P	40 - 160
2117512	Hydrocodone	118	101	P/P	40 - 160
2117512	Ibuprofen	90.5	79.4	P/P	30 - 160
2117512	Imazapyr	138	148	P/P	40 - 160
2117512	Imidacloprid	213	180	F/F	40 - 160
2117512	Linuron	78.3	70.5	P/P	40 - 160
2117512	Mandestrobin	98.6	90.1	P/P	40 - 160
2117512	MCPP	168	164	F/F	40 - 160
2117512	Naproxen	99.5	94.3	P/P	40 - 160
2117512	Primidone	99.2	96.8	P/P	40 - 160
2117512	Pyraclostrobin	105	92.3	P/P	30 - 160
2117512	Thiamethoxam	180	151	F/P	40 - 160
2117512	Tolfenpyrad	81.9	76.5	P/P	40 - 160
2117512	Triclopyr	141	131	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117252	Acesulfame K	94.2	124	P/P	40 - 150
2117252	AMPA	68.0	69.3	P/P	40 - 150
2117252	Endothall	69.5	73.0	P/P	40 - 150
2117252	Glufosinate	94.6	93.8	P/P	40 - 150
2117252	Glyphosate	123	113	P/P	40 - 140
2117252	Sucralose	165	153	F/F	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P370561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117924	Barium	0.386	Spike	P	0 - 20
2117924	Calcium	0.296	Spike	P	0 - 20
2117924	Iron	0.935	Spike	P	0 - 20
2117924	Magnesium	0.538	Spike	P	0 - 20
2117924	Potassium	0.409	Spike	P	0 - 20
2117924	Sodium	0.0263	Spike	P	0 - 20
2117924	Zinc	0.127	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P370561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117924	Aluminum	3.32	Spike	P	0 - 20
2117924	Antimony	2.93	Spike	P	0 - 20
2117924	Arsenic	3.53	Spike	P	0 - 20
2117924	Boron	1.01	Spike	P	0 - 20
2117924	Cadmium	3.15	Spike	P	0 - 20
2117924	Chromium	0.562	Spike	P	0 - 20
2117924	Copper	3.46	Spike	P	0 - 20
2117924	Lead	2.25	Spike	P	0 - 20
2117924	Nickel	2.35	Spike	P	0 - 20
2117924	Selenium	2.50	Spike	P	0 - 20
2117924	Silver	3.23	Spike	P	0 - 20
2117924	Thallium	1.19	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P370469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117512	2,4-D	7.69	Spike	P	0 - 30
2117512	Acetaminophen	8.25	Spike	P	0 - 30
2117512	Acetamiprid	4.86	Spike	P	0 - 30
2117512	Afidopyropen	14.6	Spike	P	0 - 30
2117512	Bentazon	6.36	Spike	P	0 - 30
2117512	Benzovindiflupyr	13.4	Spike	P	0 - 30
2117512	Carbamazepine	0.547	Spike	P	0 - 30
2117512	Clothianidin	11.4	Spike	P	0 - 30
2117512	Dinotefuran	5.01	Spike	P	0 - 30
2117512	Diuron	0.301	Spike	P	0 - 30
2117512	Fenuron	1.36	Spike	P	0 - 30
2117512	Fluridone	2.75	Spike	P	0 - 30
2117512	Hydrocodone	15.4	Spike	P	0 - 30
2117512	Ibuprofen	13.1	Spike	P	0 - 30
2117512	Imazapyr	6.90	Spike	P	0 - 30
2117512	Imidacloprid	15.5	Spike	P	0 - 30
2117512	Linuron	10.4	Spike	P	0 - 30
2117512	Mandestrobin	8.96	Spike	P	0 - 30
2117512	MCPP	2.67	Spike	P	0 - 30
2117512	Naproxen	5.37	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P370469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117512	Primidone	2.44	Spike	P	0 - 30
2117512	Pyraclostrobin	13.1	Spike	P	0 - 30
2117512	Thiamethoxam	17.3	Spike	P	0 - 30
2117512	Tolfenpyrad	6.80	Spike	P	0 - 30
2117512	Triclopyr	7.35	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P370512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117252	Acesulfame K	25.8	Spike	P	0 - 30
2117252	AMPA	0.691	Spike	P	0 - 30
2117252	Endothall	4.86	Spike	P	0 - 30
2117252	Glufosinate	0.774	Spike	P	0 - 30
2117252	Glyphosate	3.36	Spike	P	0 - 30
2117252	Sucralose	6.19	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: 2117918
Field Sample ID: G1NE0906

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	149	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.7	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	92.7	P	30 - 160
EPA 8321B	Endothall-d6	92.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.7	P	30 - 160
EPA 8321B	Primidone-d5	93.2	P	30 - 160
EPA 8321B	Sucralose-d6	136	P	30 - 160
EPA 8321B	Sucralose-d6	136	P	30 - 160

Lab Sample ID: 2117919
Field Sample ID: G1NE0917

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	138	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	98.6	P	30 - 160
EPA 8321B	Diuron-d6	109	P	30 - 160
EPA 8321B	Endothall-d6	88.7	P	30 - 160
EPA 8321B	Endothall-d6	88.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.9	P	30 - 160
EPA 8321B	Primidone-d5	94.8	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160

Lab Sample ID: 2117920
Field Sample ID: G1NE0907

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	143	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.8	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Endothall-d6	97.3	P	30 - 160
EPA 8321B	Endothall-d6	97.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	113	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.6	P	30 - 160
EPA 8321B	Primidone-d5	83.2	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160

Lab Sample ID: 2117921
Field Sample ID: G1NE0915

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	116	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2117921
Field Sample ID: G1NE0915

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	67.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.9	P	30 - 160
EPA 8321B	Diuron-d6	91.2	P	30 - 160
EPA 8321B	Endothall-d6	91.7	P	30 - 160
EPA 8321B	Endothall-d6	91.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.5	P	30 - 160
EPA 8321B	Primidone-d5	74.9	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A94210
Included Lab Sample IDs: 2117922, 2117923, 2117924, 2117925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	103	102	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Potassium	103	103	P/P	90 - 110
Sodium	105	105	P/P	90 - 110
Zinc	98.6	98.1	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A94238
Included Lab Sample IDs: 2117918, 2117919, 2117920, 2117921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	117	113	P/P	60 - 160
Glufosinate	120	122	P/P	60 - 160
Glyphosate	120	121	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A94243
Included Lab Sample IDs: 2117918, 2117919, 2117920, 2117921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	125	127	P/P	60 - 160
Endothall	104	106	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94323
Included Lab Sample IDs: 2117922, 2117923, 2117924, 2117925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	107	104	P/P	90 - 110
Aluminum	99.2	107	P/P	90 - 110
Antimony	97.9	98.4	P/P	90 - 110
Antimony	98.4	98.8	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Arsenic	102	103	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Copper	101	102	P/P	90 - 110
Copper	102	101	P/P	90 - 110
Lead	105	106	P/P	90 - 110
Lead	105	105	P/P	90 - 110
Nickel	103	99.8	P/P	90 - 110
Nickel	99.8	101	P/P	90 - 110
Selenium	100	103	P/P	90 - 110
Selenium	103	102	P/P	90 - 110
Thallium	92.7	94.3	P/P	90 - 110
Thallium	94.2	92.7	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94342
Included Lab Sample IDs: 2117922, 2117923, 2117924, 2117925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	93.9	96.9	P/P	90 - 110
Boron	96.9	94.7	P/P	90 - 110
Chromium	90.3	91.5	P/P	90 - 110
Chromium	92.1	90.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94372
Included Lab Sample IDs: 2117922, 2117923, 2117924, 2117925

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

Reference Method: EPA 8321B
Run ID: A94400
Included Lab Sample IDs: 2117918, 2117919, 2117920, 2117921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	97.6	P/P	50 - 150
2,4-D	111	102	P/P	50 - 150
Acetaminophen	102	98.0	P/P	60 - 160
Acetaminophen	105	102	P/P	60 - 160
Acetamiprid	112	116	P/P	50 - 150
Acetamiprid	116	115	P/P	50 - 150
Afidopyropen	114	111	P/P	50 - 150
Afidopyropen	132	114	P/P	50 - 150
Bentazon	100	97.4	P/P	50 - 160
Bentazon	97.4	102	P/P	50 - 160
Benzovindiflupyr	100	105	P/P	50 - 150
Benzovindiflupyr	106	100	P/P	50 - 150
Carbamazepine	105	107	P/P	60 - 150
Carbamazepine	107	111	P/P	60 - 150
Clothianidin	101	94.6	P/P	60 - 150
Clothianidin	94.6	105	P/P	60 - 150
Dinotefuran	104	104	P/P	50 - 150
Dinotefuran	96.7	104	P/P	50 - 150
Diuron	132	132	P/P	60 - 150
Diuron	132	130	P/P	60 - 150
Fenuron	111	112	P/P	60 - 150
Fenuron	112	118	P/P	60 - 150
Fluridone	107	108	P/P	60 - 160
Fluridone	108	107	P/P	60 - 160
Hydrocodone	108	108	P/P	60 - 150
Hydrocodone	108	104	P/P	60 - 150
Ibuprofen	77.6	82.8	P/P	50 - 160
Ibuprofen	82.8	93.7	P/P	50 - 160
Imazapyr	101	98.6	P/P	50 - 150
Imazapyr	98.6	93.7	P/P	50 - 150
Imidacloprid	94.9	96.6	P/P	60 - 150
Imidacloprid	96.6	102	P/P	60 - 150
Linuron	99.1	99.3	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A94400
Included Lab Sample IDs: 2117918, 2117919, 2117920, 2117921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	99.3	93.8	P/P	60 - 150
Mandestrobin	111	113	P/P	50 - 150
Mandestrobin	113	114	P/P	50 - 150
MCPP	90.9	91.6	P/P	50 - 150
MCPP	91.6	89.5	P/P	50 - 150
Naproxen	125	77.8	P/P	50 - 160
Naproxen	77.8	127	P/P	50 - 160
Primidone	90.8	91.6	P/P	60 - 150
Primidone	91.6	95.6	P/P	60 - 150
Pyraclostrobin	100	114	P/P	60 - 150
Pyraclostrobin	114	111	P/P	60 - 150
Thiamethoxam	103	112	P/P	50 - 150
Thiamethoxam	112	104	P/P	50 - 150
Tolfenpyrad	110	125	P/P	60 - 150
Tolfenpyrad	125	121	P/P	60 - 150
Triclopyr	85.0	111	P/P	50 - 150
Triclopyr	93.2	85.0	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A94533
Included Lab Sample IDs: 2117918, 2117919, 2117920, 2117921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	138	138	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 200.7 Rev. 4.4	Barium	101	101	101	99.0			0.386
	Calcium	105	106					0.296
	Iron	107	109	110	106			0.935
	Magnesium	112	104	103				0.538
	Potassium	108	111	111	113			0.409
	Sodium	105	106	110				0.0263
	Zinc	98.9	99.2	99.0	97.0			0.127
EPA 200.8 Rev. 5.4	Aluminum	100	99.0	109	104			3.32
	Antimony	101	103	102	99.4			2.93
	Arsenic	101	104	103	99.8			3.53
	Boron	94.3	92.5	97.3	96.2			1.01
	Cadmium	101	103	105	101			3.15
	Chromium	91.2	90.4	90.0	89.4			0.562
	Copper	101	97.8	97.5	94.1			3.46
	Lead	105	106	107	105			2.25
	Nickel	102	98.2	101	98.4			2.35
	Selenium	101	100	99.8	97.3			2.50
	Silver	107	108	106	103			3.23
	Thallium	101	104	103	101			1.19
EPA 8321B	2,4-D	165	167	154				7.69
	Acesulfame K	128	94.2	124				25.8
	Acetaminophen	85.8	95.5	104				8.25
	Acetamiprid	118	123	117				4.86
	Afidopyropen	108	117	101				14.6
	AMPA	122	69.3	68.0				0.691
	Bentazon	148	104	110				6.36
	Benzovindiflupyr	97.0	106	92.7				13.4
	Carbamazepine	118	111	111				0.547
	Clothianidin	103	110	123				11.4
	Dinotefuran	93.2	111	117				5.01
	Diuron	139	125	125				0.301
	Endothall	94.1	69.5	73.0				4.86
	Fenuron	122	118	117				1.36
	Fluridone	98.7	99.5	102				2.75
	Glufosinate	119	93.8	94.6				0.774
	Glyphosate	123	123	113				3.36
	Hydrocodone	102	101	118				15.4
	Ibuprofen	87.3	90.5	79.4				13.1
	Imazapyr	107	138	148				6.90
	Imidacloprid	110	180	213				15.5
	Linuron	78.9	70.5	78.3				10.4
	Mandestrobin	98.9	98.6	90.1				8.96
	MCPP	176	168	164				2.67
	Naproxen	110	99.5	94.3				5.37
	Primidone	91.0	96.8	99.2				2.44
	Pyraclostrobin	86.8	105	92.3				13.1
	Sucralose	146	165	153				6.19
	Thiamethoxam	113	151	180				17.3
	Tolfenpyrad	73.7	81.9	76.5				6.80
	Triclopyr	142	141	131				7.35

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2117922, 2117923, 2117924, 2117925
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2117922, 2117923, 2117924, 2117925
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2117918, 2117919, 2117920, 2117921
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2117918, 2117919, 2117920, 2117921

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	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/13/2019 14:47	Alexander Thompson	2117922
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/13/2019 14:54	Alexander Thompson	2117923
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/13/2019 15:01	Alexander Thompson	2117924
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/13/2019 15:27	Alexander Thompson	2117925
EPA 200.8 Rev. 5.4	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 07:33	Robert K Palmer	2117922
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 08:12	Robert K Palmer	2117923
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 08:22	Robert K Palmer	2117925
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 08:42	Robert K Palmer	2117924
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 23:08	Robert K Palmer	2117922
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 23:26	Robert K Palmer	2117923
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 23:32	Robert K Palmer	2117925
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/18/2019 23:44	Robert K Palmer	2117924
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/20/2019 02:01	Robert K Palmer	2117922
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/20/2019 02:20	Robert K Palmer	2117923
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/20/2019 02:26	Robert K Palmer	2117925
	09/11/2019	09/12/2019 14:30	Elliott D. Healy	09/20/2019 02:38	Robert K Palmer	2117924
EPA 8321B	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/12/2019 18:29	Rebecca Ware	2117918
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/12/2019 18:43	Rebecca Ware	2117919
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/12/2019 18:57	Rebecca Ware	2117920
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/12/2019 19:11	Rebecca Ware	2117921
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/13/2019 17:31	Rebecca Ware	2117918
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/13/2019 17:41	Rebecca Ware	2117919
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/13/2019 17:52	Rebecca Ware	2117920
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/13/2019 18:03	Rebecca Ware	2117921
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/25/2019 14:35	Rebecca Ware	2117918
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/25/2019 14:46	Rebecca Ware	2117919
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/25/2019 14:58	Rebecca Ware	2117920
	09/11/2019	09/12/2019 10:00	Rebecca Ware	09/25/2019 15:10	Rebecca Ware	2117921
	09/11/2019	09/13/2019 10:00	Hoor Shaik	09/14/2019 15:38	Juyoung Kim	2117918
	09/11/2019	09/13/2019 10:00	Hoor Shaik	09/14/2019 16:48	Juyoung Kim	2117919
	09/11/2019	09/13/2019 10:00	Hoor Shaik	09/14/2019 17:22	Juyoung Kim	2117920
	09/11/2019	09/13/2019 10:00	Hoor Shaik	09/14/2019 17:57	Juyoung Kim	2117921