

Chemical Analysis Report

NE-DIST-2019-09-24-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

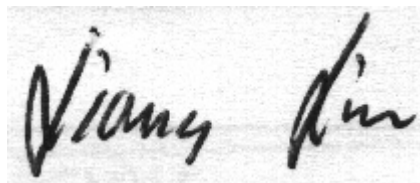
Event Description: **SCI Brandy Br and Cracker Br**
Request ID: **RQ-2019-09-09-18**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 11-OCT-2019 14:21

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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, Nutrients and Pesticides.

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: BRANDY BRANCH AT CR 121

Collection Date/Time: 09/23/2019 11:00

Field ID: 19010063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121845	EPA 180.1 Rev. 2.0	Turbidity	2.6	A	NTU	P371234	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P371463	
		Sulfate	6.1		mg SO4/L	P371464	
	SM 2120 B	Color (true)	540		PCU	P371251	
	SM 2320 B-97	Total Alkalinity	9.1		mg CaCO3/L	P371528	
	SM 2540 C-97	TDS	155		mg/L	P371617	
	SM 2540 D-97	TSS	4	I	mg/L	P371584	
	SM 4500 F-C-97	Fluoride	0.044	I	mg F/L	P371532	
2121846	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P371743	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P371385	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P371468	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P371494	
	SM 5310 B-00	Organic Carbon	46		mg C/L	P371372	
2121847	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.054		mg P/L	P371240	
2121853	EPA 8321B	2,4-D	0.0020	U	ug/L	P371132	
		Acesulfame K**	0.10	U	ug/L	P371269	
		AMPA**	0.10	U	ug/L	P371269	
		Sucralose**	0.015	I	ug/L	P371269	
		Acetaminophen**	0.0080	U	ug/L	P371132	
		Acetamiprid**	0.0020	U	ug/L	P371132	
		Endothall**	0.25	U	ug/L	P371269	
		Glufosinate**	0.10	U	ug/L	P371269	
		Glyphosate**	0.10	U	ug/L	P371269	
		Afidopyropen**	0.0020	UJ	ug/L	P371132	
		Bentazon	8.0E-04	U	ug/L	P371132	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P371132	
		Carbamazepine**	8.0E-04	U	ug/L	P371132	
		Clothianidin**	0.0020	U	ug/L	P371132	
		Dinotefuran**	0.0020	U	ug/L	P371132	
		Diuron	0.0020	U	ug/L	P371132	
		Fenuron	0.016	U	ug/L	P371132	
		Fluridone**	8.0E-04	U	ug/L	P371132	
		Imazapyr**	0.14		ug/L	P371132	
		Hydrocodone**	0.0020	U	ug/L	P371132	
		Ibuprofen**	0.020	U	ug/L	P371132	
		Imidacloprid	0.0020	U	ug/L	P371132	MS
		Linuron	0.0040	U	ug/L	P371132	
		Mandestrobin**	0.0020	UJ	ug/L	P371132	
		MCP	0.0020	U	ug/L	P371132	MS
		Naproxen**	0.0080	U	ug/L	P371132	
		Primidone**	0.0040	U	ug/L	P371132	
		Pyraclostrobin**	0.0020	U	ug/L	P371132	
		Thiamethoxam**	0.0020	U	ug/L	P371132	

Field ID: 19010063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121853	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P371132	
		Triclopyr**	0.0040	U	ug/L	P371132	
2121854	EPA 200.7 Rev. 4.4	Barium	27.3		ug/L	P371324	
		Calcium	7.74		mg/L	P371324	
		Iron	1.78E+03		ug/L	P371324	
		Magnesium	2.76		mg/L	P371324	
		Potassium	3.8		mg/L	P371324	
		Sodium	11.0		mg/L	P371324	
		Zinc	5.0	U	ug/L	P371324	
	EPA 200.8 Rev. 5.4	Aluminum	418		ug/L	P371324	
		Antimony	0.050	U	ug/L	P371324	
		Arsenic	0.70		ug/L	P371324	
		Boron**	25.8		ug/L	P371324	
		Cadmium	0.020	U	ug/L	P371324	
		Chromium	1.2	I	ug/L	P371324	
		Copper	0.46	I	ug/L	P371324	
		Lead	0.40		ug/L	P371324	
		Nickel	1.2	I	ug/L	P371324	
		Selenium	0.20	U	ug/L	P371324	
		Silver	0.010	U	ug/L	P371324	
		Thallium	0.10	U	ug/L	P371324	
2121855	EPA 8270E	Acetochlor	0.25	U	ng/L	P371188	
		Alachlor	0.25	U	ng/L	P371188	
		Ametryn	0.61	U	ng/L	P371188	
		Atrazine	0.25	U	ng/L	P371188	
		Atrazine Desethyl	1.5	UJ	ng/L	P371188	RPD
		Azinphos Methyl	5.0	U	ng/L	P371188	
		Bromacil	0.50	U	ng/L	P371188	
		Butylate	0.40	U	ng/L	P371188	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P371188	
		Chlorpyrifos Methyl	0.10	U	ng/L	P371188	
		Cyanazine	3.3	UJ	ng/L	P371188	RPD
		Demeton	7.1	U	ng/L	P371188	
		Diazinon	0.13	U	ng/L	P371188	
		Dimethenamid**	0.10	U	ng/L	P371188	
		Disulfoton	0.50	U	ng/L	P371188	
		Dithiopyr**	0.10	U	ng/L	P371188	
		EPTC	1.3	U	ng/L	P371188	
		Ethion	0.15	U	ng/L	P371188	
		Ethoprop	0.10	U	ng/L	P371188	
		Fenamiphos	0.50	U	ng/L	P371188	
		Fipronil	0.25	U	ng/L	P371188	
		Fipronil DesulfinyI**	0.13	U	ng/L	P371188	
		Fipronil Sulfide	0.15	U	ng/L	P371188	
		Fipronil Sulfone	0.15	U	ng/L	P371188	

Field ID: 19010063

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2121855	EPA 8270E	Fonofos	0.20	U	ng/L	P371188	
		Hexazinone	0.50	U	ng/L	P371188	
		Malathion	0.35	U	ng/L	P371188	
		Metaxyl	0.30	U	ng/L	P371188	
		Metolachlor	0.50	U	ng/L	P371188	
		Metribuzin	0.76	UJ	ng/L	P371188	RPD
		Mevinphos	0.50	U	ng/L	P371188	
		Molinate	0.30	U	ng/L	P371188	
		Norflurazon	0.50	U	ng/L	P371188	
		Oxadiazon**	0.10	U	ng/L	P371188	
		Parathion Ethyl	0.25	U	ng/L	P371188	
		Parathion Methyl	0.55	U	ng/L	P371188	
		Pendimethalin	1.0	U	ng/L	P371188	
		Phorate	0.25	U	ng/L	P371188	
		Prodiamine**	0.18	U	ng/L	P371188	
		Prometon	0.91	U	ng/L	P371188	
		Prometryn	0.20	U	ng/L	P371188	
		Simazine	0.50	U	ng/L	P371188	
		Tebuconazole**	0.50	UJ	ng/L	P371188	RPD
		Terbufos	0.10	U	ng/L	P371188	
		Terbuthylazine	0.43	U	ng/L	P371188	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for fluridone and imazapyr could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371234

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371324

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: P371324

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 300.0 Rev. 2.1
Batch ID: P371463

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371464

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371743

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P371385

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371468

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371494

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P371240

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

Reference Method: EPA 8270E
 Batch ID: P371188

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P371188

Component	Result	Code	Units
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P371132

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P371269

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P371269

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: SM 2120 B
Batch ID: P371251

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P371528

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

Reference Method: SM 2540 C-97
Batch ID: P371617

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371584

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371532

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371372

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371324

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	107		P	85 - 115
Iron	104		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	102		P	85 - 115
Sodium	107		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371324

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.1		P	85 - 115
Antimony	93.2		P	85 - 115
Arsenic	101		P	85 - 115
Boron	99.0		P	85 - 115
Cadmium	97.9		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	99.4		P	85 - 115
Lead	93.8		P	85 - 115
Nickel	99.8		P	85 - 115
Selenium	97.0		P	85 - 115
Silver	98.2		P	85 - 115
Thallium	98.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371464

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371385

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371468

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P371240

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

Reference Method: EPA 8270E
 Batch ID: P371188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.5	90.1	P/P	69 - 122
Alachlor	98.0	87.1	P/P	71 - 120
Ametryn	109	94.7	P/P	47 - 138
Atrazine	105	99.0	P/P	74 - 124
Atrazine Desethyl	105	69.7	P/P	38 - 138
Azinphos Methyl	124	111	P/P	69 - 154
Bromacil	80.3	73.0	P/P	39 - 121
Butylate	63.9	83.0	P/P	27 - 87.0
Chlorpyrifos Ethyl	98.5	91.5	P/P	69 - 118
Chlorpyrifos Methyl	105	86.2	P/P	70 - 120
Cyanazine	133	86.0	P/P	20 - 250
Demeton	81.9	72.4	P/P	39 - 118
Diazinon	108	91.1	P/P	68 - 127
Dimethenamid	99.9	87.5	P/P	66 - 125
Disulfoton	97.7	78.2	P/P	52 - 126
Dithiopyr	99.4	92.0	P/P	67 - 127
EPTC	64.1	58.9	P/P	24 - 88.0
Ethion	77.1	99.6	P/P	51 - 132
Ethoprop	96.3	75.4	P/P	58 - 117
Fenamiphos	104	90.1	P/P	38 - 139
Fipronil	104	78.5	P/P	61 - 124
Fipronil Desulfinyl	85.3	81.1	P/P	47 - 120
Fipronil Sulfide	89.0	82.1	P/P	56 - 119
Fipronil Sulfone	80.1	62.7	P/P	50 - 117
Fonofos	98.2	74.2	P/P	60 - 121
Hexazinone	100	99.8	P/P	55 - 137
Malathion	97.3	95.4	P/P	66 - 126
Metalaxyl	93.0	91.0	P/P	33 - 140
Metolachlor	96.2	91.1	P/P	69 - 119
Metribuzin	203	106	P/P	31 - 238
Mevinphos	89.4	71.9	P/P	42 - 113
Molinate	78.8	68.0	P/P	32 - 96.0
Norflurazon	104	94.4	P/P	54 - 123
Oxadiazon	99.8	98.3	P/P	63 - 128

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P371188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	97.8	91.9	P/P	72 - 111
Parathion Methyl	106	92.5	P/P	74 - 126
Pendimethalin	90.7	87.9	P/P	61 - 131
Phorate	97.6	82.8	P/P	51 - 115
Prodiamine	79.6	87.2	P/P	38 - 144
Prometon	95.0	87.4	P/P	54 - 119
Prometryn	108	92.6	P/P	63 - 120
Simazine	106	96.4	P/P	75 - 126
Tebuconazole	62.4	92.3	P/P	20 - 119
Terbufos	101	79.2	P/P	64 - 116
Terbutylazine	96.9	101	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P371132

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	131		P	40 - 160
Acetaminophen	87.5		P	30 - 160
Acetamiprid	95.9		P	40 - 160
Afidopyropen	103		P	40 - 160
Bentazon	99.0		P	30 - 160
Benzovindiflupyr	89.4		P	40 - 160
Carbamazepine	119		P	40 - 160
Clothianidin	90.4		P	40 - 160
Dinotefuran	93.3		P	40 - 160
Diuron	91.3		P	40 - 160
Fenuron	101		P	40 - 160
Fluridone	107		P	40 - 160
Hydrocodone	96.4		P	40 - 160
Ibuprofen	84.8		P	30 - 160
Imazapyr	94.3		P	40 - 160
Imidacloprid	116		P	40 - 160
Linuron	76.1		P	40 - 160
Mandestrobin	93.0		P	40 - 160
MCPP	148		P	40 - 160
Naproxen	83.5		P	40 - 160
Primidone	87.3		P	40 - 160
Pyraclostrobin	84.8		P	30 - 160
Thiamethoxam	103		P	40 - 160
Tolfenpyrad	61.7		P	40 - 160
Triclopyr	116		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P371269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	87.8		P	40 - 150
AMPA	97.3		P	40 - 150
Endothall	81.4		P	40 - 150
Glufosinate	82.4		P	40 - 150
Glyphosate	107		P	40 - 140
Sucralose	111		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P371251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P371528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121650	Barium	97.9		P	80 - 120
2121650	Calcium	103		P	80 - 120
2121650	Iron	101		P	80 - 120
2121650	Magnesium	105		P	80 - 120
2121650	Potassium	97.2		P	80 - 120
2121650	Sodium	100		P	80 - 120
2121650	Zinc	99.1		P	80 - 120
2121733	Barium	101	101	P/P	80 - 120
2121733	Calcium	106	107	P/P	80 - 120
2121733	Iron	103	104	P/P	80 - 120
2121733	Magnesium	110	111	P/P	80 - 120
2121733	Potassium	109	108	P/P	80 - 120
2121733	Sodium	107	108	P/P	80 - 120
2121733	Zinc	99.1	99.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121650	Aluminum	98.2		P	80 - 120
2121650	Antimony	94.5		P	80 - 120
2121650	Arsenic	101		P	80 - 120
2121650	Boron	99.6		P	80 - 120
2121650	Cadmium	97.8		P	80 - 120
2121650	Chromium	96.9		P	80 - 120
2121650	Copper	101		P	80 - 120
2121650	Lead	95.5		P	80 - 120
2121650	Nickel	100		P	80 - 120
2121650	Selenium	98.6		P	80 - 120
2121650	Silver	98.4		P	80 - 120
2121650	Thallium	100		P	80 - 120
2121733	Aluminum	99.0	97.9	P/P	80 - 120
2121733	Antimony	94.0	94.9	P/P	80 - 120
2121733	Arsenic	101	99.8	P/P	80 - 120
2121733	Boron	98.6	97.3	P/P	80 - 120
2121733	Cadmium	97.1	96.6	P/P	80 - 120
2121733	Chromium	97.5	95.7	P/P	80 - 120
2121733	Copper	101	100	P/P	80 - 120
2121733	Lead	95.3	94.4	P/P	80 - 120
2121733	Nickel	99.6	99.2	P/P	80 - 120
2121733	Selenium	98.0	97.3	P/P	80 - 120
2121733	Silver	97.8	97.3	P/P	80 - 120
2121733	Thallium	100	99.5	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371463

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121729	Chloride	97.4	98.3	P/P	90 - 110
2121845	Chloride	96.8		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121729	Sulfate	97.5	99.7	P/P	90 - 110
2121845	Sulfate	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121913	Ammonia-N	97.1	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121742	Kjeldahl Nitrogen	99.4	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121804	NO2NO3-N	99.4	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121846	Total-P	95.8	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121916	O-Phosphate-P	94.7	95.2	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P371188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120901	Acetochlor	89.4	100	P/P	63 - 129
2120901	Alachlor	88.7	97.8	P/P	65 - 127
2120901	Ametryn	96.8	97.9	P/P	40 - 164
2120901	Atrazine	96.9	98.5	P/P	66 - 135
2120901	Atrazine Desethyl	73.5	85.5	P/P	14 - 157
2120901	Azinphos Methyl	104	108	P/P	49 - 180
2120901	Bromacil	76.8	80.2	P/P	48 - 130
2120901	Butylate	57.9	56.3	P/P	10 - 94.0
2120901	Chlorpyrifos Ethyl	90.0	91.0	P/P	58 - 123
2120901	Chlorpyrifos Methyl	85.5	91.8	P/P	58 - 125
2120901	Cyanazine	84.7	120	P/P	24 - 253
2120901	Demeton	65.1	77.0	P/P	25 - 149
2120901	Diazinon	86.5	101	P/P	59 - 144
2120901	Dimethenamid	87.7	97.3	P/P	46 - 139
2120901	Disulfoton	74.5	89.5	P/P	54 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P371188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120901	Dithiopyr	92.2	96.2	P/P	64 - 130
2120901	EPTC	58.2	58.2	P/P	10 - 92.0
2120901	Ethion	95.9	92.2	P/P	30 - 148
2120901	Ethoprop	76.6	86.5	P/P	50 - 130
2120901	Fenamiphos	92.6	82.1	P/P	49 - 142
2120901	Fipronil	95.1	97.2	P/P	46 - 140
2120901	Fipronil Desulfinyl	88.4	82.1	P/P	30 - 121
2120901	Fipronil Sulfide	91.7	79.6	P/P	31 - 136
2120901	Fipronil Sulfone	89.7	78.7	P/P	16 - 136
2120901	Fonofos	69.6	82.3	P/P	55 - 129
2120901	Hexazinone	101	94.3	P/P	56 - 141
2120901	Malathion	98.2	97.5	P/P	56 - 135
2120901	Metalaxyl	94.9	96.1	P/P	54 - 135
2120901	Metolachlor	91.4	98.1	P/P	51 - 140
2120901	Metribuzin	96.9	149	P/P	45 - 254
2120901	Mevinphos	78.4	76.9	P/P	33 - 131
2120901	Molinate	67.2	69.6	P/P	14 - 98.0
2120901	Norflurazon	94.9	93.5	P/P	34 - 136
2120901	Oxadiazon	97.0	96.3	P/P	67 - 116
2120901	Parathion Ethyl	89.2	91.2	P/P	66 - 118
2120901	Parathion Methyl	94.2	95.1	P/P	64 - 136
2120901	Pendimethalin	81.5	88.5	P/P	59 - 144
2120901	Phorate	77.8	88.3	P/P	42 - 130
2120901	Prodiamine	92.6	98.2	P/P	42 - 148
2120901	Prometon	92.1	91.2	P/P	59 - 134
2120901	Prometryn	88.2	100	P/P	54 - 135
2120901	Simazine	97.6	96.8	P/P	53 - 156
2120901	Tebuconazole	95.0	73.6	P/P	10 - 131
2120901	Terbufos	75.4	89.2	P/P	57 - 131
2120901	Terbutylazine	94.1	91.8	P/P	68 - 125

Reference Method: EPA 8321B
Batch ID: P371132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121419	2,4-D	132	124	P/P	40 - 160
2121419	Acetaminophen	71.9	75.5	P/P	30 - 160
2121419	Acetamiprid	110	112	P/P	40 - 160
2121419	Afidopyropen	85.6	112	P/P	40 - 160
2121419	Benzovindiflupyr	99.9	98.9	P/P	40 - 160
2121419	Carbamazepine	104	105	P/P	40 - 160
2121419	Clothianidin	98.5	86.7	P/P	40 - 160
2121419	Dinotefuran	111	111	P/P	40 - 160
2121419	Diuron	83.5	82.0	P/P	40 - 160
2121419	Fenuron	83.4	84.5	P/P	40 - 160
2121419	Hydrocodone	93.2	97.4	P/P	40 - 160
2121419	Ibuprofen	89.8	90.7	P/P	30 - 160
2121419	Imidacloprid	182	192	F/F	40 - 160
2121419	Linuron	75.7	76.7	P/P	40 - 160
2121419	Mandestrobin	96.4	98.6	P/P	40 - 160
2121419	MCP	162	168	F/F	40 - 160
2121419	Naproxen	90.4	102	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P371132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121419	Primidone	97.0	99.9	P/P	40 - 160
2121419	Pyraclostrobin	92.1	91.6	P/P	30 - 160
2121419	Thiamethoxam	142	143	P/P	40 - 160
2121419	Tolfenpyrad	71.0	76.6	P/P	40 - 160
2121419	Triclopyr	105	131	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P371269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121760	Acesulfame K	75.8	76.2	P/P	40 - 150
2121760	AMPA	80.2	82.4	P/P	40 - 150
2121760	Endothall	101	103	P/P	40 - 150
2121760	Glufosinate	93.1	82.1	P/P	40 - 150
2121760	Glyphosate	110	90.9	P/P	40 - 140
2121760	Sucralose	129	138	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P371532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121762	Fluoride	97.2	95.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371372

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121994	Organic Carbon	102	97.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121845	Turbidity	2.71	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121733	Barium	0.0474	Spike	P	0 - 20
2121733	Calcium	0.844	Spike	P	0 - 20
2121733	Iron	0.769	Spike	P	0 - 20
2121733	Magnesium	0.671	Spike	P	0 - 20
2121733	Potassium	0.544	Spike	P	0 - 20
2121733	Sodium	0.685	Spike	P	0 - 20
2121733	Zinc	0.498	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121733	Aluminum	1.09	Spike	P	0 - 20
2121733	Antimony	0.928	Spike	P	0 - 20
2121733	Arsenic	1.57	Spike	P	0 - 20
2121733	Boron	1.23	Spike	P	0 - 20
2121733	Cadmium	0.489	Spike	P	0 - 20
2121733	Chromium	1.91	Spike	P	0 - 20
2121733	Copper	0.921	Spike	P	0 - 20
2121733	Lead	0.975	Spike	P	0 - 20
2121733	Nickel	0.469	Spike	P	0 - 20
2121733	Selenium	0.739	Spike	P	0 - 20
2121733	Silver	0.446	Spike	P	0 - 20
2121733	Thallium	0.521	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121729	Chloride	0.902	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121729	Sulfate	2.21	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P371743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121913	Ammonia-N	1.14	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P371385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121742	Kjeldahl Nitrogen	3.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121804	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121846	Total-P	0.0628	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P371240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121916	O-Phosphate-P	0.527	Spike	P	0 - 20

Reference Method: EPA 8270E
 Batch ID: P371188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120901	Acetochlor	11.3	Spike	P	0 - 30
2120901	Alachlor	9.84	Spike	P	0 - 30
2120901	Ametryn	1.20	Spike	P	0 - 30
2120901	Atrazine	1.60	Spike	P	0 - 30
2120901	Atrazine Desethyl	15.1	Spike	P	0 - 30
2120901	Azinphos Methyl	3.67	Spike	P	0 - 30
2120901	Bromacil	4.30	Spike	P	0 - 30
2120901	Butylate	2.69	Spike	P	0 - 30
2120901	Chlorpyrifos Ethyl	1.05	Spike	P	0 - 30
2120901	Chlorpyrifos Methyl	7.08	Spike	P	0 - 30
2120901	Cyanazine	34.2	Spike	F	0 - 30
2120901	Demeton	16.7	Spike	P	0 - 30
2120901	Diazinon	15.2	Spike	P	0 - 30
2120901	Dimethenamid	10.3	Spike	P	0 - 30
2120901	Disulfoton	18.2	Spike	P	0 - 30
2120901	Dithiopyr	4.21	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P371188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120901	EPTC	0.0661	Spike	P	0 - 30
2120901	Ethion	3.93	Spike	P	0 - 30
2120901	Ethoprop	12.1	Spike	P	0 - 30
2120901	Fenamiphos	12.0	Spike	P	0 - 30
2120901	Fipronil	2.12	Spike	P	0 - 30
2120901	Fipronil Desulfinyl	7.34	Spike	P	0 - 30
2120901	Fipronil Sulfide	14.2	Spike	P	0 - 30
2120901	Fipronil Sulfone	13.0	Spike	P	0 - 30
2120901	Fonofos	16.7	Spike	P	0 - 30
2120901	Hexazinone	7.33	Spike	P	0 - 30
2120901	Malathion	0.670	Spike	P	0 - 30
2120901	Metaxyl	1.28	Spike	P	0 - 30
2120901	Metolachlor	7.13	Spike	P	0 - 30
2120901	Metribuzin	42.4	Spike	F	0 - 30
2120901	Mevinphos	1.96	Spike	P	0 - 30
2120901	Molinate	3.53	Spike	P	0 - 30
2120901	Norflurazon	1.53	Spike	P	0 - 30
2120901	Oxadiazon	0.678	Spike	P	0 - 30
2120901	Parathion Ethyl	2.30	Spike	P	0 - 30
2120901	Parathion Methyl	0.996	Spike	P	0 - 30
2120901	Pendimethalin	8.19	Spike	P	0 - 30
2120901	Phorate	12.6	Spike	P	0 - 30
2120901	Prodiamine	5.95	Spike	P	0 - 30
2120901	Prometon	1.05	Spike	P	0 - 30
2120901	Prometryn	12.6	Spike	P	0 - 30
2120901	Simazine	0.805	Spike	P	0 - 30
2120901	Tebuconazole	25.4	Spike	P	0 - 30
2120901	Terbufos	16.7	Spike	P	0 - 30
2120901	Terbutylazine	2.49	Spike	P	0 - 30
LFB	Acetochlor	9.82	LCS	P	0 - 30
LFB	Alachlor	11.8	LCS	P	0 - 30
LFB	Ametryn	13.6	LCS	P	0 - 30
LFB	Atrazine	6.07	LCS	P	0 - 30
LFB	Atrazine Desethyl	40.6	LCS	F	0 - 30
LFB	Azinphos Methyl	10.9	LCS	P	0 - 30
LFB	Bromacil	9.51	LCS	P	0 - 30
LFB	Butylate	25.9	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	7.36	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	19.2	LCS	P	0 - 30
LFB	Cyanazine	42.9	LCS	F	0 - 30
LFB	Demeton	12.3	LCS	P	0 - 30
LFB	Diazinon	16.5	LCS	P	0 - 30
LFB	Dimethenamid	13.3	LCS	P	0 - 30
LFB	Disulfoton	22.1	LCS	P	0 - 30
LFB	Dithiopyr	7.75	LCS	P	0 - 30
LFB	EPTC	8.48	LCS	P	0 - 30
LFB	Ethion	25.5	LCS	P	0 - 30
LFB	Ethoprop	24.4	LCS	P	0 - 30
LFB	Fenamiphos	14.8	LCS	P	0 - 30
LFB	Fipronil	27.9	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	5.08	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P371188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	8.04	LCS	P	0 - 30
LFB	Fipronil Sulfone	24.3	LCS	P	0 - 30
LFB	Fonofos	27.8	LCS	P	0 - 30
LFB	Hexazinone	0.656	LCS	P	0 - 30
LFB	Malathion	2.03	LCS	P	0 - 30
LFB	Metalaxyl	2.14	LCS	P	0 - 30
LFB	Metolachlor	5.44	LCS	P	0 - 30
LFB	Metribuzin	62.6	LCS	F	0 - 30
LFB	Mevinphos	21.6	LCS	P	0 - 30
LFB	Molinate	14.8	LCS	P	0 - 30
LFB	Norflurazon	10.0	LCS	P	0 - 30
LFB	Oxadiazon	1.49	LCS	P	0 - 30
LFB	Parathion Ethyl	6.22	LCS	P	0 - 30
LFB	Parathion Methyl	13.6	LCS	P	0 - 30
LFB	Pendimethalin	3.16	LCS	P	0 - 30
LFB	Phorate	16.4	LCS	P	0 - 30
LFB	Prodiamine	9.08	LCS	P	0 - 30
LFB	Prometon	8.25	LCS	P	0 - 30
LFB	Prometryn	15.6	LCS	P	0 - 30
LFB	Simazine	8.98	LCS	P	0 - 30
LFB	Tebuconazole	38.7	LCS	F	0 - 30
LFB	Terbufos	24.2	LCS	P	0 - 30
LFB	Terbuthylazine	4.00	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P371132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121419	2,4-D	4.44	Spike	P	0 - 30
2121419	Acetaminophen	4.87	Spike	P	0 - 30
2121419	Acetamiprid	1.41	Spike	P	0 - 30
2121419	Afidopyropen	26.8	Spike	P	0 - 30
2121419	Benzovindiflupyr	1.02	Spike	P	0 - 30
2121419	Carbamazepine	0.853	Spike	P	0 - 30
2121419	Clothianidin	12.3	Spike	P	0 - 30
2121419	Dinotefuran	0.235	Spike	P	0 - 30
2121419	Diuron	1.55	Spike	P	0 - 30
2121419	Fenuron	0.877	Spike	P	0 - 30
2121419	Fluridone	1.16	Spike	P	0 - 30
2121419	Hydrocodone	4.45	Spike	P	0 - 30
2121419	Ibuprofen	0.934	Spike	P	0 - 30
2121419	Imazapyr	7.44	Spike	P	0 - 30
2121419	Imidacloprid	4.37	Spike	P	0 - 30
2121419	Linuron	1.27	Spike	P	0 - 30
2121419	Mandestrobin	2.24	Spike	P	0 - 30
2121419	MCP	3.72	Spike	P	0 - 30
2121419	Naproxen	12.5	Spike	P	0 - 30
2121419	Primidone	2.63	Spike	P	0 - 30
2121419	Pyraclostrobin	0.502	Spike	P	0 - 30
2121419	Thiamethoxam	0.693	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P371132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121419	Tolfenpyrad	7.61	Spike	P	0 - 30
2121419	Triclopyr	22.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P371269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121760	Acesulfame K	0.501	Spike	P	0 - 30
2121760	AMPA	1.20	Spike	P	0 - 30
2121760	Endothall	1.68	Spike	P	0 - 30
2121760	Glufosinate	12.6	Spike	P	0 - 30
2121760	Glyphosate	8.56	Spike	P	0 - 30
2121760	Sucralose	6.73	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P371251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121910	Color (true)	2.74	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121762	Total Alkalinity	0.0776	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P371617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121802	TDS	4.83	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121762	Fluoride	1.45	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P371372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121994	Organic Carbon	2.45	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2121853
Field Sample ID: 19010063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	66.7	P	30 - 160
EPA 8321B	Bentazon-d7	32.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.4	P	30 - 160
EPA 8321B	Diuron-d6	62.5	P	30 - 160
EPA 8321B	Endothall-d6	135	P	30 - 160
EPA 8321B	Endothall-d6	135	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.9	P	30 - 160
EPA 8321B	Primidone-d5	67.1	P	30 - 160
EPA 8321B	Sucralose-d6	97.8	P	30 - 160
EPA 8321B	Sucralose-d6	97.8	P	30 - 160

Lab Sample ID: 2121855
Field Sample ID: 19010063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	85.5	P	68 - 130
EPA 8270E	Terbufos-d10	92.8	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94452

Included Lab Sample IDs: 2121845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.9	98.9	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94462

Included Lab Sample IDs: 2121845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94463

Included Lab Sample IDs: 2121847

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	98.3	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A94469

Included Lab Sample IDs: 2121845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	90 - 115

Reference Method: SM 5310 B-00

Run ID: A94516

Included Lab Sample IDs: 2121846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	93.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94525

Included Lab Sample IDs: 2121846

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

Reference Method: EPA 8321B

Run ID: A94527

Included Lab Sample IDs: 2121853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	97.1	P/P	60 - 160
Glufosinate	95.1	82.5	P/P	60 - 160
Glyphosate	93.1	96.2	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A94534
Included Lab Sample IDs: 2121853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	78.8	106	P/P	50 - 150
Acetaminophen	117	111	P/P	60 - 160
Acetamiprid	113	116	P/P	50 - 150
Afidopyropen	98.8	122	P/P	50 - 150
Bentazon	103	103	P/P	50 - 160
Benzovindiflupyr	103	111	P/P	50 - 150
Carbamazepine	122	125	P/P	60 - 150
Clothianidin	120	120	P/P	60 - 150
Dinotefuran	104	98.4	P/P	50 - 150
Diuron	106	104	P/P	60 - 150
Fenuron	112	115	P/P	60 - 150
Fluridone	109	113	P/P	60 - 160
Hydrocodone	113	114	P/P	60 - 150
Ibuprofen	91.5	105	P/P	50 - 160
Imazapyr	90.1	99.1	P/P	50 - 150
Imidacloprid	106	110	P/P	60 - 150
Linuron	102	106	P/P	60 - 150
Mandestrobin	115	117	P/P	50 - 150
MCPP	98.5	106	P/P	50 - 150
Naproxen	92.9	132	P/P	50 - 160
Primidone	111	111	P/P	60 - 150
Pyraclostrobin	107	118	P/P	60 - 150
Thiamethoxam	109	113	P/P	50 - 150
Tolfenpyrad	106	114	P/P	60 - 150
Triclopyr	106	97.3	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A94549
Included Lab Sample IDs: 2121853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.5	95.0	P/P	60 - 160
Endothall	104	96.8	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94550
Included Lab Sample IDs: 2121854

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	105	P/P	90 - 110
Arsenic	104	104	P/P	90 - 110
Boron	101	104	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Copper	103	104	P/P	90 - 110
Lead	99.1	100	P/P	90 - 110
Nickel	104	105	P/P	90 - 110
Selenium	103	102	P/P	90 - 110
Silver	98.9	98.9	P/P	90 - 110
Thallium	94.5	94.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94562

Included Lab Sample IDs: 2121854

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	99.3	100	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	100	100	P/P	90 - 110
Zinc	99.5	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94578

Included Lab Sample IDs: 2121846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94582

Included Lab Sample IDs: 2121845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A94582

Included Lab Sample IDs: 2121845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94586

Included Lab Sample IDs: 2121853

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	111	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94590

Included Lab Sample IDs: 2121854

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	94.4	93.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94616

Included Lab Sample IDs: 2121846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94667

Included Lab Sample IDs: 2121846

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	101	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A94789

Included Lab Sample IDs: 2121855

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	99.0		P	80 - 120
Atrazine	99.6		P	80 - 120
Atrazine Desethyl	95.5		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	96.7		P	80 - 120
Butylate	114		P	80 - 120
Chlorpyrifos Ethyl	98.3		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	87.0		P	80 - 120
Demeton	98.4		P	80 - 120
Diazinon	102		P	80 - 120
Dimethenamid	99.9		P	80 - 120
Disulfoton	99.0		P	80 - 120
Dithiopyr	99.1		P	80 - 120
EPTC	99.8		P	80 - 120
Ethion	98.1		P	80 - 120
Ethoprop	100		P	80 - 120
Fenamiphos	91.2		P	80 - 120
Fipronil	96.9		P	80 - 120
Fipronil Desulfinyl	100		P	80 - 120
Fipronil Sulfide	96.7		P	80 - 120
Fipronil Sulfone	96.6		P	80 - 120
Fonofos	94.8		P	80 - 120
Hexazinone	101		P	80 - 120
Malathion	99.8		P	80 - 120
Metaxyl	99.6		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	90.7		P	80 - 120
Mevinphos	105		P	80 - 120
Molinate	102		P	80 - 120
Norflurazon	99.0		P	80 - 120
Oxadiazon	96.9		P	80 - 120
Parathion Ethyl	97.8		P	80 - 120
Parathion Methyl	102		P	80 - 120
Pendimethalin	97.6		P	80 - 120
Phorate	96.5		P	80 - 120
Prodiamine	97.4		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	99.5		P	80 - 120
Simazine	96.7		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	96.5		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A94789

Included Lab Sample IDs: 2121855

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbutylazine	97.7		P	80 - 120

* 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			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							2.71	
EPA 200.7 Rev. 4.4	Barium	103		97.9	101	101			0.0474
	Calcium	107		103	106	107			0.844
	Iron	104		101	103	104			0.769
	Magnesium	111		105	110	111			0.671
	Potassium	102		97.2	109	108			0.544
	Sodium	107		100	107	108			0.685
	Zinc	102		99.1	99.1	99.6			0.498
EPA 200.8 Rev. 5.4	Aluminum	97.1		98.2	99.0	97.9			1.09
	Antimony	93.2		94.5	94.0	94.9			0.928
	Arsenic	101		101	101	99.8			1.57
	Boron	99.0		99.6	98.6	97.3			1.23
	Cadmium	97.9		97.8	97.1	96.6			0.489
	Chromium	97.3		96.9	97.5	95.7			1.91
	Copper	99.4		101	101	100			0.921
	Lead	93.8		95.5	95.3	94.4			0.975
	Nickel	99.8		100	99.6	99.2			0.469
	Selenium	97.0		98.6	98.0	97.3			0.739
	Silver	98.2		97.3	98.4	97.8			0.446
	Thallium	98.6		100	100	99.5			0.521
EPA 300.0 Rev. 2.1	Chloride	97.3		97.4	98.3	96.8			0.902
	Sulfate	98.2		97.5	99.7	97.4			2.21
EPA 350.1 Rev. 2.0	Ammonia-N	97.4		97.1	98.3				1.14
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.0		99.4	94.9				3.17
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103		99.4	99.4				0.0
EPA 365.1 Rev. 2.0	Total-P	98.1		95.8	95.8				0.0628
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3		94.7	95.2				0.527
EPA 8270E	Acetochlor	99.5	90.1	89.4	100		9.82		11.3
	Alachlor	98.0	87.1	88.7	97.8		11.8		9.84
	Ametryn	109	94.7	96.8	97.9		13.6		1.20
	Atrazine	105	99.0	96.9	98.5		6.07		1.60
	Atrazine Desethyl	105	69.7	73.5	85.5		40.6		15.1
	Azinphos Methyl	124	111	104	108		10.9		3.67
	Bromacil	80.3	73.0	76.8	80.2		9.51		4.30
	Butylate	63.9	83.0	57.9	56.3		25.9		2.69
	Chlorpyrifos Ethyl	98.5	91.5	90.0	91.0		7.36		1.05
	Chlorpyrifos Methyl	105	86.2	85.5	91.8		19.2		7.08
	Cyanazine	133	86.0	84.7	120		42.9		34.2
	Demeton	81.9	72.4	65.1	77.0		12.3		16.7
	Diazinon	108	91.1	86.5	101		16.5		15.2
	Dimethenamid	99.9	87.5	87.7	97.3		13.3		10.3
	Disulfoton	97.7	78.2	74.5	89.5		22.1		18.2
	Dithiopyr	99.4	92.0	92.2	96.2		7.75		4.21
	EPTC	64.1	58.9	58.2	58.2		8.48		0.0661
	Ethion	77.1	99.6	95.9	92.2		25.5		3.93
	Ethoprop	96.3	75.4	76.6	86.5		24.4		12.1
	Fenamiphos	104	90.1	92.6	82.1		14.8		12.0
	Fipronil	104	78.5	95.1	97.2		27.9		2.12
	Fipronil Desulfinyl	85.3	81.1	88.4	82.1		5.08		7.34
	Fipronil Sulfide	89.0	82.1	91.7	79.6		8.04		14.2
	Fipronil Sulfone	80.1	62.7	89.7	78.7		24.3		13.0
	Fonofos	98.2	74.2	69.6	82.3		27.8		16.7
	Hexazinone	100	99.8	101	94.3		0.656		7.33
	Malathion	97.3	95.4	98.2	97.5		2.03		0.670

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Metalaxyl	93.0	91.0	94.9	96.1	2.14	1.28
	Metolachlor	96.2	91.1	91.4	98.1	5.44	7.13
	Metribuzin	203	106	96.9	149	62.6	42.4
	Mevinphos	89.4	71.9	78.4	76.9	21.6	1.96
	Molinate	78.8	68.0	67.2	69.6	14.8	3.53
	Norflurazon	104	94.4	94.9	93.5	10.0	1.53
	Oxadiazon	99.8	98.3	97.0	96.3	1.49	0.678
	Parathion Ethyl	97.8	91.9	89.2	91.2	6.22	2.30
	Parathion Methyl	106	92.5	94.2	95.1	13.6	0.996
	Pendimethalin	90.7	87.9	81.5	88.5	3.16	8.19
	Phorate	97.6	82.8	77.8	88.3	16.4	12.6
	Prodiamine	79.6	87.2	92.6	98.2	9.08	5.95
	Prometon	95.0	87.4	92.1	91.2	8.25	1.05
	Prometryn	108	92.6	88.2	100	15.6	12.6
	Simazine	106	96.4	97.6	96.8	8.98	0.805
	Tebuconazole	62.4	92.3	95.0	73.6	38.7	25.4
	Terbufos	101	79.2	75.4	89.2	24.2	16.7
	Terbuthylazine	96.9	101	94.1	91.8	4.00	2.49
EPA 8321B	2,4-D	131		132	124		4.44
	Acesulfame K	87.8		75.8	76.2		0.501
	Acetaminophen	87.5		71.9	75.5		4.87
	Acetamiprid	95.9		110	112		1.41
	Afidopyropen	103		85.6	112		26.8
	AMPA	97.3		80.2	82.4		1.20
	Bentazon	99.0					
	Benzovindiflupyr	89.4		99.9	98.9		1.02
	Carbamazepine	119		104	105		0.853
	Clothianidin	90.4		98.5	86.7		12.3
	Dinotefuran	93.3		111	111		0.235
	Diuron	91.3		83.5	82.0		1.55
	Endothall	81.4		101	103		1.68
	Fenuron	101		83.4	84.5		0.877
	Fluridone	107					1.16
	Glufosinate	82.4		93.1	82.1		12.6
	Glyphosate	107		110	90.9		8.56
	Hydrocodone	96.4		93.2	97.4		4.45
	Ibuprofen	84.8		89.8	90.7		0.934
	Imazapyr	94.3					7.44
	Imidacloprid	116		182	192		4.37
	Linuron	76.1		75.7	76.7		1.27
	Mandestrobin	93.0		96.4	98.6		2.24
	MCPP	148		162	168		3.72
	Naproxen	83.5		90.4	102		12.5
	Primidone	87.3		97.0	99.9		2.63
	Pyraclostrobin	84.8		92.1	91.6		0.502
	Sucralose	111		129	138		6.73
	Thiamethoxam	103		142	143		0.693
	Tolfenpyrad	61.7		71.0	76.6		7.61
	Triclopyr	116		105	131		22.6
SM 2120 B	Color (true)	102				2.74	
SM 2320 B-97	Total Alkalinity	103				0.0776	
SM 2540 C-97	TDS					4.83	
SM 4500 F-C-97	Fluoride	98.8		97.2	95.5		1.45
SM 5310 B-00	Organic Carbon	104		102	97.7		2.45

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2121845
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2121854
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2121854
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2121845
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2121845
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2121846
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2121846
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2121846
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2121846
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2121847
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2121855
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2121853
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2121853
SM 2120 B / E31780	True Color measured at 450 nm	2121845
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2121845
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2121845
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2121845
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2121845
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2121846

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/24/2019			09/24/2019 16:58	Rosalyn Ballman	2121845
EPA 200.7 Rev. 4.4	09/24/2019	09/25/2019 16:55	Elliott D. Healy	09/27/2019 14:59	Betina Topolski	2121854
EPA 200.8 Rev. 5.4	09/24/2019	09/25/2019 16:55	Elliott D. Healy	09/27/2019 05:16	Robert K Palmer	2121854
	09/24/2019	09/25/2019 16:55	Elliott D. Healy	09/27/2019 15:00	Robert K Palmer	2121854
EPA 300.0 Rev. 2.1	09/24/2019			09/25/2019 19:28	Jhamieka S. Greenwood	2121845
EPA 350.1 Rev. 2.0	09/24/2019			10/02/2019 12:22	Ping Hua	2121846
EPA 351.2 Rev. 2.0	09/24/2019	09/26/2019 11:50	Sima Feizi	09/27/2019 18:46	Julia Storbeck	2121846
EPA 353.2 Rev. 2.0	09/24/2019			09/26/2019 10:51	Beverly Y. Sanders	2121846
EPA 365.1 Rev. 2.0	09/24/2019	09/27/2019 15:05	Lipi Saha	09/30/2019 08:54	Lipi Saha	2121846
EPA 365.1 Rev. 2.0 dissolved	09/24/2019			09/24/2019 16:40	Jhamieka S. Greenwood	2121847
EPA 8270E	09/24/2019	09/24/2019 13:00	Fe-Val Siddell	09/26/2019 16:42	Vandana T. Nagar	2121855
EPA 8321B	09/24/2019	09/24/2019 13:10	Hoor Shaik	09/25/2019 14:24	Juyoung Kim	2121853
	09/24/2019	09/25/2019 11:30	Rebecca Ware	09/25/2019 16:13	Rebecca Ware	2121853
	09/24/2019	09/25/2019 11:30	Rebecca Ware	09/26/2019 18:15	Rebecca Ware	2121853
	09/24/2019	09/25/2019 11:30	Rebecca Ware	09/27/2019 22:33	Rebecca Ware	2121853
SM 2120 B	09/24/2019			09/24/2019 17:59	Madeline Funaro	2121845
SM 2320 B-97	09/24/2019			09/28/2019 16:12	Dale L. Simmons	2121845
SM 2540 C-97	09/24/2019			09/25/2019 14:25	Yijie Li	2121845
SM 2540 D-97	09/24/2019			09/25/2019 14:25	Yijie Li	2121845
SM 4500 F-C-97	09/24/2019			09/28/2019 16:12	Dale L. Simmons	2121845
SM 5310 B-00	09/24/2019			09/26/2019 01:13	Madeline Funaro	2121846