

Chemical Analysis Report

NW-DIST-2021-03-31-01

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

Event Description: **SMP Bioassessment**
Request ID: **RQ-2021-03-29-13**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
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Date Certified: 20-APR-2021 09:30



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: Bear Creek @ Forest Rd 0.7 Miles West of Bear Lake **Collection Date/Time: 03/30/2021 11:20**

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235238	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P395748	
	EPA 300.0 Rev. 2.1	Chloride	2.5		mg Cl/L	P395937	
		Sulfate	0.50		mg SO4/L	P395941	
	SM 2120 B-2011	Color (true)	44		PCU	P395760	
	SM 2320 B-2011	Total Alkalinity	4.2		mg CaCO3/L	P395836	
	SM 2540 C-2011	TDS	23	I	mg/L	P396197	
	SM 2540 D-2011	TSS	2	U	mg/L	P396189	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P395839	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P396650	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P396163	
2235239	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P395864	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P395889	
	SM 5310 B-2011	Organic Carbon	3.8		mg C/L	P395933	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395745	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P395714	
2235254		Acesulfame K	0.10	U	ug/L	P395777	MS
		2,4,5-T	0.0040	U	ug/L	P395714	
		AMPA	0.10	U	ug/L	P395777	
		Sucralose	0.038	I	ug/L	P395777	
		Acetaminophen	0.0080	U	ug/L	P395714	MS
		Acetamiprid	0.0020	U	ug/L	P395714	
		Endothall	0.25	U	ug/L	P395777	
		Glufosinate	0.10	U	ug/L	P395777	
		Glyphosate	0.10	U	ug/L	P395777	
		Afidopyropen	0.0020	U	ug/L	P395714	
		Bentazon	8.0E-04	U	ug/L	P395714	
		Benzovindiflupyr	0.0020	U	ug/L	P395714	
		Carbamazepine	8.0E-04	U	ug/L	P395714	
		Clothianidin	0.0020	U	ug/L	P395714	
		Dinotefuran	0.0020	U	ug/L	P395714	
		Diuron	0.0020	U	ug/L	P395714	
		Fenuron	0.016	U	ug/L	P395714	
		Fluridone	0.0084		ug/L	P395714	
		Imazapyr	0.0040	U	ug/L	P395714	
		Hydrocodone	0.0020	U	ug/L	P395714	
		Ibuprofen	0.020	U	ug/L	P395714	
		Imidacloprid	0.0020	U	ug/L	P395714	
		Linuron	0.0040	U	ug/L	P395714	
		Mandestrobin	0.0020	U	ug/L	P395714	
		MCPD	0.0020	U	ug/L	P395714	
		Naproxen	0.0080	U	ug/L	P395714	
		Primidone	0.0040	U	ug/L	P395714	

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235254	EPA 8321B	Pyraclostrobin	0.0020	U	ug/L	P395714	
		Thiamethoxam	0.0020	U	ug/L	P395714	
		Tolfenpyrad	0.0020	U	ug/L	P395714	
		Triclopyr	0.0040	U	ug/L	P395714	
2235255	EPA 200.7 Rev. 4.4	Barium	9.3		ug/L	P395972	
		Calcium	1.58		mg/L	P395972	
		Iron	970		ug/L	P395972	
		Magnesium	0.68		mg/L	P395972	
		Potassium	0.30	U	mg/L	P395972	
	EPA 200.8 Rev. 5.4	Sodium	1.5	I	mg/L	P395972	
		Zinc	5.0	U	ug/L	P395972	
		Aluminum	45		ug/L	P395972	
		Antimony	0.050	U	ug/L	P395972	
		Arsenic	0.35		ug/L	P395972	
		Boron**	7.3	I	ug/L	P395972	
		Cadmium	0.020	U	ug/L	P395972	
		Chromium	0.40	U	ug/L	P395972	
		Copper	0.40	U	ug/L	P395972	
		Lead	0.20	U	ug/L	P395972	
		Nickel	0.50	U	ug/L	P395972	
		Selenium	0.20	U	ug/L	P395972	
		Silver	0.010	U	ug/L	P395972	
		Thallium	0.10	U	ug/L	P395972	
2235256	EPA 8270E	Acetochlor	0.27	U	ng/L	P395703	
		Alachlor	0.27	U	ng/L	P395703	
		Ametryn	0.64	U	ng/L	P395703	
		Atrazine	0.45	I	ng/L	P395703	
		Atrazine Desethyl	1.6	U	ng/L	P395703	
		Azinphos Methyl	2.1	U	ng/L	P395703	
		Azoxystrobin**	0.53	U	ng/L	P395703	
		Bromacil	0.53	U	ng/L	P395703	
		Butylate	0.43	U	ng/L	P395703	
		Caffeine**	8.0	U	ng/L	P395703	
		Carbophenothion	0.53	U	ng/L	P395703	
		Carfentrazone Ethyl**	0.11	U	ng/L	P395703	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P395703	
		Chlorpyrifos Methyl	0.053	U	ng/L	P395703	
		Cyanazine	3.5	U	ng/L	P395703	
		Demeton	1.6	U	ng/L	P395703	
		Diazinon	0.13	U	ng/L	P395703	
		Difenoconazole**	0.64	U	ng/L	P395703	
		Dimethenamid**	0.11	U	ng/L	P395703	
		Disulfoton	0.53	U	ng/L	P395703	
		Dithiopyr**	0.17	UQ	ng/L	P396046	
		EPTC	1.3	U	ng/L	P395703	

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235256	EPA 8270E	Ethion	0.16	UJ	ng/L	P395703	RPD
		Ethoprop	0.11	U	ng/L	P395703	
		Fenamiphos	0.53	U	ng/L	P395703	
		Fenbuconazole**	0.13	U	ng/L	P395703	
		Fipronil	0.27	U	ng/L	P395703	
		Fipronil Desulfinyl**	0.13	U	ng/L	P395703	
		Fipronil Sulfide	0.16	U	ng/L	P395703	
		Fipronil Sulfone	0.16	U	ng/L	P395703	
		Fluazifop-P-butyl**	0.11	U	ng/L	P395703	
		Fludioxonil**	0.13	U	ng/L	P395703	
		Flumioxazin**	1.9	U	ng/L	P395703	
		Flutolanil**	0.11	U	ng/L	P395703	
		Fluxapyroxad**	0.11	U	ng/L	P395703	
		Fonofos	0.21	U	ng/L	P395703	
		Hexazinone	0.53	U	ng/L	P395703	
		Imazalil**	0.80	U	ng/L	P395703	
		Iprodione**	0.64	U	ng/L	P395703	
		Malathion	0.37	U	ng/L	P395703	
		Metalaxyl	0.80	U	ng/L	P395703	
		Metolachlor	0.37	U	ng/L	P395703	
		Metribuzin	3.5	U	ng/L	P395703	
		Mevinphos	1.1	U	ng/L	P395703	
		Molinate	0.32	U	ng/L	P395703	
		Myclobutanil**	0.27	U	ng/L	P395703	
		Naled**	1.6	U	ng/L	P395703	
		Norflurazon	0.53	U	ng/L	P395703	
		Oxadiazon	0.29	UQ	ng/L	P396046	
		Oxyfluorfen**	0.16	U	ng/L	P395703	
		Parathion Ethyl	0.27	U	ng/L	P395703	
		Parathion Methyl	0.59	U	ng/L	P395703	
		Pendimethalin	1.1	U	ng/L	P395703	
		Phorate	0.56	U	ng/L	P395703	
		Prodiamine**	0.19	U	ng/L	P395703	
		Prometon	0.96	U	ng/L	P395703	
		Prometryn	0.21	U	ng/L	P395703	
		Pronamide**	0.16	U	ng/L	P395703	
		Propiconazole**	0.53	U	ng/L	P395703	
		Pyriproxyfen**	0.13	U	ng/L	P395703	
		Simazine	0.53	U	ng/L	P395703	
		Sulfentrazone**	0.53	U	ng/L	P395703	
		Tebuconazole**	0.53	U	ng/L	P395703	
		Terbufos	0.11	U	ng/L	P395703	
		Terbuthylazine	0.45	U	ng/L	P395703	

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8270E: MS accuracy for atrazine and propiconazole not assessed due to high content of these parameters in the sample spiked. Sample expired for dithiopyr and oxadiazon due to need for re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P395748

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P395972

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: P395972

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: P395937

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395941

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396650

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: P396163

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P395864

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P395889

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P395745

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

Reference Method: EPA 8270E
 Batch ID: P395703

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	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	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
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P395703

Component	Result	Code	Units
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270E

Batch ID: P396046

Component	Result	Code	Units
Dithiopyr	0.18	U	ng/L
Oxadiazon	0.39	I	ng/L

Reference Method: EPA 8321B

Batch ID: P395714

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.034		ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P395714

Component	Result	Code	Units
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: P395777

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-2011

Batch ID: P395760

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P395836

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

Reference Method: SM 2540 C-2011

Batch ID: P396197

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P396189

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P395839

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P395933

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: P395972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.2		P	85 - 115
Calcium	104		P	85 - 115
Iron	104		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	102		P	85 - 115
Sodium	102		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P395972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.8		P	85 - 115
Antimony	99.1		P	85 - 115
Arsenic	96.8		P	85 - 115
Boron	98.7		P	85 - 115
Cadmium	97.0		P	85 - 115
Chromium	94.8		P	85 - 115
Copper	93.8		P	85 - 115
Lead	96.0		P	85 - 115
Nickel	94.2		P	85 - 115
Selenium	94.0		P	85 - 115
Silver	97.3		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P395941

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P395864

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: P395889

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P395745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: EPA 8270E

Batch ID: P395703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	89.1	87.5	P/P	70 - 121
Alachlor	89.0	87.2	P/P	70 - 119
Ametryn	107	105	P/P	61 - 135
Atrazine	94.2	96.8	P/P	76 - 123
Atrazine Desethyl	97.3	97.7	P/P	35 - 140
Azinphos Methyl	118	113	P/P	57 - 163
Azoxystrobin	152	116	P/P	43 - 231
Bromacil	84.4	83.5	P/P	42 - 123
Butylate	48.6	56.8	P/P	34 - 92.0
Caffeine	73.6	83.4	P/P	70 - 130
Carbophenothion	83.0	82.6	P/P	61 - 121
Carfentrazone Ethyl	98.2	94.9	P/P	62 - 139
Chlorpyrifos Ethyl	76.4	78.7	P/P	67 - 121
Chlorpyrifos Methyl	88.8	91.8	P/P	67 - 120
Cyanazine	109	108	P/P	20 - 226
Demeton	73.8	77.8	P/P	35 - 125
Diazinon	93.1	99.4	P/P	70 - 122
Difenoconazole	131	114	P/P	56 - 186
Dimethenamid	84.3	81.3	P/P	67 - 119
Disulfoton	81.0	86.9	P/P	47 - 120
EPTC	45.8	54.8	P/P	33 - 90.0
Ethion	66.9	46.1	P/P	40 - 133
Ethoprop	88.6	100	P/P	61 - 121
Fenamiphos	88.1	87.2	P/P	31 - 139
Fenbuconazole	111	108	P/P	66 - 141
Fipronil	95.9	94.9	P/P	62 - 129
Fipronil Desulfinyl	89.1	90.5	P/P	59 - 126
Fipronil Sulfide	83.3	85.5	P/P	63 - 117
Fipronil Sulfone	70.6	77.3	P/P	57 - 117
Fluazifop-P-butyl	94.9	96.5	P/P	63 - 124
Fludioxonil	91.9	90.2	P/P	63 - 123
Flumioxazin	142	125	P/P	34 - 245
Flutolanil	92.5	90.2	P/P	56 - 131
Fluxapyroxad	87.4	77.2	P/P	57 - 117

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P395703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fonofos	84.7	94.8	P/P	61 - 116
Hexazinone	91.1	90.8	P/P	55 - 138
Imazalil	101	87.6	P/P	33 - 143
Iprodione	91.0	88.9	P/P	59 - 118
Malathion	80.8	83.0	P/P	62 - 138
Metalaxyl	91.0	91.3	P/P	24 - 147
Metolachlor	85.8	80.0	P/P	68 - 118
Metribuzin	103	105	P/P	20 - 239
Mevinphos	95.3	101	P/P	46 - 124
Molinate	60.0	67.9	P/P	46 - 100
Myclobutanil	101	95.9	P/P	32 - 149
Naled	46.9	49.0	P/P	32 - 95.0
Norflurazon	97.5	91.3	P/P	57 - 127
Oxyfluorfen	94.9	85.5	P/P	69 - 137
Parathion Ethyl	91.6	92.5	P/P	70 - 113
Parathion Methyl	107	115	P/P	71 - 130
Pendimethalin	86.2	88.9	P/P	55 - 118
Phorate	79.8	84.2	P/P	46 - 125
Prodiamine	39.8	45.9	P/P	20 - 141
Prometon	86.0	89.3	P/P	54 - 122
Prometryn	95.4	94.6	P/P	66 - 124
Pronamide	93.6	96.3	P/P	79 - 122
Propiconazole	94.1	89.6	P/P	61 - 126
Pyriproxyfen	89.3	81.0	P/P	52 - 131
Simazine	96.8	102	P/P	75 - 128
Sulfentrazone	87.6	83.9	P/P	20 - 132
Tebuconazole	63.4	50.8	P/P	20 - 116
Terbufos	82.8	88.3	P/P	61 - 117
Terbuthylazine	86.3	88.3	P/P	74 - 116

Reference Method: EPA 8270E
Batch ID: P396046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dithiopyr	88.5	93.9	P/P	67 - 118
Oxadiazon	90.4	95.1	P/P	63 - 118

Reference Method: EPA 8321B
Batch ID: P395714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	30 - 160
2,4,5-T	96.1		P	30 - 160
Acetaminophen	114		P	30 - 160
Acetamiprid	89.5		P	30 - 160
Afidopyropen	31.0		P	30 - 160
Bentazon	93.5		P	30 - 160
Benzovindiflupyr	88.2		P	30 - 160
Carbamazepine	100		P	30 - 160
Clothianidin	95.6		P	30 - 160
Dinotefuran	94.0		P	30 - 160
Diuron	73.9		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P395714

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	99.2		P	30 - 160
Fluridone	86.7		P	30 - 160
Hydrocodone	97.5		P	30 - 160
Ibuprofen	84.4		P	30 - 160
Imazapyr	91.0		P	30 - 160
Imidacloprid	107		P	30 - 160
Linuron	79.8		P	30 - 160
Mandestrobin	99.3		P	30 - 160
MCPP	102		P	30 - 160
Naproxen	76.3		P	30 - 160
Primidone	94.9		P	30 - 160
Pyraclostrobin	81.4		P	30 - 160
Thiamethoxam	104		P	30 - 160
Tolfenpyrad	52.9		P	30 - 160
Triclopyr	101		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P395777

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	101		P	40 - 150
Endothall	63.4		P	40 - 150
Glufosinate	93.0		P	40 - 150
Glyphosate	122		P	40 - 140
Sucralose	98.3		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P395760

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P395836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P395839

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P395933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235304	Barium	103	101	P/P	80 - 120
2235304	Calcium	108	106	P/P	80 - 120
2235304	Iron	110	108	P/P	80 - 120
2235304	Magnesium	108	106	P/P	80 - 120
2235304	Potassium	106	104	P/P	80 - 120
2235304	Sodium	111	108	P/P	80 - 120
2235304	Zinc	108	106	P/P	80 - 120
2235335	Barium	98.7		P	80 - 120
2235335	Calcium	102		P	80 - 120
2235335	Iron	106		P	80 - 120
2235335	Magnesium	105		P	80 - 120
2235335	Potassium	104		P	80 - 120
2235335	Sodium	103		P	80 - 120
2235335	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235304	Aluminum	93.9	92.5	P/P	80 - 120
2235304	Antimony	101	99.3	P/P	80 - 120
2235304	Arsenic	96.4	96.2	P/P	80 - 120
2235304	Boron	95.9	97.5	P/P	80 - 120
2235304	Cadmium	96.9	95.7	P/P	80 - 120
2235304	Chromium	96.7	94.8	P/P	80 - 120
2235304	Copper	95.8	94.3	P/P	80 - 120
2235304	Lead	96.4	94.2	P/P	80 - 120
2235304	Nickel	93.5	91.3	P/P	80 - 120
2235304	Selenium	94.8	92.4	P/P	80 - 120
2235304	Silver	96.1	94.9	P/P	80 - 120
2235304	Thallium	102	101	P/P	80 - 120
2235335	Aluminum	85.7		P	80 - 120
2235335	Antimony	96.4		P	80 - 120
2235335	Arsenic	92.4		P	80 - 120
2235335	Boron	96.1		P	80 - 120
2235335	Cadmium	96.8		P	80 - 120
2235335	Chromium	92.3		P	80 - 120
2235335	Copper	88.9		P	80 - 120
2235335	Lead	93.3		P	80 - 120
2235335	Nickel	88.2		P	80 - 120
2235335	Selenium	90.0		P	80 - 120
2235335	Silver	92.5		P	80 - 120
2235335	Thallium	99.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234995	Chloride	104		P	90 - 110
2235206	Chloride	103		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234995	Sulfate	103		P	90 - 110
2235206	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P396650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235218	Ammonia-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P395864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235046	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P395889

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235202	Total-P	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P395745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235235	O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P395703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234591	Acetochlor	88.2	93.2	P/P	66 - 122
2234591	Alachlor	89.7	91.4	P/P	65 - 122
2234591	Ametryn	110	119	P/P	45 - 173
2234591	Atrazine Desethyl	82.3	71.7	P/P	25 - 150
2234591	Azinphos Methyl	105	114	P/P	44 - 174
2234591	Azoxystrobin	138	139	P/P	10 - 268
2234591	Bromacil	78.6	79.7	P/P	31 - 145
2234591	Butylate	38.4	45.3	P/P	15 - 97.0
2234591	Caffeine	98.7	100	P/P	70 - 130
2234591	Carbophenothion	78.5	82.8	P/P	42 - 129
2234591	Carfentrazone Ethyl	95.1	96.5	P/P	62 - 145
2234591	Chlorpyrifos Ethyl	74.9	82.4	P/P	60 - 124
2234591	Chlorpyrifos Methyl	90.7	90.7	P/P	66 - 119
2234591	Cyanazine	96.9	99.3	P/P	17 - 225
2234591	Demeton	82.5	79.5	P/P	36 - 142
2234591	Diazinon	100	105	P/P	70 - 128
2234591	Difenoconazole	134	139	P/P	33 - 222
2234591	Dimethenamid	87.4	91.8	P/P	54 - 125
2234591	Disulfoton	91.7	83.9	P/P	49 - 133
2234591	EPTC	38.2	42.5	P/P	19 - 91.0
2234591	Ethion	71.6	71.9	P/P	13 - 143

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P395703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234591	Ethoprop	95.8	92.0	P/P	49 - 144
2234591	Fenamiphos	73.8	83.5	P/P	32 - 136
2234591	Fenbuconazole	110	113	P/P	73 - 148
2234591	Fipronil	103	110	P/P	57 - 129
2234591	Fipronil Desulfinyl	91.2	96.9	P/P	49 - 127
2234591	Fipronil Sulfide	78.8	76.6	P/P	44 - 127
2234591	Fipronil Sulfone	81.1	73.2	P/P	35 - 126
2234591	Fluazifop-P-butyl	98.5	101	P/P	67 - 129
2234591	Fludioxonil	95.5	95.4	P/P	61 - 126
2234591	Flumioxazin	159	168	P/P	38 - 279
2234591	Flutolanil	78.1	87.0	P/P	55 - 136
2234591	Fluxapyroxad	84.7	89.3	P/P	33 - 140
2234591	Fonofos	103	106	P/P	58 - 125
2234591	Hexazinone	96.2	99.6	P/P	57 - 148
2234591	Imazalil	86.4	88.9	P/P	10 - 221
2234591	Iprodione	83.6	92.1	P/P	32 - 140
2234591	Malathion	81.0	89.0	P/P	52 - 138
2234591	Metalaxyl	90.7	94.5	P/P	46 - 134
2234591	Metolachlor	81.0	90.9	P/P	58 - 122
2234591	Metribuzin	101	91.5	P/P	16 - 272
2234591	Mevinphos	94.8	90.2	P/P	45 - 140
2234591	Molinate	59.1	57.3	P/P	41 - 103
2234591	Myclobutanil	100	103	P/P	60 - 134
2234591	Naled	34.1	36.2	P/P	20 - 113
2234591	Norflurazon	88.8	96.9	P/P	51 - 123
2234591	Oxyfluorfen	110	126	P/P	66 - 176
2234591	Parathion Ethyl	95.2	91.2	P/P	57 - 132
2234591	Parathion Methyl	110	111	P/P	59 - 156
2234591	Pendimethalin	101	102	P/P	59 - 129
2234591	Phorate	86.2	82.5	P/P	47 - 136
2234591	Prodiamine	55.3	73.0	P/P	10 - 159
2234591	Prometon	102	83.7	P/P	59 - 127
2234591	Prometryn	98.7	105	P/P	59 - 129
2234591	Pronamide	115	120	P/P	65 - 145
2234591	Pyriproxyfen	87.4	92.0	P/P	21 - 180
2234591	Simazine	109	107	P/P	63 - 147
2234591	Sulfentrazone	83.2	85.1	P/P	32 - 136
2234591	Tebuconazole	64.6	75.0	P/P	10 - 117
2234591	Terbufos	86.6	87.4	P/P	61 - 131
2234591	Terbutylazine	89.3	91.8	P/P	62 - 126

Reference Method: EPA 8270E
Batch ID: P396046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234839	Dithiopyr	89.4	82.2	P/P	55 - 123
2234839	Oxadiazon	69.7	65.7	P/P	44 - 125

Reference Method: EPA 8321B
Batch ID: P395714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P395714

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234529	2,4-D	90.2	94.4	P/P	30 - 160
2234529	2,4,5-T	75.9	79.2	P/P	30 - 160
2234529	Acetaminophen	15.2	15.1	F/F	30 - 160
2234529	Acetamiprid	86.5	93.2	P/P	30 - 160
2234529	Afidopyropen	75.0	85.4	P/P	30 - 160
2234529	Bentazon	51.4	56.1	P/P	30 - 160
2234529	Benzovindiflupyr	85.4	88.1	P/P	30 - 160
2234529	Carbamazepine	84.2	85.3	P/P	30 - 160
2234529	Clothianidin	96.8	106	P/P	30 - 160
2234529	Dinotefuran	108	116	P/P	30 - 160
2234529	Diuron	53.4	53.3	P/P	30 - 160
2234529	Fenuron	76.6	80.5	P/P	30 - 160
2234529	Fluridone	81.2	82.9	P/P	30 - 160
2234529	Hydrocodone	98.7	108	P/P	30 - 160
2234529	Ibuprofen	68.3	80.4	P/P	30 - 160
2234529	Imazapyr	105	104	P/P	30 - 160
2234529	Imidacloprid	147	157	P/P	30 - 160
2234529	Linuron	64.9	69.0	P/P	30 - 160
2234529	Mandestrobin	88.1	95.1	P/P	30 - 160
2234529	MCCP	86.0	86.7	P/P	30 - 160
2234529	Naproxen	63.0	68.7	P/P	30 - 160
2234529	Primidone	98.6	103	P/P	30 - 160
2234529	Pyraclostrobin	82.1	87.3	P/P	30 - 160
2234529	Thiamethoxam	137	144	P/P	30 - 160
2234529	Tolfenpyrad	50.3	58.4	P/P	30 - 160
2234529	Triclopyr	82.9	90.5	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P395777

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234828	Acesulfame K	151	120	F/P	40 - 150
2234828	AMPA	115	121	P/P	40 - 150
2234828	Endothall	91.5	84.2	P/P	40 - 150
2234828	Glufosinate	91.3	102	P/P	40 - 150
2234828	Glyphosate	139	136	P/P	40 - 140
2234828	Sucralose	118	130	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P395839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235233	Fluoride	98.3	99.8	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P395933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2234901	Organic Carbon	95.4	96.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P395748

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235211	Turbidity	3.90	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P395972

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235304	Barium	1.95	Spike	P	0 - 20
2235304	Calcium	1.01	Spike	P	0 - 20
2235304	Iron	2.19	Spike	P	0 - 20
2235304	Magnesium	2.24	Spike	P	0 - 20
2235304	Potassium	1.32	Spike	P	0 - 20
2235304	Sodium	2.04	Spike	P	0 - 20
2235304	Zinc	2.49	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P395972

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235304	Aluminum	1.50	Spike	P	0 - 20
2235304	Antimony	1.27	Spike	P	0 - 20
2235304	Arsenic	0.221	Spike	P	0 - 20
2235304	Boron	1.50	Spike	P	0 - 20
2235304	Cadmium	1.25	Spike	P	0 - 20
2235304	Chromium	1.97	Spike	P	0 - 20
2235304	Copper	1.61	Spike	P	0 - 20
2235304	Lead	2.31	Spike	P	0 - 20
2235304	Nickel	2.33	Spike	P	0 - 20
2235304	Selenium	2.50	Spike	P	0 - 20
2235304	Silver	1.28	Spike	P	0 - 20
2235304	Thallium	1.08	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395937

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234995	Chloride	0.458	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P395941

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234995	Sulfate	0.000808	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P396650

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235218	Ammonia-N	0.930	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P396163

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235213	Kjeldahl Nitrogen	8.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P395864

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235046	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P395889

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235202	Total-P	0.611	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P395745

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235235	O-Phosphate-P	0.702	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P395703

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234591	Acetochlor	5.60	Spike	P	0 - 30
2234591	Alachlor	1.89	Spike	P	0 - 30
2234591	Ametryn	7.83	Spike	P	0 - 30
2234591	Atrazine	1.15	Spike	P	0 - 30
2234591	Atrazine Desethyl	11.0	Spike	P	0 - 30
2234591	Azinphos Methyl	8.37	Spike	P	0 - 30
2234591	Azoxystrobin	1.06	Spike	P	0 - 30
2234591	Bromacil	1.33	Spike	P	0 - 30
2234591	Butylate	16.3	Spike	P	0 - 30
2234591	Caffeine	1.23	Spike	P	0 - 30
2234591	Carbophenothion	5.35	Spike	P	0 - 30
2234591	Carfentrazone Ethyl	1.39	Spike	P	0 - 30
2234591	Chlorpyrifos Ethyl	9.43	Spike	P	0 - 30
2234591	Chlorpyrifos Methyl	0.0496	Spike	P	0 - 30
2234591	Cyanazine	2.46	Spike	P	0 - 30
2234591	Demeton	3.74	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P395703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234591	Diazinon	4.47	Spike	P	0 - 30
2234591	Difenoconazole	3.37	Spike	P	0 - 30
2234591	Dimethenamid	4.91	Spike	P	0 - 30
2234591	Disulfoton	8.88	Spike	P	0 - 30
2234591	EPTC	10.7	Spike	P	0 - 30
2234591	Ethion	0.373	Spike	P	0 - 30
2234591	Ethoprop	4.00	Spike	P	0 - 30
2234591	Fenamiphos	12.4	Spike	P	0 - 30
2234591	Fenbuconazole	3.11	Spike	P	0 - 30
2234591	Fipronil	7.00	Spike	P	0 - 30
2234591	Fipronil Desulfinyf	5.85	Spike	P	0 - 30
2234591	Fipronil Sulfide	2.44	Spike	P	0 - 30
2234591	Fipronil Sulfone	8.01	Spike	P	0 - 30
2234591	Fluazifop-P-butyl	2.68	Spike	P	0 - 30
2234591	Fludioxonil	0.0720	Spike	P	0 - 30
2234591	Flumioxazin	5.18	Spike	P	0 - 30
2234591	Flutolanil	9.10	Spike	P	0 - 30
2234591	Fluxapyroxad	5.29	Spike	P	0 - 30
2234591	Fonofos	3.02	Spike	P	0 - 30
2234591	Hexazinone	2.72	Spike	P	0 - 30
2234591	Imazalil	2.83	Spike	P	0 - 30
2234591	Iprodione	9.75	Spike	P	0 - 30
2234591	Malathion	9.42	Spike	P	0 - 30
2234591	Metalaxyl	4.17	Spike	P	0 - 30
2234591	Metolachlor	11.5	Spike	P	0 - 30
2234591	Metribuzin	10.1	Spike	P	0 - 30
2234591	Mevinphos	4.99	Spike	P	0 - 30
2234591	Molinate	3.06	Spike	P	0 - 30
2234591	Myclobutanil	2.89	Spike	P	0 - 30
2234591	Naled	6.01	Spike	P	0 - 30
2234591	Norflurazon	8.69	Spike	P	0 - 30
2234591	Oxyfluorfen	13.6	Spike	P	0 - 30
2234591	Parathion Ethyl	4.33	Spike	P	0 - 30
2234591	Parathion Methyl	0.841	Spike	P	0 - 30
2234591	Pendimethalin	0.399	Spike	P	0 - 30
2234591	Phorate	4.44	Spike	P	0 - 30
2234591	Prodiamine	27.6	Spike	P	0 - 30
2234591	Prometon	19.9	Spike	P	0 - 30
2234591	Prometryn	6.60	Spike	P	0 - 30
2234591	Pronamide	4.86	Spike	P	0 - 30
2234591	Propiconazole	4.74	Spike	P	0 - 30
2234591	Pyriproxyfen	5.10	Spike	P	0 - 30
2234591	Simazine	2.67	Spike	P	0 - 30
2234591	Sulfentrazone	1.61	Spike	P	0 - 30
2234591	Tebuconazole	13.6	Spike	P	0 - 30
2234591	Terbufos	0.954	Spike	P	0 - 30
2234591	Terbuthylazine	2.76	Spike	P	0 - 30
LFB	Acetochlor	1.91	LCS	P	0 - 30
LFB	Alachlor	2.03	LCS	P	0 - 30
LFB	Ametryn	1.94	LCS	P	0 - 30
LFB	Atrazine	2.68	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P395703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine Desethyl	0.422	LCS	P	0 - 30
LFB	Azinphos Methyl	4.81	LCS	P	0 - 30
LFB	Azoxystrobin	27.2	LCS	P	0 - 30
LFB	Bromacil	1.09	LCS	P	0 - 30
LFB	Butylate	15.5	LCS	P	0 - 30
LFB	Caffeine	12.5	LCS	P	0 - 30
LFB	Carbophenothion	0.379	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	3.47	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	2.96	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	3.32	LCS	P	0 - 30
LFB	Cyanazine	1.12	LCS	P	0 - 30
LFB	Demeton	5.29	LCS	P	0 - 30
LFB	Diazinon	6.63	LCS	P	0 - 30
LFB	Difenoconazole	13.9	LCS	P	0 - 30
LFB	Dimethenamid	3.63	LCS	P	0 - 30
LFB	Disulfoton	7.05	LCS	P	0 - 30
LFB	EPTC	17.9	LCS	P	0 - 30
LFB	Ethion	36.9	LCS	F	0 - 30
LFB	Ethoprop	12.5	LCS	P	0 - 30
LFB	Fenamiphos	0.933	LCS	P	0 - 30
LFB	Fenbuconazole	2.95	LCS	P	0 - 30
LFB	Fipronil	1.01	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.56	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.57	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.04	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	1.68	LCS	P	0 - 30
LFB	Fludioxonil	1.84	LCS	P	0 - 30
LFB	Flumioxazin	12.7	LCS	P	0 - 30
LFB	Flutolanil	2.50	LCS	P	0 - 30
LFB	Fluxapyroxad	12.5	LCS	P	0 - 30
LFB	Fonofos	11.2	LCS	P	0 - 30
LFB	Hexazinone	0.324	LCS	P	0 - 30
LFB	Imazalil	14.0	LCS	P	0 - 30
LFB	Iprodione	2.36	LCS	P	0 - 30
LFB	Malathion	2.71	LCS	P	0 - 30
LFB	Metalaxyl	0.344	LCS	P	0 - 30
LFB	Metolachlor	6.99	LCS	P	0 - 30
LFB	Metribuzin	2.13	LCS	P	0 - 30
LFB	Mevinphos	6.15	LCS	P	0 - 30
LFB	Molinate	12.4	LCS	P	0 - 30
LFB	Myclobutanil	4.92	LCS	P	0 - 30
LFB	Naled	4.47	LCS	P	0 - 30
LFB	Norflurazon	6.59	LCS	P	0 - 30
LFB	Oxyfluorfen	10.4	LCS	P	0 - 30
LFB	Parathion Ethyl	0.942	LCS	P	0 - 30
LFB	Parathion Methyl	6.86	LCS	P	0 - 30
LFB	Pendimethalin	3.05	LCS	P	0 - 30
LFB	Phorate	5.34	LCS	P	0 - 30
LFB	Prodiamine	14.3	LCS	P	0 - 30
LFB	Prometon	3.74	LCS	P	0 - 30
LFB	Prometryn	0.870	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P395703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Pronamide	2.91	LCS	P	0 - 30
LFB	Propiconazole	4.92	LCS	P	0 - 30
LFB	Pyriproxyfen	9.67	LCS	P	0 - 30
LFB	Simazine	5.07	LCS	P	0 - 30
LFB	Sulfentrazone	4.30	LCS	P	0 - 30
LFB	Tebuconazole	22.0	LCS	P	0 - 30
LFB	Terbufos	6.48	LCS	P	0 - 30
LFB	Terbutylazine	2.33	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P396046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234839	Dithiopyr	8.44	Spike	P	0 - 30
2234839	Oxadiazon	4.59	Spike	P	0 - 30
LFB	Dithiopyr	5.97	LCS	P	0 - 30
LFB	Oxadiazon	5.08	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P395714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234529	2,4-D	4.60	Spike	P	0 - 30
2234529	2,4,5-T	4.28	Spike	P	0 - 30
2234529	Acetaminophen	0.137	Spike	P	0 - 30
2234529	Acetamiprid	7.46	Spike	P	0 - 30
2234529	Afidopyropen	12.9	Spike	P	0 - 30
2234529	Bentazon	4.85	Spike	P	0 - 30
2234529	Benzovindiflupyr	3.21	Spike	P	0 - 30
2234529	Carbamazepine	1.33	Spike	P	0 - 30
2234529	Clothianidin	9.41	Spike	P	0 - 30
2234529	Dinotefuran	7.29	Spike	P	0 - 30
2234529	Diuron	0.238	Spike	P	0 - 30
2234529	Fenuron	4.90	Spike	P	0 - 30
2234529	Fluridone	2.04	Spike	P	0 - 30
2234529	Hydrocodone	9.34	Spike	P	0 - 30
2234529	Ibuprofen	16.3	Spike	P	0 - 30
2234529	Imazapyr	0.841	Spike	P	0 - 30
2234529	Imidacloprid	7.06	Spike	P	0 - 30
2234529	Linuron	6.00	Spike	P	0 - 30
2234529	Mandestrobin	7.61	Spike	P	0 - 30
2234529	MCPP	0.768	Spike	P	0 - 30
2234529	Naproxen	8.53	Spike	P	0 - 30
2234529	Primidone	3.95	Spike	P	0 - 30
2234529	Pyraclostrobin	6.15	Spike	P	0 - 30
2234529	Thiamethoxam	4.84	Spike	P	0 - 30
2234529	Tolfenpyrad	15.0	Spike	P	0 - 30
2234529	Triclopyr	8.77	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P395777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234828	Acesulfame K	22.8	Spike	P	0 - 30
2234828	AMPA	5.46	Spike	P	0 - 30
2234828	Endothall	8.35	Spike	P	0 - 30
2234828	Glufosinate	11.1	Spike	P	0 - 30
2234828	Glyphosate	2.62	Spike	P	0 - 30
2234828	Sucralose	9.71	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P395760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235212	Color (true)	0.999	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P395836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235233	Total Alkalinity	2.91	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P396197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235212	TDS	3.36	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P395839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235233	Fluoride	0.946	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P395933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2234901	Organic Carbon	0.865	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2235254
Field Sample ID: G4NW0380

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.2	P	30 - 160
EPA 8321B	Diuron-d6	70.3	P	30 - 160
EPA 8321B	Endothall-d6	108	P	40 - 160
EPA 8321B	Endothall-d6	108	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	125	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	125	P	40 - 160
EPA 8321B	Ibuprofen-d3	78.0	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160

Lab Sample ID: 2235256
Field Sample ID: G4NW0380

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	92.8	P	20 - 200
EPA 8270E	Caffeine-d9	84.5	P	20 - 200
EPA 8270E	Simazine-d10	116	P	73 - 135
EPA 8270E	Simazine-d10	129	P	73 - 135
EPA 8270E	Terbufos-d10	97.4	P	58 - 130
EPA 8270E	Terbufos-d10	112	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A104389

Included Lab Sample IDs: 2235238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	99.2	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104397

Included Lab Sample IDs: 2235240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	97.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A104398

Included Lab Sample IDs: 2235238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A104399

Included Lab Sample IDs: 2235238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	100	P/P	90 - 115

Reference Method: SM 2320 B-2011

Run ID: A104438

Included Lab Sample IDs: 2235238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A104438

Included Lab Sample IDs: 2235238

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

Reference Method: EPA 8321B

Run ID: A104445

Included Lab Sample IDs: 2235254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	106	110	P/P	40 - 160
AMPA	121	116	P/P	40 - 160
Endothall	67.8	72.0	P/P	40 - 160
Glufosinate	102	90.6	P/P	40 - 160
Glyphosate	127	123	P/P	40 - 160

Quality Assurance Report

Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104447

Included Lab Sample IDs: 2235239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A104469

Included Lab Sample IDs: 2235256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.8		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	99.5		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	101		P	80 - 120
Azinphos Methyl	98.4		P	80 - 120
Azoxystrobin	105		P	80 - 120
Bromacil	97.7		P	80 - 120
Butylate	100		P	80 - 120
Caffeine	91.4		P	80 - 120
Carbophenothion	103		P	80 - 120
Carfentrazone Ethyl	97.9		P	80 - 120
Chlorpyrifos Ethyl	101		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	89.9		P	80 - 120
Demeton	102		P	80 - 120
Diazinon	102		P	80 - 120
Difenoconazole	101		P	80 - 120
Dimethenamid	100		P	80 - 120
Disulfoton	96.0		P	80 - 120
EPTC	99.0		P	80 - 120
Ethion	100		P	80 - 120
Ethoprop	104		P	80 - 120
Fenamiphos	97.9		P	80 - 120
Fenbuconazole	95.5		P	80 - 120
Fipronil	95.0		P	80 - 120
Fipronil Desulfinyl	94.6		P	80 - 120
Fipronil Sulfide	92.2		P	80 - 120
Fipronil Sulfone	91.1		P	80 - 120
Fluazifop-P-butyl	99.0		P	80 - 120
Fludioxonil	95.7		P	80 - 120
Flumioxazin	96.1		P	80 - 120
Flutolanil	97.7		P	80 - 120
Fluxapyroxad	97.6		P	80 - 120
Fonofos	98.3		P	80 - 120
Hexazinone	105		P	80 - 120
Imazalil	101		P	80 - 120
Iprodione	98.3		P	80 - 120
Malathion	97.0		P	80 - 120
Metalaxyl	97.8		P	80 - 120
Metolachlor	99.5		P	80 - 120
Metribuzin	100		P	80 - 120
Mevinphos	106		P	80 - 120
Molinate	99.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A104469
Included Lab Sample IDs: 2235256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Myclobutanil	104		P	80 - 120
Naled	99.8		P	80 - 120
Norflurazon	101		P	80 - 120
Oxyfluorfen	99.7		P	80 - 120
Parathion Ethyl	92.9		P	80 - 120
Parathion Methyl	99.0		P	80 - 120
Pendimethalin	99.4		P	80 - 120
Phorate	98.2		P	80 - 120
Prodiamine	100		P	80 - 120
Prometon	106		P	80 - 120
Prometryn	103		P	80 - 120
Pronamide	102		P	80 - 120
Propiconazole	102		P	80 - 120
Pyriproxyfen	99.6		P	80 - 120
Simazine	101		P	80 - 120
Sulfentrazone	101		P	80 - 120
Tebuconazole	99.7		P	80 - 120
Terbufos	99.2		P	80 - 120
Terbutylazine	100		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A104475
Included Lab Sample IDs: 2235239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A104493
Included Lab Sample IDs: 2235239

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

Reference Method: EPA 8321B
Run ID: A104557
Included Lab Sample IDs: 2235254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	134	126	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A104573
Included Lab Sample IDs: 2235254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.1	110	P/P	50 - 150
2,4,5-T	105	107	P/P	50 - 150
Acetaminophen	105	110	P/P	60 - 160
Acetamiprid	101	105	P/P	50 - 150
Afidopyropen	115	127	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A104573
Included Lab Sample IDs: 2235254

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	106	97.6	P/P	50 - 160
Benzovindiflupyr	108	111	P/P	50 - 160
Carbamazepine	104	102	P/P	60 - 150
Clothianidin	104	109	P/P	60 - 150
Dinotefuran	101	99.4	P/P	50 - 150
Diuron	101	106	P/P	60 - 160
Fenuron	96.3	98.5	P/P	60 - 150
Fluridone	109	114	P/P	60 - 160
Hydrocodone	104	105	P/P	60 - 150
Ibuprofen	122	110	P/P	50 - 160
Imazapyr	103	86.1	P/P	50 - 160
Imidacloprid	94.3	97.5	P/P	60 - 150
Linuron	107	106	P/P	60 - 150
Mandestrobin	112	112	P/P	50 - 150
MCPP	103	105	P/P	50 - 150
Naproxen	101	97.5	P/P	50 - 160
Primidone	100	99.3	P/P	60 - 150
Pyraclostrobin	104	102	P/P	60 - 150
Thiamethoxam	101	103	P/P	50 - 150
Tolfenpyrad	106	103	P/P	60 - 150
Triclopyr	97.3	102	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A104649
Included Lab Sample IDs: 2235239

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

Reference Method: EPA 8270E
Run ID: A104655
Included Lab Sample IDs: 2235256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dithiopyr	96.9		P	80 - 120
Oxadiazon	96.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A104678
Included Lab Sample IDs: 2235255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.2	97.3	P/P	90 - 110
Antimony	100	99.0	P/P	90 - 110
Arsenic	97.1	94.5	P/P	90 - 110
Boron	97.0	96.5	P/P	90 - 110
Cadmium	96.6	96.0	P/P	90 - 110
Chromium	96.8	94.9	P/P	90 - 110
Copper	94.4	90.5	P/P	90 - 110
Lead	97.1	95.5	P/P	90 - 110
Nickel	94.9	90.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A104678

Included Lab Sample IDs: 2235255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	98.3	94.3	P/P	90 - 110
Silver	96.0	94.6	P/P	90 - 110
Thallium	100	99.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A104712

Included Lab Sample IDs: 2235255

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	100	P/P	90 - 110
Calcium	101	103	P/P	90 - 110
Iron	103	105	P/P	90 - 110
Magnesium	100	103	P/P	90 - 110
Potassium	104	106	P/P	90 - 110
Sodium	102	104	P/P	90 - 110
Zinc	106	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104770

Included Lab Sample IDs: 2235239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	97.7	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							3.90	
EPA 200.7 Rev. 4.4	Barium	99.2		103	101	98.7			1.95
	Calcium	104		108	106	102			1.01
	Iron	104		110	108	106			2.19
	Magnesium	103		108	106	105			2.24
	Potassium	102		106	104	104			1.32
	Sodium	102		111	108	103			2.04
	Zinc	105		108	106	104			2.49
EPA 200.8 Rev. 5.4	Aluminum	94.8		93.9	92.5	85.7			1.50
	Antimony	99.1		101	99.3	96.4			1.27
	Arsenic	96.8		96.4	96.2	92.4			0.221
	Boron	98.7		95.9	97.5	96.1			1.50
	Cadmium	97.0		96.9	95.7	96.8			1.25
	Chromium	94.8		96.7	94.8	92.3			1.97
	Copper	93.8		95.8	94.3	88.9			1.61
	Lead	96.0		96.4	94.2	93.3			2.31
	Nickel	94.2		93.5	91.3	88.2			2.33
	Selenium	94.0		94.8	92.4	90.0			2.50
	Silver	97.3		96.1	94.9	92.5			1.28
	Thallium	102		102	101	99.5			1.08
EPA 300.0 Rev. 2.1	Chloride	104		104	103			0.458	
	Sulfate	103		103	103			0.0008	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4		97.0	98.0				0.930
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.0							8.36
EPA 353.2 Rev. 2.0	NO2NO3-N	103		102	102				0.0
EPA 365.1 Rev. 2.0	Total-P	105		103	104				0.611
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9		99.4	100				0.702
EPA 8270E	Acetochlor	89.1	87.5	88.2	93.2		1.91		5.60
	Alachlor	89.0	87.2	89.7	91.4		2.03		1.89
	Ametryn	107	105	119	110		1.94		7.83
	Atrazine	94.2	96.8				2.68		1.15
	Atrazine Desethyl	97.3	97.7	82.3	71.7	0.422			11.0
	Azinphos Methyl	118	113	105	114		4.81		8.37
	Azoxystrobin	116	152	138	139		27.2		1.06
	Bromacil	83.5	84.4	78.6	79.7		1.09		1.33
	Butylate	56.8	48.6	38.4	45.3		15.5		16.3
	Caffeine	73.6	83.4	98.7	100		12.5		1.23
	Carbophenothion	83.0	82.6	78.5	82.8	0.379			5.35
	Carfentrazone Ethyl	98.2	94.9	95.1	96.5		3.47		1.39
	Chlorpyrifos Ethyl	76.4	78.7	74.9	82.4		2.96		9.43
	Chlorpyrifos Methyl	88.8	91.8	90.7	90.7		3.32		0.0496
	Cyanazine	109	108	96.9	99.3		1.12		2.46
	Demeton	73.8	77.8	82.5	79.5		5.29		3.74
	Diazinon	93.1	99.4	100	105		6.63		4.47
	Difenoconazole	131	114	134	139		13.9		3.37
	Dimethenamid	84.3	81.3	87.4	91.8		3.63		4.91
	Disulfoton	81.0	86.9	91.7	83.9		7.05		8.88
	Dithiopyr	88.5	93.9	89.4	82.2		5.97		8.44
	EPTC	45.8	54.8	38.2	42.5		17.9		10.7
	Ethion	66.9	46.1	71.6	71.9		36.9		0.373
	Ethoprop	88.6	100	95.8	92.0		12.5		4.00
	Fenamiphos	88.1	87.2	73.8	83.5		0.933		12.4
	Fenbuconazole	111	108	113	110		2.95		3.11
	Fipronil	95.9	94.9	110	103		1.01		7.00

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	SMP
EPA 8270E	Fipronil Desulfinyl	89.1	90.5	96.9	91.2	1.56	5.85
	Fipronil Sulfide	83.3	85.5	76.6	78.8	2.57	2.44
	Fipronil Sulfone	70.6	77.3	81.1	73.2	9.04	8.01
	Fluazifop-P-butyl	94.9	96.5	98.5	101	1.68	2.68
	Fludioxonil	91.9	90.2	95.5	95.4	1.84	0.0720
	Flumioxazin	142	125	159	168	12.7	5.18
	Flutolanil	92.5	90.2	78.1	87.0	2.50	9.10
	Fluxapyroxad	87.4	77.2	84.7	89.3	12.5	5.29
	Fonofos	84.7	94.8	103	106	11.2	3.02
	Hexazinone	91.1	90.8	96.2	99.6	0.324	2.72
	Imazalil	101	87.6	86.4	88.9	14.0	2.83
	Iprodione	91.0	88.9	83.6	92.1	2.36	9.75
	Malathion	80.8	83.0	81.0	89.0	2.71	9.42
	Metalaxyl	91.0	91.3	90.7	94.5	0.344	4.17
	Metolachlor	85.8	80.0	81.0	90.9	6.99	11.5
	Metribuzin	103	105	101	91.5	2.13	10.1
	Mevinphos	95.3	101	94.8	90.2	6.15	4.99
	Molinate	60.0	67.9	59.1	57.3	12.4	3.06
	Myclobutanil	101	95.9	100	103	4.92	2.89
	Naled	46.9	49.0	34.1	36.2	4.47	6.01
	Norflurazon	97.5	91.3	88.8	96.9	6.59	8.69
	Oxadiazon	90.4	95.1	69.7	65.7	5.08	4.59
	Oxyfluorfen	94.9	85.5	110	126	10.4	13.6
	Parathion Ethyl	91.6	92.5	95.2	91.2	0.942	4.33
	Parathion Methyl	107	115	110	111	6.86	0.841
	Pendimethalin	86.2	88.9	101	102	3.05	0.399
	Phorate	79.8	84.2	86.2	82.5	5.34	4.44
	Prodiamine	39.8	45.9	55.3	73.0	14.3	27.6
	Prometon	86.0	89.3	102	83.7	3.74	19.9
	Prometryn	95.4	94.6	98.7	105	0.870	6.60
	Pronamide	93.6	96.3	115	120	2.91	4.86
	Propiconazole	94.1	89.6			4.92	4.74
	Pyriproxyfen	81.0	89.3	87.4	92.0	9.67	5.10
	Simazine	102	96.8	109	107	5.07	2.67
	Sulfentrazone	83.9	87.6	83.2	85.1	4.30	1.61
	Tebuconazole	50.8	63.4	64.6	75.0	22.0	13.6
	Terbufos	88.3	82.8	86.6	87.4	6.48	0.954
	Terbutylazine	88.3	86.3	89.3	91.8	2.33	2.76
EPA 8321B	2,4-D	111		90.2	94.4		4.60
	2,4,5-T	96.1		79.2	75.9		4.28
	Acesulfame K	106		151	120		22.8
	Acetaminophen	114		15.2	15.1		0.137
	Acetamiprid	89.5		86.5	93.2		7.46
	Afidopyropen	31.0		75.0	85.4		12.9
	AMPA	101		115	121		5.46
	Bentazon	93.5		51.4	56.1		4.85
	Benzovindiflupyr	88.2		85.4	88.1		3.21
	Carbamazepine	100		84.2	85.3		1.33
	Clothianidin	95.6		96.8	106		9.41
	Dinotefuran	94.0		108	116		7.29
	Diuron	73.9		53.4	53.3		0.238
	Endothall	63.4		91.5	84.2		8.35
	Fenuron	99.2		76.6	80.5		4.90
	Fluridone	86.7		81.2	82.9		2.04

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glufosinate	93.0	91.3	102		11.1
	Glyphosate	122	139	136		2.62
	Hydrocodone	97.5	98.7	108		9.34
	Ibuprofen	84.4	68.3	80.4		16.3
	Imazapyr	91.0	105	104		0.841
	Imidacloprid	107	147	157		7.06
	Linuron	79.8	64.9	69.0		6.00
	Mandestrobin	99.3	88.1	95.1		7.61
	MCPP	102	86.0	86.7		0.768
	Naproxen	76.3	63.0	68.7		8.53
	Primidone	94.9	98.6	103		3.95
	Pyraclostrobin	81.4	82.1	87.3		6.15
	Sucralose	98.3	118	130		9.71
	Thiamethoxam	104	137	144		4.84
	Tolfenpyrad	52.9	50.3	58.4		15.0
SM 2120 B-2011	Triclopyr	101	82.9	90.5		8.77
	Color (true)	101			0.999	
	Total Alkalinity	101			2.91	
SM 2540 C-2011	TDS				3.36	
SM 4500 F-C-2011	Fluoride	97.4	98.3	99.8		0.946
SM 5310 B-2011	Organic Carbon	96.9	95.4	96.6		0.865

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2235238
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2235255
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2235255
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2235238
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2235238
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2235239
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2235239
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2235239
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2235239
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2235240
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2235256
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2235254
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2235254
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2235238
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2235238
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2235238
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2235238
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2235238
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2235239

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	03/31/2021			03/31/2021 16:06	Yen Ta	2235238
EPA 200.7 Rev. 4.4	03/31/2021	04/05/2021 15:55	Elliott D. Healy	04/13/2021 14:13	Betina Topolski	2235255
EPA 200.8 Rev. 5.4	03/31/2021	04/05/2021 15:55	Elliott D. Healy	04/12/2021 14:41	Alexander Thompson	2235255
EPA 300.0 Rev. 2.1	03/31/2021			04/03/2021 05:05	Lipi Saha	2235238
EPA 350.1 Rev. 2.0	03/31/2021			04/15/2021 19:16	Ping Hua	2235239
EPA 351.2 Rev. 2.0	03/31/2021	04/08/2021 13:19	Benjamin T. Nordmann	04/09/2021 15:02	Virginia P. Brown	2235239
EPA 353.2 Rev. 2.0	03/31/2021			04/02/2021 10:49	Beverly Y. Sanders	2235239
EPA 365.1 Rev. 2.0	03/31/2021	04/02/2021 13:22	Yen Ta	04/05/2021 14:47	Shengyu Ding	2235239
EPA 365.1 Rev. 2.0 dissolved	03/31/2021			03/31/2021 15:11	Patrick M. Roche	2235240
EPA 8270E	03/31/2021	04/01/2021 08:00	Fe-Val Siddell	04/02/2021 19:14	Vandana T. Nagar	2235256
	03/31/2021	04/07/2021 08:00	Fe-Val Siddell	04/08/2021 18:03	Michael Poppell	2235256
EPA 8321B	03/31/2021	04/01/2021 11:00	Rebecca Ware	04/01/2021 15:01	Rebecca Ware	2235254
	03/31/2021	04/01/2021 11:00	Rebecca Ware	04/06/2021 14:32	Rebecca Ware	2235254
	03/31/2021	04/01/2021 12:00	Hoor Shaik	04/02/2021 14:01	Juyoung Kim	2235254
SM 2120 B-2011	03/31/2021			03/31/2021 16:56	Benjamin T. Nordmann	2235238
SM 2320 B-2011	03/31/2021			04/02/2021 02:44	Dale L. Simmons	2235238
SM 2540 C-2011	03/31/2021			04/02/2021 15:25	Yijie Li	2235238
SM 2540 D-2011	03/31/2021			04/02/2021 15:25	Yijie Li	2235238
SM 4500 F-C-2011	03/31/2021			04/02/2021 02:44	Dale L. Simmons	2235238
SM 5310 B-2011	03/31/2021			04/03/2021 07:26	Madeline Gruver	2235239