

Chemical Analysis Report

SW-DIST-2019-10-01-01

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

Event Description: **SCIs**
Request ID: **RQ-2019-09-23-12**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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

Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-OCT-2019 17:06

A handwritten signature in black ink, appearing to read "Liang Lin", 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: HILLS RIVER SW OF CR39

Collection Date/Time: 09/30/2019 11:30

Field ID: G2SW0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2123602	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P371670	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P372202	
		Sulfate	16		mg SO4/L	P372206	
	SM 2120 B	Color (true)	60		PCU	P371654	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P371888	
	SM 2540 C-97	TDS	197		mg/L	P372030	
	SM 2540 D-97	TSS	2	I	mg/L	P372070	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P371891	
2123603	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P372136	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P371705	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P371709	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P371724	
	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P371777	
2123604	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.088		mg P/L	P371685	
2123614	EPA 8321B	2,4-D	0.0020	U	ug/L	P371702	
		Acesulfame K**	0.10	U	ug/L	P371761	
		AMPA**	0.12	I	ug/L	P371761	
		Sucralose**	0.010	U	ug/L	P371761	
		Acetaminophen**	0.0080	U	ug/L	P371702	
		Acetamiprid**	0.0020	U	ug/L	P371702	
		Endothall**	0.25	U	ug/L	P371761	
		Glufosinate**	0.10	U	ug/L	P371761	
		Glyphosate**	0.10	U	ug/L	P371761	
		Afidopyropen**	0.0020	UJ	ug/L	P371702	
		Bentazon	8.0E-04	U	ug/L	P371702	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P371702	
		Carbamazepine**	8.0E-04	U	ug/L	P371702	
		Clothianidin**	0.0020	U	ug/L	P371702	
		Dinotefuran**	0.0020	U	ug/L	P371702	
		Diuron	0.0020	U	ug/L	P371702	
		Fenuron	0.016	U	ug/L	P371702	
		Fluridone**	8.0E-04	U	ug/L	P371702	
		Imazapyr**	0.0040	U	ug/L	P371702	
		Hydrocodone**	0.0020	U	ug/L	P371702	
		Ibuprofen**	0.020	U	ug/L	P371702	
		Imidacloprid	0.0020	U	ug/L	P371702	
		Linuron	0.0040	U	ug/L	P371702	
		Mandestrobin**	0.0020	UJ	ug/L	P371702	
		MCP	0.0020	U	ug/L	P371702	
		Naproxen**	0.0080	U	ug/L	P371702	
		Primidone**	0.0040	U	ug/L	P371702	
		Pyraclostrobin**	0.0020	U	ug/L	P371702	
		Thiamethoxam**	0.0020	U	ug/L	P371702	

Field ID: G2SW0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2123614	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P371702	
		Triclopyr**	0.0040	U	ug/L	P371702	
2123615	EPA 200.7 Rev. 4.4	Barium	9.0		ug/L	P371653	
		Calcium	60.5		mg/L	P371653	
		Iron	430		ug/L	P371653	
		Magnesium	4.16		mg/L	P371653	
		Potassium	0.78	I	mg/L	P371653	
		Sodium	7.6		mg/L	P371653	
		Zinc	5.0	U	ug/L	P371653	
	EPA 200.8 Rev. 5.4	Aluminum	29		ug/L	P371653	
		Antimony	0.34		ug/L	P371653	
		Arsenic	0.92		ug/L	P371653	
		Boron**	22.9		ug/L	P371653	
		Cadmium	0.020	U	ug/L	P371653	
		Chromium	0.40	U	ug/L	P371653	
		Copper	0.40	U	ug/L	P371653	
		Lead	0.20	U	ug/L	P371653	
		Nickel	0.60	I	ug/L	P371653	
		Selenium	1.69		ug/L	P371653	
		Silver	0.010	U	ug/L	P371653	
		Thallium	0.10	U	ug/L	P371653	
2123616	EPA 8270E	Acetochlor	0.25	U	ng/L	P371606	
		Alachlor	0.25	U	ng/L	P371606	
		Ametryn	0.61	U	ng/L	P371606	
		Atrazine	1.0	I	ng/L	P371606	
		Atrazine Desethyl	1.5	U	ng/L	P371606	
		Azinphos Methyl	5.1	U	ng/L	P371606	
		Bromacil	0.51	U	ng/L	P371606	
		Butylate	0.41	U	ng/L	P371606	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P371606	
		Chlorpyrifos Methyl	0.10	U	ng/L	P371606	
		Cyanazine	3.3	U	ng/L	P371606	
		Demeton	7.1	U	ng/L	P371606	
		Diazinon	0.13	U	ng/L	P371606	
		Dimethenamid**	0.10	U	ng/L	P371606	
		Disulfoton	0.51	U	ng/L	P371606	
		Dithiopyr**	0.10	U	ng/L	P371606	
		EPTC	1.3	U	ng/L	P371606	
		Ethion	0.15	U	ng/L	P371606	
		Ethoprop	0.10	U	ng/L	P371606	
		Fenamiphos	0.51	U	ng/L	P371606	
		Fipronil	0.25	U	ng/L	P371606	
		Fipronil Desulfinyl**	0.13	U	ng/L	P371606	
		Fipronil Sulfide	0.15	U	ng/L	P371606	
		Fipronil Sulfone	0.15	U	ng/L	P371606	

Field ID: G2SW0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2123616	EPA 8270E	Fonofos	0.20	U	ng/L	P371606	
		Hexazinone	9.3	J	ng/L	P371606	RPD
		Malathion	0.36	U	ng/L	P371606	
		Metaxyl	0.31	U	ng/L	P371606	
		Metolachlor	0.51	U	ng/L	P371606	
		Metribuzin	0.76	U	ng/L	P371606	
		Mevinphos	0.51	U	ng/L	P371606	
		Molinate	0.31	U	ng/L	P371606	
		Norflurazon	0.51	U	ng/L	P371606	
		Oxadiazon**	0.10	U	ng/L	P371606	MS
		Parathion Ethyl	0.25	U	ng/L	P371606	
		Parathion Methyl	0.56	U	ng/L	P371606	
		Pendimethalin	1.0	U	ng/L	P371606	
		Phorate	0.25	U	ng/L	P371606	
		Prodiamine**	0.18	U	ng/L	P371606	MS, RPD
		Prometon	0.92	U	ng/L	P371606	
		Prometryn	0.20	U	ng/L	P371606	
		Simazine	0.51	U	ng/L	P371606	
		Tebuconazole**	0.51	U	ng/L	P371606	
		Terbufos	0.10	U	ng/L	P371606	
		Terbuthylazine	0.43	U	ng/L	P371606	

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 bentazon, fluridone and imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: Reported result J qualified for hexazinone due to internal standard recoveries exceeding control limits.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371670

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371653

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: P371653

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: P372202

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372206

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372136

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: P371705

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371709

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371724

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P371685

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

Reference Method: EPA 8270E
 Batch ID: P371606

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: P371606

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: P371702

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: P371761

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P371761

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: P371654

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P371888

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

Reference Method: SM 2540 C-97
Batch ID: P372030

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P372070

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371891

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371777

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: P371653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	95.9		P	85 - 115
Calcium	104		P	85 - 115
Iron	100		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	107		P	85 - 115
Sodium	99.3		P	85 - 115
Zinc	93.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	105		P	85 - 115
Arsenic	103		P	85 - 115
Boron	104		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	101		P	85 - 115
Copper	101		P	85 - 115
Lead	104		P	85 - 115
Nickel	101		P	85 - 115
Selenium	102		P	85 - 115
Silver	102		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372202

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372206

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371705

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371724

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.9		P	90 - 110

Reference Method: EPA 8270E
Batch ID: P371606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	84.0	92.1	P/P	69 - 122
Alachlor	80.8	90.6	P/P	71 - 120
Ametryn	84.7	91.9	P/P	47 - 138
Atrazine	106	108	P/P	74 - 124
Atrazine Desethyl	74.5	89.5	P/P	38 - 138
Azinphos Methyl	86.5	71.6	P/P	69 - 154
Bromacil	94.0	107	P/P	39 - 121
Butylate	65.8	71.7	P/P	27 - 87.0
Chlorpyrifos Ethyl	83.3	97.3	P/P	69 - 118
Chlorpyrifos Methyl	83.9	94.5	P/P	70 - 120
Cyanazine	94.7	109	P/P	20 - 250
Demeton	81.1	90.2	P/P	39 - 118
Diazinon	83.5	94.4	P/P	68 - 127
Dimethenamid	86.7	96.7	P/P	66 - 125
Disulfoton	72.5	78.6	P/P	52 - 126
Dithiopyr	81.0	93.7	P/P	67 - 127
EPTC	61.1	69.2	P/P	24 - 88.0
Ethion	64.3	81.5	P/P	51 - 132
Ethoprop	80.5	91.8	P/P	58 - 117
Fenamiphos	84.8	103	P/P	38 - 139
Fipronil	79.0	92.4	P/P	61 - 124
Fipronil Desulfinyl	72.4	87.4	P/P	47 - 120
Fipronil Sulfide	78.9	93.7	P/P	56 - 119
Fipronil Sulfone	76.8	89.3	P/P	50 - 117
Fonofos	78.9	88.7	P/P	60 - 121
Hexazinone	84.5	101	P/P	55 - 137
Malathion	94.8	109	P/P	66 - 126
Metalaxyl	82.1	91.6	P/P	33 - 140
Metolachlor	81.7	92.8	P/P	69 - 119
Metribuzin	111	130	P/P	31 - 238
Mevinphos	90.4	102	P/P	42 - 113
Molinate	76.2	85.8	P/P	32 - 96.0
Norflurazon	85.4	96.6	P/P	54 - 123
Oxadiazon	74.7	87.0	P/P	63 - 128

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P371606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	85.3	101	P/P	72 - 111
Parathion Methyl	91.3	107	P/P	74 - 126
Pendimethalin	78.4	85.0	P/P	61 - 131
Phorate	78.0	88.0	P/P	51 - 115
Prodiamine	54.1	51.5	P/P	38 - 144
Prometon	78.4	90.4	P/P	54 - 119
Prometryn	78.9	92.3	P/P	63 - 120
Simazine	109	123	P/P	75 - 126
Tebuconazole	45.2	56.7	P/P	20 - 119
Terbufos	81.2	93.5	P/P	64 - 116
Terbuthylazine	82.1	98.6	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P371702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	133		P	40 - 160
Acetaminophen	77.9		P	30 - 160
Acetamiprid	94.7		P	40 - 160
Afidopyropen	75.4		P	40 - 160
Bentazon	107		P	30 - 160
Benzovindiflupyr	88.8		P	40 - 160
Carbamazepine	101		P	40 - 160
Clothianidin	90.3		P	40 - 160
Dinotefuran	80.1		P	40 - 160
Diuron	107		P	40 - 160
Fenuron	93.8		P	40 - 160
Fluridone	89.2		P	40 - 160
Hydrocodone	88.7		P	40 - 160
Ibuprofen	75.2		P	30 - 160
Imazapyr	94.9		P	40 - 160
Imidacloprid	96.9		P	40 - 160
Linuron	70.9		P	40 - 160
Mandestrobin	76.8		P	40 - 160
MCPP	131		P	40 - 160
Naproxen	68.9		P	40 - 160
Primidone	91.7		P	40 - 160
Pyraclostrobin	88.7		P	30 - 160
Thiamethoxam	97.2		P	40 - 160
Tolfenpyrad	46.7		P	40 - 160
Triclopyr	108		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P371761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	112		P	40 - 150
Endothall	86.8		P	40 - 150
Glufosinate	103		P	40 - 150
Glyphosate	97.9		P	40 - 140
Sucralose	74.3		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P371654

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P371888

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

Reference Method: SM 4500 F-C-97
Batch ID: P371891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371777

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123551	Barium	97.3	97.9	P/P	80 - 120
2123551	Calcium	106	107	P/P	80 - 120
2123551	Iron	105	106	P/P	80 - 120
2123551	Magnesium	110	111	P/P	80 - 120
2123551	Potassium	106	105	P/P	80 - 120
2123551	Sodium	98.7		P	80 - 120
2123551	Zinc	97.0	97.6	P/P	80 - 120
2123615	Barium	96.6		P	80 - 120
2123615	Calcium	102		P	80 - 120
2123615	Iron	104		P	80 - 120
2123615	Magnesium	106		P	80 - 120
2123615	Potassium	109		P	80 - 120
2123615	Sodium	99.8		P	80 - 120
2123615	Zinc	95.6		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123551	Aluminum	107	106	P/P	80 - 120
2123551	Antimony	104	103	P/P	80 - 120
2123551	Arsenic	103	103	P/P	80 - 120
2123551	Boron	110	109	P/P	80 - 120
2123551	Cadmium	99.9	99.1	P/P	80 - 120
2123551	Chromium	95.4	96.1	P/P	80 - 120
2123551	Copper	103	102	P/P	80 - 120
2123551	Lead	106	104	P/P	80 - 120
2123551	Nickel	100	100	P/P	80 - 120
2123551	Selenium	104	101	P/P	80 - 120
2123551	Silver	103	100	P/P	80 - 120
2123551	Thallium	110	109	P/P	80 - 120
2123615	Aluminum	101		P	80 - 120
2123615	Antimony	105		P	80 - 120
2123615	Arsenic	103		P	80 - 120
2123615	Boron	104		P	80 - 120
2123615	Cadmium	101		P	80 - 120
2123615	Chromium	99.2		P	80 - 120
2123615	Copper	100		P	80 - 120
2123615	Lead	103		P	80 - 120
2123615	Nickel	98.2		P	80 - 120
2123615	Selenium	99.0		P	80 - 120
2123615	Silver	101		P	80 - 120
2123615	Thallium	109		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123582	Chloride	100	101	P/P	90 - 110
2123666	Chloride	100		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123582	Sulfate	102	102	P/P	90 - 110
2123666	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123548	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123639	Kjeldahl Nitrogen	92.8	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123603	NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123572	Total-P	97.6	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123539	O-Phosphate-P	96.2	97.8	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P371606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123062	Acetochlor	94.0	73.8	P/P	63 - 129
2123062	Alachlor	91.3	73.0	P/P	65 - 127
2123062	Ametryn	97.4	77.3	P/P	40 - 164
2123062	Atrazine	106	79.2	P/P	66 - 135
2123062	Atrazine Desethyl	135	103	P/P	14 - 157
2123062	Azinphos Methyl	106	92.1	P/P	49 - 180
2123062	Bromacil	92.2	84.7	P/P	48 - 130
2123062	Butylate	57.1	45.9	P/P	10 - 94.0
2123062	Chlorpyrifos Ethyl	92.2	71.9	P/P	58 - 123
2123062	Chlorpyrifos Methyl	84.3	67.4	P/P	58 - 125
2123062	Cyanazine	175	131	P/P	24 - 253
2123062	Demeton	89.0	68.6	P/P	25 - 149
2123062	Diazinon	108	83.6	P/P	59 - 144
2123062	Dimethenamid	89.9	71.9	P/P	46 - 139
2123062	Disulfoton	98.6	73.9	P/P	54 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P371606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123062	Dithiopyr	94.9	74.7	P/P	64 - 130
2123062	EPTC	59.9	49.0	P/P	10 - 92.0
2123062	Ethion	36.7	31.6	P/P	30 - 148
2123062	Ethoprop	98.1	73.4	P/P	50 - 130
2123062	Fenamiphos	120	94.9	P/P	49 - 142
2123062	Fipronil	99.3	82.6	P/P	46 - 140
2123062	Fipronil Desulfinyl	85.1	69.4	P/P	30 - 121
2123062	Fipronil Sulfide	76.4	62.6	P/P	31 - 136
2123062	Fipronil Sulfone	74.6	63.2	P/P	16 - 136
2123062	Fonofos	94.4	72.0	P/P	55 - 129
2123062	Hexazinone	119	80.4	P/P	56 - 141
2123062	Malathion	78.5	61.8	P/P	56 - 135
2123062	Metalaxyl	88.5	74.6	P/P	54 - 135
2123062	Metolachlor	80.8	65.2	P/P	51 - 140
2123062	Metribuzin	130	100	P/P	45 - 254
2123062	Mevinphos	99.2	79.3	P/P	33 - 131
2123062	Molinate	82.5	65.4	P/P	14 - 98.0
2123062	Norflurazon	91.2	75.8	P/P	34 - 136
2123062	Oxadiazon	80.1	64.9	P/F	67 - 116
2123062	Parathion Ethyl	78.8	67.3	P/P	66 - 118
2123062	Parathion Methyl	98.8	79.5	P/P	64 - 136
2123062	Pendimethalin	93.3	72.6	P/P	59 - 144
2123062	Phorate	98.7	75.5	P/P	42 - 130
2123062	Prodiamine	40.3	29.7	F/F	42 - 148
2123062	Prometon	88.4	69.1	P/P	59 - 134
2123062	Prometryn	92.2	73.2	P/P	54 - 135
2123062	Simazine	105	78.9	P/P	53 - 156
2123062	Tebuconazole	29.0	28.1	P/P	10 - 131
2123062	Terbufos	104	77.3	P/P	57 - 131
2123062	Terbutylazine	97.0	73.8	P/P	68 - 125

Reference Method: EPA 8321B
Batch ID: P371702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123652	2,4-D	113	116	P/P	40 - 160
2123652	Acetaminophen	63.6	64.7	P/P	30 - 160
2123652	Acetamiprid	103	98.0	P/P	40 - 160
2123652	Afidopyropen	80.4	80.1	P/P	40 - 160
2123652	Benzovindiflupyr	86.1	84.6	P/P	40 - 160
2123652	Carbamazepine	84.2	88.5	P/P	40 - 160
2123652	Clothianidin	83.6	83.0	P/P	40 - 160
2123652	Dinotefuran	84.5	94.8	P/P	40 - 160
2123652	Diuron	88.4	99.1	P/P	40 - 160
2123652	Fenuron	88.9	89.4	P/P	40 - 160
2123652	Hydrocodone	92.6	92.5	P/P	40 - 160
2123652	Ibuprofen	69.9	64.3	P/P	30 - 160
2123652	Imidacloprid	156	132	P/P	40 - 160
2123652	Linuron	63.1	61.2	P/P	40 - 160
2123652	Mandestrobin	73.6	76.5	P/P	40 - 160
2123652	MCP	127	115	P/P	40 - 160
2123652	Naproxen	60.4	63.6	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P371702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123652	Primidone	84.1	97.8	P/P	40 - 160
2123652	Pyraclostrobin	88.0	95.8	P/P	30 - 160
2123652	Thiamethoxam	103	129	P/P	40 - 160
2123652	Tolfenpyrad	61.1	62.1	P/P	40 - 160
2123652	Triclopyr	78.4	101	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P371761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123614	Acesulfame K	68.3	69.1	P/P	40 - 150
2123614	AMPA	56.2	57.1	P/P	40 - 150
2123614	Endothall	55.1	63.4	P/P	40 - 150
2123614	Glufosinate	67.8	80.6	P/P	40 - 150
2123614	Glyphosate	95.8	78.2	P/P	40 - 140
2123614	Sucralose	74.0	72.1	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P371891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123040	Fluoride	97.9	97.3	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371777

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2123636	Organic Carbon	96.4	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123635	Turbidity	1.61	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123551	Barium	0.694	Spike	P	0 - 20
2123551	Calcium	1.07	Spike	P	0 - 20
2123551	Iron	1.55	Spike	P	0 - 20
2123551	Magnesium	0.723	Spike	P	0 - 20
2123551	Potassium	0.928	Spike	P	0 - 20
2123551	Sodium	0.311	Spike	P	0 - 20
2123551	Zinc	0.601	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123551	Aluminum	0.531	Spike	P	0 - 20
2123551	Antimony	1.10	Spike	P	0 - 20
2123551	Arsenic	0.110	Spike	P	0 - 20
2123551	Boron	0.350	Spike	P	0 - 20
2123551	Cadmium	0.790	Spike	P	0 - 20
2123551	Chromium	0.718	Spike	P	0 - 20
2123551	Copper	0.202	Spike	P	0 - 20
2123551	Lead	1.05	Spike	P	0 - 20
2123551	Nickel	0.0299	Spike	P	0 - 20
2123551	Selenium	3.51	Spike	P	0 - 20
2123551	Silver	2.32	Spike	P	0 - 20
2123551	Thallium	0.471	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123582	Chloride	0.178	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P372206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123582	Sulfate	0.282	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123548	Ammonia-N	0.460	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123639	Kjeldahl Nitrogen	6.97	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123603	NO2NO3-N	0.312	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123572	Total-P	1.68	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123539	O-Phosphate-P	1.41	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P371606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123062	Acetochlor	24.1	Spike	P	0 - 30
2123062	Alachlor	22.3	Spike	P	0 - 30
2123062	Ametryn	23.0	Spike	P	0 - 30
2123062	Atrazine	27.0	Spike	P	0 - 30
2123062	Atrazine Desethyl	26.3	Spike	P	0 - 30
2123062	Azinphos Methyl	14.3	Spike	P	0 - 30
2123062	Bromacil	8.46	Spike	P	0 - 30
2123062	Butylate	21.6	Spike	P	0 - 30
2123062	Chlorpyrifos Ethyl	24.7	Spike	P	0 - 30
2123062	Chlorpyrifos Methyl	22.3	Spike	P	0 - 30
2123062	Cyanazine	28.8	Spike	P	0 - 30
2123062	Demeton	25.9	Spike	P	0 - 30
2123062	Diazinon	25.2	Spike	P	0 - 30
2123062	Dimethenamid	22.2	Spike	P	0 - 30
2123062	Disulfoton	28.6	Spike	P	0 - 30
2123062	Dithiopyr	23.9	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P371606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123062	EPTC	20.0	Spike	P	0 - 30
2123062	Ethion	14.9	Spike	P	0 - 30
2123062	Ethoprop	28.8	Spike	P	0 - 30
2123062	Fenamiphos	23.1	Spike	P	0 - 30
2123062	Fipronil	18.4	Spike	P	0 - 30
2123062	Fipronil Desulfinyl	20.3	Spike	P	0 - 30
2123062	Fipronil Sulfide	19.8	Spike	P	0 - 30
2123062	Fipronil Sulfone	16.5	Spike	P	0 - 30
2123062	Fonofos	27.0	Spike	P	0 - 30
2123062	Hexazinone	38.3	Spike	F	0 - 30
2123062	Malathion	23.9	Spike	P	0 - 30
2123062	Metaxyl	17.0	Spike	P	0 - 30
2123062	Metolachlor	21.5	Spike	P	0 - 30
2123062	Metribuzin	26.0	Spike	P	0 - 30
2123062	Mevinphos	22.3	Spike	P	0 - 30
2123062	Molinate	23.2	Spike	P	0 - 30
2123062	Norflurazon	18.4	Spike	P	0 - 30
2123062	Oxadiazon	20.9	Spike	P	0 - 30
2123062	Parathion Ethyl	15.8	Spike	P	0 - 30
2123062	Parathion Methyl	21.6	Spike	P	0 - 30
2123062	Pendimethalin	24.9	Spike	P	0 - 30
2123062	Phorate	26.6	Spike	P	0 - 30
2123062	Prodiamine	30.2	Spike	F	0 - 30
2123062	Prometon	24.5	Spike	P	0 - 30
2123062	Prometryn	22.9	Spike	P	0 - 30
2123062	Simazine	28.6	Spike	P	0 - 30
2123062	Tebuconazole	3.15	Spike	P	0 - 30
2123062	Terbufos	29.3	Spike	P	0 - 30
2123062	Terbutylazine	27.2	Spike	P	0 - 30
LFB	Acetochlor	9.22	LCS	P	0 - 30
LFB	Alachlor	11.4	LCS	P	0 - 30
LFB	Ametryn	8.19	LCS	P	0 - 30
LFB	Atrazine	1.49	LCS	P	0 - 30
LFB	Atrazine Desethyl	18.3	LCS	P	0 - 30
LFB	Azinphos Methyl	18.9	LCS	P	0 - 30
LFB	Bromacil	12.8	LCS	P	0 - 30
LFB	Butylate	8.63	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	15.5	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	11.9	LCS	P	0 - 30
LFB	Cyanazine	14.2	LCS	P	0 - 30
LFB	Demeton	10.6	LCS	P	0 - 30
LFB	Diazinon	12.3	LCS	P	0 - 30
LFB	Dimethenamid	11.0	LCS	P	0 - 30
LFB	Disulfoton	8.12	LCS	P	0 - 30
LFB	Dithiopyr	14.5	LCS	P	0 - 30
LFB	EPTC	12.5	LCS	P	0 - 30
LFB	Ethion	23.6	LCS	P	0 - 30
LFB	Ethoprop	13.1	LCS	P	0 - 30
LFB	Fenamiphos	19.3	LCS	P	0 - 30
LFB	Fipronil	15.6	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	18.8	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P371606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	17.2	LCS	P	0 - 30
LFB	Fipronil Sulfone	15.1	LCS	P	0 - 30
LFB	Fonofos	11.6	LCS	P	0 - 30
LFB	Hexazinone	17.7	LCS	P	0 - 30
LFB	Malathion	13.7	LCS	P	0 - 30
LFB	Metalaxyl	10.9	LCS	P	0 - 30
LFB	Metolachlor	12.7	LCS	P	0 - 30
LFB	Metribuzin	15.3	LCS	P	0 - 30
LFB	Mevinphos	11.8	LCS	P	0 - 30
LFB	Molinate	11.8	LCS	P	0 - 30
LFB	Norflurazon	12.3	LCS	P	0 - 30
LFB	Oxadiazon	15.2	LCS	P	0 - 30
LFB	Parathion Ethyl	16.5	LCS	P	0 - 30
LFB	Parathion Methyl	15.7	LCS	P	0 - 30
LFB	Pendimethalin	8.16	LCS	P	0 - 30
LFB	Phorate	12.1	LCS	P	0 - 30
LFB	Prodiamine	4.88	LCS	P	0 - 30
LFB	Prometon	14.2	LCS	P	0 - 30
LFB	Prometryn	15.6	LCS	P	0 - 30
LFB	Simazine	11.9	LCS	P	0 - 30
LFB	Tebuconazole	22.6	LCS	P	0 - 30
LFB	Terbufos	14.1	LCS	P	0 - 30
LFB	Terbuthylazine	18.3	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P371702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123652	2,4-D	1.56	Spike	P	0 - 30
2123652	Acetaminophen	1.63	Spike	P	0 - 30
2123652	Acetamiprid	5.41	Spike	P	0 - 30
2123652	Afidopyropen	0.362	Spike	P	0 - 30
2123652	Bentazon	1.32	Spike	P	0 - 30
2123652	Benzovindiflupyr	1.83	Spike	P	0 - 30
2123652	Carbamazepine	4.15	Spike	P	0 - 30
2123652	Clothianidin	0.789	Spike	P	0 - 30
2123652	Dinotefuran	11.2	Spike	P	0 - 30
2123652	Diuron	10.4	Spike	P	0 - 30
2123652	Fenuron	0.542	Spike	P	0 - 30
2123652	Fluridone	6.02	Spike	P	0 - 30
2123652	Hydrocodone	0.133	Spike	P	0 - 30
2123652	Ibuprofen	8.21	Spike	P	0 - 30
2123652	Imazapyr	2.96	Spike	P	0 - 30
2123652	Imidacloprid	14.4	Spike	P	0 - 30
2123652	Linuron	3.11	Spike	P	0 - 30
2123652	Mandestrobin	3.76	Spike	P	0 - 30
2123652	MCP	9.50	Spike	P	0 - 30
2123652	Naproxen	5.28	Spike	P	0 - 30
2123652	Primidone	15.0	Spike	P	0 - 30
2123652	Pyraclostrobin	8.51	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P371702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123652	Thiamethoxam	22.3	Spike	P	0 - 30
2123652	Tolfenpyrad	1.66	Spike	P	0 - 30
2123652	Triclopyr	25.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P371761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123614	Acesulfame K	1.13	Spike	P	0 - 30
2123614	AMPA	1.37	Spike	P	0 - 30
2123614	Endothall	14.1	Spike	P	0 - 30
2123614	Glufosinate	17.3	Spike	P	0 - 30
2123614	Glyphosate	20.3	Spike	P	0 - 30
2123614	Sucralose	2.54	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P371654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123638	Color (true)	2.10	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123040	Total Alkalinity	1.10	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P372030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123382	TDS	2.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123040	Fluoride	0.476	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P371777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2123636	Organic Carbon	0.636	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: 2123614
Field Sample ID: G2SW0077

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	57.5	P	30 - 160
EPA 8321B	Bentazon-d7	51.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.4	P	30 - 160
EPA 8321B	Diuron-d6	71.2	P	30 - 160
EPA 8321B	Endothall-d6	70.6	P	30 - 160
EPA 8321B	Endothall-d6	70.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	54.5	P	30 - 160
EPA 8321B	Primidone-d5	65.1	P	30 - 160
EPA 8321B	Sucralose-d6	74.5	P	30 - 160
EPA 8321B	Sucralose-d6	74.5	P	30 - 160

Lab Sample ID: 2123616
Field Sample ID: G2SW0077

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	122	P	68 - 130
EPA 8270E	Terbufos-d10	90.6	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A94636
Included Lab Sample IDs: 2123602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A94639
Included Lab Sample IDs: 2123602

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A94645
Included Lab Sample IDs: 2123604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A94650
Included Lab Sample IDs: 2123603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A94678
Included Lab Sample IDs: 2123603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.7	95.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A94690
Included Lab Sample IDs: 2123615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	97.8	97.9	P/P	90 - 110
Calcium	101	102	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	98.5	99.8	P/P	90 - 110
Zinc	98.1	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94699
Included Lab Sample IDs: 2123603

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94711

Included Lab Sample IDs: 2123603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94716

Included Lab Sample IDs: 2123614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.2	97.8	P/P	50 - 150
Acetaminophen	93.5	92.9	P/P	60 - 160
Acetamiprid	102	103	P/P	50 - 150
Afidopyropen	87.0	77.5	P/P	50 - 150
Bentazon	120	112	P/P	50 - 160
Benzovindiflupyr	89.0	95.5	P/P	50 - 150
Carbamazepine	99.6	99.5	P/P	60 - 150
Clothianidin	97.6	95.0	P/P	60 - 150
Dinotefuran	82.8	83.4	P/P	50 - 150
Diuron	111	112	P/P	60 - 150
Fenuron	99.6	99.4	P/P	60 - 150
Fluridone	97.2	96.9	P/P	60 - 160
Hydrocodone	87.4	86.6	P/P	60 - 150
Ibuprofen	80.6	69.0	P/P	50 - 160
Imazapyr	89.0	90.7	P/P	50 - 150
Imidacloprid	91.4	78.5	P/P	60 - 150
Linuron	87.9	91.1	P/P	60 - 150
Mandestrobin	78.3	87.0	P/P	50 - 150
MCPP	91.4	90.1	P/P	50 - 150
Naproxen	109	72.7	P/P	50 - 160
Primidone	89.7	86.8	P/P	60 - 150
Pyraclostrobin	97.1	103	P/P	60 - 150
Thiamethoxam	88.6	85.1	P/P	50 - 150
Tolfenpyrad	98.7	98.1	P/P	60 - 150
Triclopyr	102	99.6	P/P	50 - 150

Reference Method: SM 2320 B-97

Run ID: A94720

Included Lab Sample IDs: 2123602

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

Reference Method: SM 4500 F-C-97

Run ID: A94720

Included Lab Sample IDs: 2123602

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A94729
Included Lab Sample IDs: 2123614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	95.3	83.5	P/P	60 - 160
Glufosinate	78.7	69.4	P/P	60 - 160
Glyphosate	82.4	83.6	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A94730
Included Lab Sample IDs: 2123614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	142	101	P/P	60 - 160
Endothall	89.5	96.0	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A94808
Included Lab Sample IDs: 2123603

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	100	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A94810
Included Lab Sample IDs: 2123616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	96.0		P	80 - 120
Ametryn	96.4		P	80 - 120
Atrazine	106		P	80 - 120
Atrazine Desethyl	98.4		P	80 - 120
Azinphos Methyl	91.4		P	80 - 120
Bromacil	99.4		P	80 - 120
Butylate	96.5		P	80 - 120
Chlorpyrifos Ethyl	96.7		P	80 - 120
Chlorpyrifos Methyl	97.2		P	80 - 120
Cyanazine	93.1		P	80 - 120
Demeton	96.1		P	80 - 120
Diazinon	100		P	80 - 120
Dimethenamid	100		P	80 - 120
Disulfoton	92.7		P	80 - 120
Dithiopyr	97.7		P	80 - 120
EPTC	96.6		P	80 - 120
Ethion	96.4		P	80 - 120
Ethoprop	98.9		P	80 - 120
Fenamiphos	97.9		P	80 - 120
Fipronil	98.3		P	80 - 120
Fipronil Desulfinyl	98.5		P	80 - 120
Fipronil Sulfide	97.0		P	80 - 120
Fipronil Sulfone	97.6		P	80 - 120
Fonofos	98.1		P	80 - 120
Hexazinone	98.6		P	80 - 120
Malathion	95.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A94810

Included Lab Sample IDs: 2123616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Metalaxyl	100		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	91.4		P	80 - 120
Mevinphos	99.8		P	80 - 120
Molinate	98.5		P	80 - 120
Norflurazon	102		P	80 - 120
Oxadiazon	102		P	80 - 120
Parathion Ethyl	100		P	80 - 120
Parathion Methyl	97.7		P	80 - 120
Pendimethalin	93.7		P	80 - 120
Phorate	98.4		P	80 - 120
Prodiamine	93.9		P	80 - 120
Prometon	98.2		P	80 - 120
Prometryn	99.6		P	80 - 120
Simazine	103		P	80 - 120
Tebuconazole	98.5		P	80 - 120
Terbufos	95.9		P	80 - 120
Terbutylazine	100		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94830

Included Lab Sample IDs: 2123602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94848

Included Lab Sample IDs: 2123614

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	80.8	76.2	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94947

Included Lab Sample IDs: 2123615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	108	108	P/P	90 - 110
Antimony	102	102	P/P	90 - 110
Arsenic	104	105	P/P	90 - 110
Boron	108	110	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	98.4	96.9	P/P	90 - 110
Copper	105	104	P/P	90 - 110
Lead	106	106	P/P	90 - 110
Nickel	103	103	P/P	90 - 110
Silver	99.9	100	P/P	90 - 110
Thallium	102	98.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94978

Included Lab Sample IDs: 2123615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	101	101	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			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							1.61	
EPA 200.7 Rev. 4.4	Barium	95.9		97.3	97.9	96.6			0.694
	Calcium	104		106	107	102			1.07
	Iron	100		105	106	104			1.55
	Magnesium	109		106	110	111			0.723
	Potassium	107		106	105	109			0.928
	Sodium	99.3		98.7	99.8				0.311
	Zinc	93.5		97.0	97.6	95.6			0.601
EPA 200.8 Rev. 5.4	Aluminum	102		107	106	101			0.531
	Antimony	105		104	103	105			1.10
	Arsenic	103		103	103	103			0.110
	Boron	104		110	109	104			0.350
	Cadmium	101		99.9	99.1	101			0.790
	Chromium	101		95.4	96.1	99.2			0.718
	Copper	101		103	102	100			0.202
	Lead	104		106	104	103			1.05
	Nickel	101		100	100	98.2			0.0299
	Selenium	102		104	101	99.0			3.51
	Silver	102		103	100	101			2.32
	Thallium	105		110	109	109			0.471
EPA 300.0 Rev. 2.1	Chloride	98.8		100	101	100			0.178
	Sulfate	101		102	102	102			0.282
EPA 350.1 Rev. 2.0	Ammonia-N	97.9		103	103				0.460
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.5		92.8	105				6.97
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100		98.5	98.0				0.312
EPA 365.1 Rev. 2.0	Total-P	98.6		97.6	99.6				1.68
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9		96.2	97.8				1.41
EPA 8270E	Acetochlor	84.0	92.1	94.0	73.8		9.22		24.1
	Alachlor	80.8	90.6	91.3	73.0		11.4		22.3
	Ametryn	84.7	91.9	97.4	77.3		8.19		23.0
	Atrazine	106	108	106	79.2		1.49		27.0
	Atrazine Desethyl	74.5	89.5	135	103		18.3		26.3
	Azinphos Methyl	86.5	71.6	106	92.1		18.9		14.3
	Bromacil	94.0	107	92.2	84.7		12.8		8.46
	Butylate	65.8	71.7	57.1	45.9		8.63		21.6
	Chlorpyrifos Ethyl	83.3	97.3	92.2	71.9		15.5		24.7
	Chlorpyrifos Methyl	83.9	94.5	84.3	67.4		11.9		22.3
	Cyanazine	94.7	109	175	131		14.2		28.8
	Demeton	81.1	90.2	89.0	68.6		10.6		25.9
	Diazinon	83.5	94.4	108	83.6		12.3		25.2
	Dimethenamid	86.7	96.7	89.9	71.9		11.0		22.2
	Disulfoton	72.5	78.6	98.6	73.9		8.12		28.6
	Dithiopyr	81.0	93.7	94.9	74.7		14.5		23.9
	EPTC	61.1	69.2	59.9	49.0		12.5		20.0
	Ethion	64.3	81.5	36.7	31.6		23.6		14.9
	Ethoprop	80.5	91.8	98.1	73.4		13.1		28.8
	Fenamiphos	84.8	103	120	94.9		19.3		23.1
	Fipronil	79.0	92.4	99.3	82.6		15.6		18.4
	Fipronil Desulfinyl	72.4	87.4	85.1	69.4		18.8		20.3
	Fipronil Sulfide	78.9	93.7	76.4	62.6		17.2		19.8
	Fipronil Sulfone	76.8	89.3	74.6	63.2		15.1		16.5
	Fonofos	78.9	88.7	94.4	72.0		11.6		27.0
	Hexazinone	84.5	101	119	80.4		17.7		38.3
	Malathion	94.8	109	78.5	61.8		13.7		23.9

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Metalaxyl	82.1	91.6	88.5	74.6	10.9	17.0
	Metolachlor	81.7	92.8	80.8	65.2	12.7	21.5
	Metribuzin	111	130	130	100	15.3	26.0
	Mevinphos	90.4	102	99.2	79.3	11.8	22.3
	Molinate	76.2	85.8	82.5	65.4	11.8	23.2
	Norflurazon	85.4	96.6	91.2	75.8	12.3	18.4
	Oxadiazon	74.7	87.0	80.1	64.9	15.2	20.9
	Parathion Ethyl	85.3	101	78.8	67.3	16.5	15.8
	Parathion Methyl	91.3	107	98.8	79.5	15.7	21.6
	Pendimethalin	78.4	85.0	93.3	72.6	8.16	24.9
	Phorate	78.0	88.0	98.7	75.5	12.1	26.6
	Prodiamine	54.1	51.5	40.3	29.7	4.88	30.2
	Prometon	78.4	90.4	88.4	69.1	14.2	24.5
	Prometryn	78.9	92.3	92.2	73.2	15.6	22.9
	Simazine	109	123	105	78.9	11.9	28.6
	Tebuconazole	45.2	56.7	29.0	28.1	22.6	3.15
	Terbufos	81.2	93.5	104	77.3	14.1	29.3
	Terbuthylazine	82.1	98.6	97.0	73.8	18.3	27.2
EPA 8321B	2,4-D	133		113	116		1.56
	Acesulfame K	115		68.3	69.1		1.13
	Acetaminophen	77.9		63.6	64.7		1.63
	Acetamiprid	94.7		103	98.0		5.41
	Afidopyropen	75.4		80.4	80.1		0.362
	AMPA	112		56.2	57.1		1.37
	Bentazon	107					1.32
	Benzovindiflupyr	88.8		86.1	84.6		1.83
	Carbamazepine	101		84.2	88.5		4.15
	Clothianidin	90.3		83.6	83.0		0.789
	Dinotefuran	80.1		84.5	94.8		11.2
	Diuron	107		88.4	99.1		10.4
	Endothall	86.8		55.1	63.4		14.1
	Fenuron	93.8		88.9	89.4		0.542
	Fluridone	89.2					6.02
	Glufosinate	103		67.8	80.6		17.3
	Glyphosate	97.9		95.8	78.2		20.3
	Hydrocodone	88.7		92.6	92.5		0.133
	Ibuprofen	75.2		69.9	64.3		8.21
	Imazapyr	94.9					2.96
	Imidacloprid	96.9		156	132		14.4
	Linuron	70.9		63.1	61.2		3.11
	Mandestrobin	76.8		73.6	76.5		3.76
	MCPP	131		127	115		9.50
	Naproxen	68.9		60.4	63.6		5.28
	Primidone	91.7		84.1	97.8		15.0
	Pyraclostrobin	88.7		88.0	95.8		8.51
	Sucralose	74.3		74.0	72.1		2.54
	Thiamethoxam	97.2		103	129		22.3
	Tolfenpyrad	46.7		61.1	62.1		1.66
	Triclopyr	108		78.4	101		25.6
SM 2120 B	Color (true)	99.2				2.10	
SM 2320 B-97	Total Alkalinity	103				1.10	
SM 2540 C-97	TDS					2.30	
SM 4500 F-C-97	Fluoride	98.2		97.9	97.3		0.476
SM 5310 B-00	Organic Carbon	101		96.4	97.4		0.636

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2123602
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2123615
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2123615
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2123602
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2123602
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2123603
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2123603
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2123603
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2123603
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2123604
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2123616
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2123614
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2123614
SM 2120 B / E31780	True Color measured at 450 nm	2123602
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2123602
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2123602
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2123602
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2123602
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2123603

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	10/01/2019			10/01/2019 16:44	Rosalyn Ballman	2123602
EPA 200.7 Rev. 4.4	10/01/2019	10/01/2019 16:50	Elliott D. Healy	10/03/2019 10:17	Betina Topolski	2123615
EPA 200.8 Rev. 5.4	10/01/2019	10/01/2019 16:50	Elliott D. Healy	10/15/2019 05:30	Robert K Palmer	2123615
	10/01/2019	10/01/2019 16:50	Elliott D. Healy	10/16/2019 04:03	Robert K Palmer	2123615
EPA 300.0 Rev. 2.1	10/01/2019			10/08/2019 03:11	Jhamieka S. Greenwood	2123602
EPA 350.1 Rev. 2.0	10/01/2019			10/08/2019 11:55	Ping Hua	2123603
EPA 351.2 Rev. 2.0	10/01/2019	10/02/2019 11:25	Sima Feizi	10/03/2019 17:24	Julia Storbeck	2123603
EPA 353.2 Rev. 2.0	10/01/2019			10/02/2019 09:43	Beverly Y. Sanders	2123603
EPA 365.1 Rev. 2.0	10/01/2019	10/02/2019 12:14	Vijayalakshmi Reddy	10/03/2019 11:43	Lipi Saha	2123603
EPA 365.1 Rev. 2.0 dissolved	10/01/2019			10/01/2019 15:48	Virginia P. Brown	2123604
EPA 8270E	10/01/2019	10/01/2019 11:30	Rasheda Ghaffari	10/03/2019 18:16	Vandana T. Nagar	2123616
EPA 8321B	10/01/2019	10/02/2019 14:00	Hoor Shaik	10/04/2019 04:23	Juyoung Kim	2123614
	10/01/2019	10/03/2019 10:00	Rebecca Ware	10/03/2019 12:12	Rebecca Ware	2123614
	10/01/2019	10/03/2019 10:00	Rebecca Ware	10/04/2019 10:03	Rebecca Ware	2123614
	10/01/2019	10/03/2019 10:00	Rebecca Ware	10/09/2019 18:01	Rebecca Ware	2123614
SM 2120 B	10/01/2019			10/01/2019 14:07	Madeline Funaro	2123602
SM 2320 B-97	10/01/2019			10/03/2019 10:09	Dale L. Simmons	2123602
SM 2540 C-97	10/01/2019			10/02/2019 15:09	Yijie Li	2123602
SM 2540 D-97	10/01/2019			10/02/2019 15:09	Yijie Li	2123602
SM 4500 F-C-97	10/01/2019			10/03/2019 10:09	Dale L. Simmons	2123602
SM 5310 B-00	10/01/2019			10/03/2019 03:01	Madeline Funaro	2123603