

Chemical Analysis Report

NW-DIST-2020-12-22-01

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-2020-12-21-37**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-JAN-2021 13:59

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: Carpenter Creek Upstream of 9th Avenue

Collection Date/Time: 12/21/2020 12:33

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2215457	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P391624	
	EPA 300.0 Rev. 2.1	Chloride	8.5		mg Cl/L	P392040	
		Sulfate	6.2		mg SO4/L	P392042	
	SM 2120 B-2011	Color (true)	9.9		PCU	P391633	
	SM 2320 B-2011	Total Alkalinity	18		mg CaCO3/L	P391745	
	SM 2540 C-2011	TDS	56		mg/L	P391952	
	SM 2540 D-2011	TSS	2	I	mg/L	P391959	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P391747	
2215458	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P391733	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P391838	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.0		mg N/L	P391658	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P391689	
	SM 5310 B-2011	Organic Carbon	1.5		mg C/L	P391750	
2215459	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P391629	
2215463	EPA 8321B	2,4-D	0.0034	I	ug/L	P391621	
		Acesulfame K**	0.10	U	ug/L	P391600	
		AMPA**	0.10	U	ug/L	P391600	
		Sucralose**	0.37		ug/L	P391600	
		Acetaminophen**	0.0080	U	ug/L	P391621	
		Acetamiprid**	0.0020	U	ug/L	P391621	
		Endothall**	0.25	U	ug/L	P391600	
		Glufosinate**	0.10	U	ug/L	P391600	
		Glyphosate**	0.10	U	ug/L	P391600	MS
		Afidopyropen**	0.0020	U	ug/L	P391621	
		Bentazon	8.0E-04	U	ug/L	P391621	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P391621	
		Carbamazepine**	0.0020	I	ug/L	P391621	
		Clothianidin**	0.0020	U	ug/L	P391621	
		Dinotefuran**	0.0020	U	ug/L	P391621	
		Diuron	0.0020	U	ug/L	P391621	
		Fenuron	0.016	U	ug/L	P391621	
		Fluridone**	8.0E-04	U	ug/L	P391621	
		Imazapyr**	0.0043	I	ug/L	P391621	
		Hydrocodone**	0.0020	U	ug/L	P391621	
		Ibuprofen**	0.020	U	ug/L	P391621	
		Imidacloprid	0.032		ug/L	P391621	
		Linuron	0.0040	U	ug/L	P391621	
		Mandestrobin**	0.0020	U	ug/L	P391621	
		MCPP	0.0020	U	ug/L	P391621	
		Naproxen**	0.0080	U	ug/L	P391621	RPD
		Primidone**	0.0040	U	ug/L	P391621	
		Pyraclostrobin**	0.0020	U	ug/L	P391621	
		Thiamethoxam**	0.0020	U	ug/L	P391621	

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2215463	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P391621	
		Triclopyr**	0.0040	U	ug/L	P391621	
2215464	EPA 200.7 Rev. 4.4	Barium	26.0		ug/L	P391761	
		Calcium	8.23		mg/L	P391761	
		Iron	250		ug/L	P391761	
		Magnesium	1.99		mg/L	P391761	
		Potassium	0.89	I	mg/L	P391761	
		Sodium	5.6		mg/L	P391761	
		Zinc	5.0	U	ug/L	P391761	
	EPA 200.8 Rev. 5.4	Aluminum	30		ug/L	P391761	
		Antimony	0.081	I	ug/L	P391761	
		Arsenic	0.18	I	ug/L	P391761	
		Boron**	22.2		ug/L	P391761	
		Cadmium	0.020	U	ug/L	P391761	
		Chromium	0.40	U	ug/L	P391761	
		Copper	0.40	U	ug/L	P391761	
		Lead	0.20	U	ug/L	P391761	
		Nickel	0.50	U	ug/L	P391761	
		Selenium	0.25	I	ug/L	P391761	
		Silver	0.010	U	ug/L	P391761	
		Thallium	0.10	U	ug/L	P391761	
2215465	EPA 8270E	Acetochlor	0.25	U	ng/L	P391594	
		Alachlor	0.25	U	ng/L	P391594	
		Ametryn	0.61	U	ng/L	P391594	
		Atrazine	14		ng/L	P391594	
		Atrazine Desethyl	7.4		ng/L	P391594	
		Azinphos Methyl	2.0	U	ng/L	P391594	
		Azoxystrobin**	0.50	UJ	ng/L	P391594	RPD
		Bromacil	7.2		ng/L	P391594	
		Butylate	0.40	U	ng/L	P391594	
		Carbophenothion	0.50	U	ng/L	P391594	
		Carfentrazone Ethyl**	0.10	U	ng/L	P391594	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P391594	
		Chlorpyrifos Methyl	0.050	U	ng/L	P391594	
		Cyanazine	3.3	U	ng/L	P391594	
		Demeton	1.5	U	ng/L	P391594	
		Diazinon	0.13	U	ng/L	P391594	
		Difenoconazole**	0.61	U	ng/L	P391594	
		Dimethenamid**	0.10	U	ng/L	P391594	
		Disulfoton	0.50	U	ng/L	P391594	
		Dithiopyr**	0.13	I	ng/L	P391594	
		EPTC	1.3	U	ng/L	P391594	
		Ethion	0.15	UJ	ng/L	P391594	LCS, RPD
		Ethoprop	0.10	U	ng/L	P391594	
		Fenamiphos	0.50	U	ng/L	P391594	

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2215465	EPA 8270E	Fenbuconazole**	0.13	U	ng/L	P391594	
		Fipronil	3.0		ng/L	P391594	
		Fipronil Desulfinyl**	0.21	I	ng/L	P391594	
		Fipronil Sulfide	0.66		ng/L	P391594	
		Fipronil Sulfone	5.2		ng/L	P391594	
		Fluazifop-P-butyl**	0.10	U	ng/L	P391594	
		Fludioxonil**	0.13	U	ng/L	P391594	
		Flumioxazin**	1.8	U	ng/L	P391594	
		Flutolanil**	0.10	U	ng/L	P391594	
		Fluxapyroxad**	0.10	U	ng/L	P391594	
		Fonofos	0.20	U	ng/L	P391594	
		Hexazinone	0.50	U	ng/L	P391594	
		Imazalil**	0.76	U	ng/L	P391594	
		Iprodione**	0.61	U	ng/L	P391594	
		Malathion	0.35	U	ng/L	P391594	
		Metalaxyl	0.76	U	ng/L	P391594	
		Metolachlor	0.50	U	ng/L	P391594	
		Metribuzin	3.3	U	ng/L	P391594	
		Mevinphos	0.50	U	ng/L	P391594	
		Molinate	0.30	U	ng/L	P391594	
		Myclobutanil**	0.25	U	ng/L	P391594	
		Naled**	1.5	U	ng/L	P391594	
		Norflurazon	0.50	U	ng/L	P391594	
		Oxadiazon	0.11	I	ng/L	P391594	
		Oxyfluorfen**	0.15	U	ng/L	P391594	
		Parathion Ethyl	0.25	U	ng/L	P391594	
		Parathion Methyl	0.55	U	ng/L	P391594	
		Pendimethalin	1.0	U	ng/L	P391594	MS, RPD
		Phorate	0.25	U	ng/L	P391594	
		Prodiamine**	0.79		ng/L	P391594	RPD
		Prometon	1.6	I	ng/L	P391594	
		Prometryn	0.20	U	ng/L	P391594	
		Pronamide**	0.15	U	ng/L	P391594	
		Propiconazole**	0.50	U	ng/L	P391594	
		Pyriproxyfen**	0.13	U	ng/L	P391594	
		Simazine	9.9		ng/L	P391594	
		Sulfentrazone**	0.95	I	ng/L	P391594	
		Tebuconazole**	0.50	U	ng/L	P391594	
		Terbufos	0.10	U	ng/L	P391594	
		Terbuthylazine	2.0		ng/L	P391594	

Ref. Method and Comment:

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

EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. 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: P391624

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391761

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: P391761

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: P392040

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392042

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391733

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: P391838

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391658

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391689

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391629

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

Reference Method: EPA 8270E
 Batch ID: P391594

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
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
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
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: P391594

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	0.50	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	0.50	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
Oxadiazon	0.10	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	0.25	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 8321B
Batch ID: P391600

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

Reference Method: EPA 8321B
Batch ID: P391621

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P391621

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: SM 2120 B-2011
Batch ID: P391633

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P391745

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

Reference Method: SM 2540 C-2011
Batch ID: P391952

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P391959

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P391747

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P391750

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: P391761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.5		P	85 - 115
Calcium	104		P	85 - 115
Iron	102		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	97.6		P	85 - 115
Sodium	103		P	85 - 115
Zinc	97.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.1		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	103		P	85 - 115
Boron	99.8		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	97.6		P	85 - 115
Copper	99.7		P	85 - 115
Lead	103		P	85 - 115
Nickel	99.4		P	85 - 115
Selenium	104		P	85 - 115
Silver	108		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392040

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392042

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391733

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391658

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: P391689

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391629

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

Reference Method: EPA 8270E
 Batch ID: P391594

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	92.0	88.8	P/P	70 - 121
Alachlor	92.4	90.4	P/P	70 - 119
Ametryn	108	132	P/P	61 - 135
Atrazine	98.0	96.9	P/P	76 - 123
Atrazine Desethyl	92.2	95.1	P/P	35 - 140
Azinphos Methyl	142	135	P/P	57 - 163
Azoxystrobin	108	78.1	P/P	43 - 231
Bromacil	82.3	82.8	P/P	42 - 123
Butylate	76.2	68.8	P/P	34 - 92.0
Carbophenothion	92.4	89.0	P/P	61 - 121
Carfentrazone Ethyl	104	101	P/P	62 - 139
Chlorpyrifos Ethyl	81.8	81.0	P/P	67 - 121
Chlorpyrifos Methyl	91.9	93.7	P/P	67 - 120
Cyanazine	133	146	P/P	20 - 226
Demeton	79.1	76.7	P/P	35 - 125
Diazinon	96.1	98.8	P/P	70 - 122
Difenoconazole	104	86.5	P/P	56 - 186
Dimethenamid	87.0	79.2	P/P	67 - 119
Disulfoton	87.9	95.2	P/P	47 - 120
Dithiopyr	82.6	82.0	P/P	67 - 118
EPTC	67.1	56.8	P/P	33 - 90.0
Ethion	49.7	31.6	P/F	40 - 133
Ethoprop	91.3	91.4	P/P	61 - 121
Fenamiphos	95.0	82.9	P/P	31 - 139
Fenbuconazole	105	102	P/P	66 - 141
Fipronil	104	102	P/P	62 - 129
Fipronil Desulfinyl	96.2	96.1	P/P	59 - 126
Fipronil Sulfide	95.3	93.3	P/P	63 - 117
Fipronil Sulfone	76.5	82.9	P/P	57 - 117
Fluazifop-P-butyl	94.8	89.4	P/P	63 - 124
Fludioxonil	96.9	84.9	P/P	63 - 123
Flumioxazin	133	120	P/P	34 - 245
Flutolanil	93.4	89.5	P/P	56 - 131
Fluxapyroxad	89.4	75.6	P/P	57 - 117

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P391594

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fonofos	92.3	94.3	P/P	61 - 116
Hexazinone	84.6	83.6	P/P	55 - 138
Imazalil	104	101	P/P	33 - 143
Iprodione	97.4	87.7	P/P	59 - 118
Malathion	86.8	88.4	P/P	62 - 138
Metalaxyl	101	99.1	P/P	24 - 147
Metolachlor	83.7	85.2	P/P	68 - 118
Metribuzin	112	126	P/P	20 - 239
Mevinphos	93.0	89.6	P/P	46 - 124
Molinate	79.9	75.2	P/P	46 - 100
Myclobutanil	95.3	95.4	P/P	32 - 149
Naled	45.2	42.2	P/P	32 - 95.0
Norflurazon	96.1	96.6	P/P	57 - 127
Oxadiazon	86.4	83.8	P/P	63 - 118
Oxyfluorfen	101	91.2	P/P	69 - 137
Parathion Ethyl	83.2	91.9	P/P	70 - 113
Parathion Methyl	111	108	P/P	71 - 130
Pendimethalin	83.3	83.8	P/P	55 - 118
Phorate	75.0	74.8	P/P	46 - 125
Prodiamine	73.9	76.8	P/P	20 - 141
Prometon	88.7	83.2	P/P	54 - 122
Prometryn	94.7	94.9	P/P	66 - 124
Pronamide	93.4	91.6	P/P	79 - 122
Propiconazole	99.2	93.9	P/P	61 - 126
Pyriproxyfen	90.2	85.4	P/P	52 - 131
Simazine	100	113	P/P	75 - 128
Sulfentrazone	69.6	72.6	P/P	20 - 132
Tebuconazole	51.8	42.1	P/P	20 - 116
Terbufos	83.4	85.5	P/P	61 - 117
Terbutylazine	91.5	90.5	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P391600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	65.1		P	40 - 150
Endothall	95.7		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	99.4		P	40 - 140
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P391621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.7		P	30 - 160
Acetaminophen	74.2		P	30 - 150
Acetamiprid	91.7		P	30 - 160
Afidopyropen	77.3		P	30 - 160
Bentazon	30.5		P	30 - 150
Benzovindiflupyr	84.3		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P391621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	104		P	30 - 160
Clothianidin	82.2		P	30 - 160
Dinotefuran	87.9		P	30 - 160
Diuron	82.4		P	30 - 160
Fenuron	97.6		P	30 - 160
Fluridone	89.6		P	30 - 160
Hydrocodone	94.4		P	30 - 160
Ibuprofen	58.2		P	30 - 160
Imazapyr	84.5		P	30 - 160
Imidacloprid	101		P	30 - 160
Linuron	86.0		P	30 - 160
Mandestrobin	105		P	30 - 160
MCPP	105		P	30 - 160
Naproxen	59.5		P	30 - 160
Primidone	89.0		P	30 - 160
Pyraclostrobin	80.0		P	30 - 160
Thiamethoxam	93.4		P	30 - 160
Tolfenpyrad	50.5		P	30 - 160
Triclopyr	101		P	30 - 160

Reference Method: SM 2120 B-2011

Batch ID: P391633

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

Reference Method: SM 2320 B-2011

Batch ID: P391745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.2		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P391747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P391750

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: P391761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215481	Barium	103	99.7	P/P	80 - 120
2215481	Calcium	110	106	P/P	80 - 120
2215481	Iron	107	105	P/P	80 - 120
2215481	Magnesium	106	103	P/P	80 - 120
2215481	Potassium	104	101	P/P	80 - 120
2215481	Sodium	105	100	P/P	80 - 120
2215481	Zinc	99.5	97.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215481	Aluminum	100	98.8	P/P	80 - 120
2215481	Antimony	105	104	P/P	80 - 120
2215481	Arsenic	103	101	P/P	80 - 120
2215481	Boron	101	100	P/P	80 - 120
2215481	Cadmium	99.0	98.5	P/P	80 - 120
2215481	Chromium	99.5	97.9	P/P	80 - 120
2215481	Copper	101	99.4	P/P	80 - 120
2215481	Lead	106	104	P/P	80 - 120
2215481	Nickel	100	98.8	P/P	80 - 120
2215481	Selenium	100	97.3	P/P	80 - 120
2215481	Silver	102	104	P/P	80 - 120
2215481	Thallium	104	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215069	Chloride	99.1		P	90 - 110
2215322	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215069	Sulfate	98.7		P	90 - 110
2215322	Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215458	Ammonia-N	97.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215416	Kjeldahl Nitrogen	106	113	P/F	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P391658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215368	NO2NO3-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215368	Total-P	102	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215073	O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P391594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214693	Acetochlor	92.3	84.1	P/P	66 - 122
2214693	Alachlor	94.9	83.7	P/P	65 - 122
2214693	Atrazine	105	94.1	P/P	70 - 134
2214693	Atrazine Desethyl	91.1	87.4	P/P	25 - 150
2214693	Azinphos Methyl	138	133	P/P	44 - 174
2214693	Azoxystrobin	114	126	P/P	10 - 268
2214693	Butylate	62.4	60.2	P/P	15 - 97.0
2214693	Carbophenothion	84.5	82.5	P/P	42 - 129
2214693	Carfentrazone Ethyl	96.4	89.1	P/P	62 - 145
2214693	Chlorpyrifos Ethyl	89.3	96.0	P/P	60 - 124
2214693	Chlorpyrifos Methyl	90.8	90.0	P/P	66 - 119
2214693	Cyanazine	131	126	P/P	17 - 225
2214693	Demeton	77.8	78.5	P/P	36 - 142
2214693	Diazinon	104	91.3	P/P	70 - 128
2214693	Difenoconazole	111	115	P/P	33 - 222
2214693	Dimethenamid	83.5	78.6	P/P	54 - 125
2214693	Disulfoton	102	93.9	P/P	49 - 133
2214693	Dithiopyr	87.5	82.2	P/P	55 - 123
2214693	EPTC	57.7	52.8	P/P	19 - 91.0
2214693	Ethion	49.7	67.6	P/P	13 - 143
2214693	Ethoprop	88.4	86.3	P/P	49 - 144
2214693	Fenamiphos	72.4	58.6	P/P	32 - 136
2214693	Fenbuconazole	103	93.8	P/P	73 - 148
2214693	Fipronil	104	92.1	P/P	57 - 129
2214693	Fipronil Desulfinyl	96.5	86.0	P/P	49 - 127
2214693	Fipronil Sulfide	90.0	89.0	P/P	44 - 127
2214693	Fipronil Sulfone	78.4	74.2	P/P	35 - 126
2214693	Fluazifop-P-butyl	93.2	87.5	P/P	67 - 129
2214693	Fludioxonil	88.9	83.7	P/P	61 - 126
2214693	Flumioxazin	152	154	P/P	38 - 279
2214693	Flutolanil	83.2	83.8	P/P	55 - 136
2214693	Fluxapyroxad	90.5	88.9	P/P	33 - 140
2214693	Fonofos	96.7	87.0	P/P	58 - 125
2214693	Hexazinone	92.8	82.3	P/P	57 - 148

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P391594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214693	Imazalil	110	108	P/P	10 - 221
2214693	Iprodione	82.0	86.6	P/P	32 - 140
2214693	Malathion	88.4	92.9	P/P	52 - 138
2214693	Metalaxyl	109	83.8	P/P	46 - 134
2214693	Metribuzin	132	98.9	P/P	16 - 272
2214693	Mevinphos	88.1	84.9	P/P	45 - 140
2214693	Molinate	74.1	70.5	P/P	41 - 103
2214693	Myclobutanil	91.7	85.7	P/P	60 - 134
2214693	Naled	42.6	41.8	P/P	20 - 113
2214693	Oxadiazon	89.6	70.0	P/P	44 - 125
2214693	Oxyfluorfen	119	113	P/P	66 - 176
2214693	Parathion Ethyl	98.7	90.4	P/P	57 - 132
2214693	Parathion Methyl	119	107	P/P	59 - 156
2214693	Pendimethalin	252	106	F/P	59 - 129
2214693	Phorate	87.8	77.2	P/P	47 - 136
2214693	Prodiamine	63.6	92.5	P/P	10 - 159
2214693	Prometon	87.5	81.8	P/P	59 - 127
2214693	Prometryn	100	87.8	P/P	59 - 129
2214693	Pronamide	105	95.5	P/P	65 - 145
2214693	Pyriproxyfen	95.3	91.0	P/P	21 - 180
2214693	Simazine	107	97.7	P/P	63 - 147
2214693	Sulfentrazon	99.6	77.1	P/P	32 - 136
2214693	Tebuconazole	50.1	54.3	P/P	10 - 117
2214693	Terbufos	92.0	86.9	P/P	61 - 131
2214693	Terbutylazine	91.3	83.2	P/P	62 - 126

Reference Method: EPA 8321B
 Batch ID: P391600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215358	Acesulfame K	105	105	P/P	40 - 150
2215358	AMPA	75.7	71.1	P/P	40 - 150
2215358	Endothall	116	118	P/P	40 - 150
2215358	Glufosinate	95.9	103	P/P	40 - 150
2215358	Glyphosate	172	160	F/F	40 - 140
2215358	Sucralose	98.7	102	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P391621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214884	2,4-D	77.1	75.2	P/P	30 - 160
2214884	Acetaminophen	66.8	62.0	P/P	30 - 150
2214884	Acetamiprid	84.9	82.6	P/P	30 - 160
2214884	Afidopyropen	61.9	58.2	P/P	30 - 160
2214884	Bentazon	15.7	14.6	F/F	30 - 150
2214884	Benzovindiflupyr	72.5	82.0	P/P	30 - 160
2214884	Carbamazepine	84.8	82.4	P/P	30 - 160
2214884	Clothianidin	80.9	73.4	P/P	30 - 160
2214884	Dinotefuran	104	96.3	P/P	30 - 160
2214884	Diuron	66.1	59.4	P/P	30 - 160
2214884	Fenuron	73.3	69.0	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P391621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214884	Fluridone	66.5	70.6	P/P	30 - 160
2214884	Hydrocodone	88.5	83.2	P/P	30 - 160
2214884	Ibuprofen	53.3	54.1	P/P	30 - 160
2214884	Imazapyr	91.1	88.4	P/P	30 - 160
2214884	Imidacloprid	138	118	P/P	30 - 160
2214884	Linuron	82.7	70.9	P/P	30 - 160
2214884	Mandestrobin	92.7	69.9	P/P	30 - 160
2214884	MCPP	84.2	72.2	P/P	30 - 160
2214884	Naproxen	60.3	32.2	P/P	30 - 160
2214884	Primidone	78.9	67.1	P/P	30 - 160
2214884	Pyraclostrobin	71.7	69.9	P/P	30 - 160
2214884	Thiamethoxam	122	119	P/P	30 - 160
2214884	Tolfenpyrad	47.3	50.0	P/P	30 - 160
2214884	Triclopyr	82.8	83.0	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P391747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215319	Fluoride	94.5	95.0	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P391750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214867	Organic Carbon	101	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P391624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215485	Turbidity	4.15	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P391761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215481	Barium	2.91	Spike	P	0 - 20
2215481	Calcium	2.61	Spike	P	0 - 20
2215481	Iron	1.46	Spike	P	0 - 20
2215481	Magnesium	2.46	Spike	P	0 - 20
2215481	Potassium	3.47	Spike	P	0 - 20
2215481	Sodium	3.52	Spike	P	0 - 20
2215481	Zinc	2.50	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P391761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215481	Aluminum	1.39	Spike	P	0 - 20
2215481	Antimony	1.48	Spike	P	0 - 20
2215481	Arsenic	2.54	Spike	P	0 - 20
2215481	Boron	0.920	Spike	P	0 - 20
2215481	Cadmium	0.547	Spike	P	0 - 20
2215481	Chromium	1.60	Spike	P	0 - 20
2215481	Copper	1.82	Spike	P	0 - 20
2215481	Lead	1.23	Spike	P	0 - 20
2215481	Nickel	1.39	Spike	P	0 - 20
2215481	Selenium	2.99	Spike	P	0 - 20
2215481	Silver	1.83	Spike	P	0 - 20
2215481	Thallium	0.911	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215322	Chloride	0.578	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215322	Sulfate	1.03	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215458	Ammonia-N	2.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215416	Kjeldahl Nitrogen	3.42	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215368	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215368	Total-P	1.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215073	O-Phosphate-P	0.498	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214693	Acetochlor	9.30	Spike	P	0 - 30
2214693	Alachlor	12.5	Spike	P	0 - 30
2214693	Ametryn	8.51	Spike	P	0 - 30
2214693	Atrazine	10.2	Spike	P	0 - 30
2214693	Atrazine Desethyl	4.12	Spike	P	0 - 30
2214693	Azinphos Methyl	4.12	Spike	P	0 - 30
2214693	Azoxystrobin	5.71	Spike	P	0 - 30
2214693	Bromacil	30.0	Spike	P	0 - 30
2214693	Butylate	3.64	Spike	P	0 - 30
2214693	Carbophenothion	2.34	Spike	P	0 - 30
2214693	Carfentrazone Ethyl	7.86	Spike	P	0 - 30
2214693	Chlorpyrifos Ethyl	7.32	Spike	P	0 - 30
2214693	Chlorpyrifos Methyl	0.880	Spike	P	0 - 30
2214693	Cyanazine	3.53	Spike	P	0 - 30
2214693	Demeton	0.973	Spike	P	0 - 30
2214693	Diazinon	12.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214693	Difenoconazole	3.93	Spike	P	0 - 30
2214693	Dimethenamid	6.07	Spike	P	0 - 30
2214693	Disulfoton	8.67	Spike	P	0 - 30
2214693	Dithiopyr	6.23	Spike	P	0 - 30
2214693	EPTC	8.86	Spike	P	0 - 30
2214693	Ethion	30.5	Spike	F	0 - 30
2214693	Ethoprop	2.16	Spike	P	0 - 30
2214693	Fenamiphos	20.9	Spike	P	0 - 30
2214693	Fenbuconazole	9.08	Spike	P	0 - 30
2214693	Fipronil	12.7	Spike	P	0 - 30
2214693	Fipronil Desulfinyl	11.5	Spike	P	0 - 30
2214693	Fipronil Sulfide	1.17	Spike	P	0 - 30
2214693	Fipronil Sulfone	5.47	Spike	P	0 - 30
2214693	Fluazifop-P-butyl	6.31	Spike	P	0 - 30
2214693	Fludioxonil	6.06	Spike	P	0 - 30
2214693	Flumioxazin	0.976	Spike	P	0 - 30
2214693	Flutolanil	0.703	Spike	P	0 - 30
2214693	Fluxapyroxad	1.84	Spike	P	0 - 30
2214693	Fonofos	10.6	Spike	P	0 - 30
2214693	Hexazinone	8.57	Spike	P	0 - 30
2214693	Imazalil	1.51	Spike	P	0 - 30
2214693	Iprodione	5.46	Spike	P	0 - 30
2214693	Malathion	5.00	Spike	P	0 - 30
2214693	Metalaxyl	13.7	Spike	P	0 - 30
2214693	Metolachlor	29.2	Spike	P	0 - 30
2214693	Metribuzin	28.8	Spike	P	0 - 30
2214693	Mevinphos	3.64	Spike	P	0 - 30
2214693	Molinate	4.90	Spike	P	0 - 30
2214693	Myclobutanil	6.75	Spike	P	0 - 30
2214693	Naled	1.92	Spike	P	0 - 30
2214693	Norflurazon	4.25	Spike	P	0 - 30
2214693	Oxadiazon	14.8	Spike	P	0 - 30
2214693	Oxyfluorfen	4.95	Spike	P	0 - 30
2214693	Parathion Ethyl	8.79	Spike	P	0 - 30
2214693	Parathion Methyl	10.4	Spike	P	0 - 30
2214693	Pendimethalin	81.6	Spike	F	0 - 30
2214693	Phorate	12.9	Spike	P	0 - 30
2214693	Prodiamine	37.1	Spike	F	0 - 30
2214693	Prometon	6.76	Spike	P	0 - 30
2214693	Prometryn	13.4	Spike	P	0 - 30
2214693	Pronamide	9.87	Spike	P	0 - 30
2214693	Propiconazole	8.12	Spike	P	0 - 30
2214693	Pyriproxyfen	4.55	Spike	P	0 - 30
2214693	Simazine	9.11	Spike	P	0 - 30
2214693	Sulfentrazone	13.1	Spike	P	0 - 30
2214693	Tebuconazole	7.99	Spike	P	0 - 30
2214693	Terbufos	5.70	Spike	P	0 - 30
2214693	Terbuthylazine	9.33	Spike	P	0 - 30
LFB	Acetochlor	3.58	LCS	P	0 - 30
LFB	Alachlor	2.26	LCS	P	0 - 30
LFB	Ametryn	20.5	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Atrazine	1.14	LCS	P	0 - 30
LFB	Atrazine Desethyl	3.07	LCS	P	0 - 30
LFB	Azinphos Methyl	4.96	LCS	P	0 - 30
LFB	Azoxystrobin	32.5	LCS	F	0 - 30
LFB	Bromacil	0.640	LCS	P	0 - 30
LFB	Butylate	10.2	LCS	P	0 - 30
LFB	Carbophenothion	3.77	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	2.26	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.971	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.86	LCS	P	0 - 30
LFB	Cyanazine	9.05	LCS	P	0 - 30
LFB	Demeton	3.03	LCS	P	0 - 30
LFB	Diazinon	2.72	LCS	P	0 - 30
LFB	Difenoconazole	18.2	LCS	P	0 - 30
LFB	Dimethenamid	9.45	LCS	P	0 - 30
LFB	Disulfoton	7.96	LCS	P	0 - 30
LFB	Dithiopyr	0.736	LCS	P	0 - 30
LFB	EPTC	16.5	LCS	P	0 - 30
LFB	Ethion	44.7	LCS	F	0 - 30
LFB	Ethoprop	0.156	LCS	P	0 - 30
LFB	Fenamiphos	13.6	LCS	P	0 - 30
LFB	Fenbuconazole	2.80	LCS	P	0 - 30
LFB	Fipronil	1.83	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	0.169	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.13	LCS	P	0 - 30
LFB	Fipronil Sulfone	7.99	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	5.85	LCS	P	0 - 30
LFB	Fludioxonil	13.2	LCS	P	0 - 30
LFB	Flumioxazin	10.2	LCS	P	0 - 30
LFB	Flutolanil	4.21	LCS	P	0 - 30
LFB	Fluxapyroxad	16.7	LCS	P	0 - 30
LFB	Fonofos	2.21	LCS	P	0 - 30
LFB	Hexazinone	1.20	LCS	P	0 - 30
LFB	Imazalil	3.86	LCS	P	0 - 30
LFB	Iprodione	10.4	LCS	P	0 - 30
LFB	Malathion	1.77	LCS	P	0 - 30
LFB	Metaxyl	2.13	LCS	P	0 - 30
LFB	Metolachlor	1.88	LCS	P	0 - 30
LFB	Metribuzin	12.3	LCS	P	0 - 30
LFB	Mevinphos	3.70	LCS	P	0 - 30
LFB	Molinate	6.11	LCS	P	0 - 30
LFB	Myclobutanil	0.102	LCS	P	0 - 30
LFB	Naled	6.79	LCS	P	0 - 30
LFB	Norflurazon	0.557	LCS	P	0 - 30
LFB	Oxadiazon	3.04	LCS	P	0 - 30
LFB	Oxyfluorfen	10.2	LCS	P	0 - 30
LFB	Parathion Ethyl	9.97	LCS	P	0 - 30
LFB	Parathion Methyl	2.53	LCS	P	0 - 30
LFB	Pendimethalin	0.593	LCS	P	0 - 30
LFB	Phorate	0.344	LCS	P	0 - 30
LFB	Prodiamine	3.89	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P391594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometon	6.43	LCS	P	0 - 30
LFB	Prometryn	0.150	LCS	P	0 - 30
LFB	Pronamide	1.94	LCS	P	0 - 30
LFB	Propiconazole	5.48	LCS	P	0 - 30
LFB	Pyriproxyfen	5.39	LCS	P	0 - 30
LFB	Simazine	12.1	LCS	P	0 - 30
LFB	Sulfentrazone	4.20	LCS	P	0 - 30
LFB	Tebuconazole	20.6	LCS	P	0 - 30
LFB	Terbufos	2.55	LCS	P	0 - 30
LFB	Terbutylazine	1.10	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P391600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215358	Acesulfame K	0.330	Spike	P	0 - 30
2215358	AMPA	5.91	Spike	P	0 - 30
2215358	Endothall	1.24	Spike	P	0 - 30
2215358	Glufosinate	6.63	Spike	P	0 - 30
2215358	Glyphosate	7.06	Spike	P	0 - 30
2215358	Sucralose	2.92	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P391621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214884	2,4-D	2.55	Spike	P	0 - 30
2214884	Acetaminophen	7.36	Spike	P	0 - 30
2214884	Acetamiprid	2.80	Spike	P	0 - 30
2214884	Afidopyropen	6.16	Spike	P	0 - 30
2214884	Bentazon	7.31	Spike	P	0 - 30
2214884	Benzovindiflupyr	12.3	Spike	P	0 - 30
2214884	Carbamazepine	2.93	Spike	P	0 - 30
2214884	Clothianidin	9.75	Spike	P	0 - 30
2214884	Dinotefuran	7.81	Spike	P	0 - 30
2214884	Diuron	10.6	Spike	P	0 - 30
2214884	Fenuron	6.04	Spike	P	0 - 30
2214884	Fluridone	6.03	Spike	P	0 - 30
2214884	Hydrocodone	6.26	Spike	P	0 - 30
2214884	Ibuprofen	1.64	Spike	P	0 - 30
2214884	Imazapyr	2.99	Spike	P	0 - 30
2214884	Imidacloprid	10.4	Spike	P	0 - 30
2214884	Linuron	15.3	Spike	P	0 - 30
2214884	Mandestrobin	28.1	Spike	P	0 - 30
2214884	MCP	15.3	Spike	P	0 - 30
2214884	Naproxen	60.8	Spike	F	0 - 30
2214884	Primidone	16.2	Spike	P	0 - 30
2214884	Pyraclostrobin	2.53	Spike	P	0 - 30
2214884	Thiamethoxam	2.72	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P391621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214884	Tolfenpyrad	5.62	Spike	P	0 - 30
2214884	Triclopyr	0.219	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
 Batch ID: P391633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215415	Color (true)	1.26	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P391745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215319	Total Alkalinity	1.16	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
 Batch ID: P391952

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215322	TDS	3.85	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P391747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215319	Fluoride	0.477	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P391750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214867	Organic Carbon	0.172	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2215463
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	65.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.2	P	30 - 160
EPA 8321B	Diuron-d6	76.6	P	30 - 160
EPA 8321B	Endothall-d6	100	P	40 - 160
EPA 8321B	Endothall-d6	100	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	86.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	86.0	P	40 - 160
EPA 8321B	Ibuprofen-d3	50.7	P	30 - 160
EPA 8321B	Primidone-d5	94.6	P	30 - 160
EPA 8321B	Sucralose-d6	96.9	P	30 - 160
EPA 8321B	Sucralose-d6	96.9	P	30 - 160

Lab Sample ID: 2215465
Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	92.5	P	73 - 135
EPA 8270E	Terbufos-d10	79.9	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102728

Included Lab Sample IDs: 2215457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102730

Included Lab Sample IDs: 2215459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	99.3	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A102732

Included Lab Sample IDs: 2215457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	104	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102742

Included Lab Sample IDs: 2215458

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102784

Included Lab Sample IDs: 2215458

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A102789

Included Lab Sample IDs: 2215457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.0	95.4	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102789

Included Lab Sample IDs: 2215457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	99.1	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A102792

Included Lab Sample IDs: 2215458

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102799

Included Lab Sample IDs: 2215458

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A102827

Included Lab Sample IDs: 2215464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	102	P/P	95 - 105
Calcium	102	103	P/P	95 - 105
Iron	103	102	P/P	95 - 105
Magnesium	102	100	P/P	95 - 105
Potassium	100	97.5	P/P	95 - 105
Sodium	101	101	P/P	95 - 105
Zinc	103	103	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A102836

Included Lab Sample IDs: 2215463

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	141	108	P/P	60 - 160
AMPA	75.6	79.8	P/P	60 - 160
Endothall	85.5	97.5	P/P	60 - 160
Glufosinate	96.1	96.1	P/P	60 - 160
Glyphosate	99.7	100	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102855

Included Lab Sample IDs: 2215458

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	95.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102859

Included Lab Sample IDs: 2215463

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	94.3	100	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102872

Included Lab Sample IDs: 2215464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.8	101	P/P	90 - 110
Antimony	102	101	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Boron	105	106	P/P	90 - 110
Cadmium	100	99.4	P/P	90 - 110
Chromium	97.0	97.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102872

Included Lab Sample IDs: 2215464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	98.0	97.8	P/P	90 - 110
Lead	106	105	P/P	90 - 110
Nickel	98.3	97.8	P/P	90 - 110
Selenium	100	101	P/P	90 - 110
Thallium	103	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102875

Included Lab Sample IDs: 2215457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	99.3	P/P	90 - 110
Sulfate	98.7	98.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102877

Included Lab Sample IDs: 2215463

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.5	86.0	P/P	50 - 150
Acetaminophen	90.6	131	P/P	60 - 160
Acetamiprid	97.1	109	P/P	50 - 150
Afidopyropen	101	111	P/P	50 - 150
Bentazon	88.4	109	P/P	50 - 160
Benzovindiflupyr	96.6	91.4	P/P	50 - 150
Carbamazepine	117	117	P/P	60 - 150
Clothianidin	96.5	112	P/P	60 - 150
Dinotefuran	99.1	101	P/P	50 - 150
Diuron	119	104	P/P	60 - 160
Fenuron	91.2	107	P/P	60 - 150
Fluridone	98.3	109	P/P	60 - 160
Hydrocodone	93.7	109	P/P	60 - 150
Ibuprofen	107	88.7	P/P	50 - 160
Imazapyr	77.0	88.1	P/P	50 - 150
Imidacloprid	81.9	98.5	P/P	60 - 150
Linuron	101	91.6	P/P	60 - 150
Mandestrobin	115	124	P/P	50 - 150
MCPP	94.1	93.3	P/P	50 - 150
Naproxen	115	126	P/P	50 - 160
Primidone	102	106	P/P	60 - 150
Pyraclostrobin	105	109	P/P	60 - 150
Thiamethoxam	93.3	108	P/P	50 - 150
Tolfenpyrad	120	117	P/P	60 - 150
Triclopyr	102	91.8	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A102893

Included Lab Sample IDs: 2215464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	101	106	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A102921

Included Lab Sample IDs: 2215465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.1		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	98.4		P	80 - 120
Atrazine	97.5		P	80 - 120
Atrazine Desethyl	103		P	80 - 120
Azinphos Methyl	91.9		P	80 - 120
Azoxystrobin	94.9		P	80 - 120
Bromacil	97.4		P	80 - 120
Butylate	99.9		P	80 - 120
Carbophenothion	98.7		P	80 - 120
Carfentrazone Ethyl	98.5		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	98.3		P	80 - 120
Cyanazine	105		P	80 - 120
Demeton	95.4		P	80 - 120
Diazinon	99.6		P	80 - 120
Difenoconazole	96.6		P	80 - 120
Dimethenamid	99.1		P	80 - 120
Disulfoton	94.8		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	102		P	80 - 120
Ethion	96.5		P	80 - 120
Ethoprop	99.3		P	80 - 120
Fenamiphos	93.0		P	80 - 120
Fenbuconazole	96.7		P	80 - 120
Fipronil	99.0		P	80 - 120
Fipronil Desulfinyl	99.5		P	80 - 120
Fipronil Sulfide	95.6		P	80 - 120
Fipronil Sulfone	96.7		P	80 - 120
Fluazifop-P-butyl	95.6		P	80 - 120
Fludioxonil	97.3		P	80 - 120
Flumioxazin	98.7		P	80 - 120
Flutolanil	98.1		P	80 - 120
Fluxapyroxad	96.8		P	80 - 120
Fonofos	102		P	80 - 120
Hexazinone	103		P	80 - 120
Imazalil	99.4		P	80 - 120
Iprodione	106		P	80 - 120
Malathion	98.2		P	80 - 120
Metalaxyl	102		P	80 - 120
Metolachlor	98.5		P	80 - 120
Metribuzin	94.4		P	80 - 120
Mevinphos	106		P	80 - 120
Molinate	101		P	80 - 120
Myclobutanil	98.7		P	80 - 120
Naled	107		P	80 - 120
Norflurazon	95.6		P	80 - 120
Oxadiazon	100		P	80 - 120
Oxyfluorfen	97.8		P	80 - 120
Parathion Ethyl	94.3		P	80 - 120
Parathion Methyl	102		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A102921

Included Lab Sample IDs: 2215465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pendimethalin	96.8		P	80 - 120
Phorate	105		P	80 - 120
Prodiamine	98.1		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	99.8		P	80 - 120
Pronamide	97.5		P	80 - 120
Propiconazole	94.7		P	80 - 120
Pyriproxyfen	95.8		P	80 - 120
Simazine	99.3		P	80 - 120
Sulfentrazone	97.1		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	97.2		P	80 - 120
Terbutylazine	97.6		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						4.15	
EPA 200.7 Rev. 4.4	Barium	99.5		103	99.7			2.91
	Calcium	104		110	106			2.61
	Iron	102		107	105			1.46
	Magnesium	102		106	103			2.46
	Potassium	97.6		104	101			3.47
	Sodium	103		105	100			3.52
	Zinc	97.7		99.5	97.0			2.50
EPA 200.8 Rev. 5.4	Aluminum	98.1		100	98.8			1.39
	Antimony	104		105	104			1.48
	Arsenic	103		103	101			2.54
	Boron	99.8		101	100			0.920
	Cadmium	100		99.0	98.5			0.547
	Chromium	97.6		99.5	97.9			1.60
	Copper	99.7		101	99.4			1.82
	Lead	103		106	104			1.23
	Nickel	99.4		100	98.8			1.39
	Selenium	104		100	97.3			2.99
	Silver	108		102	104			1.83
	Thallium	101		104	103			0.911
EPA 300.0 Rev. 2.1	Chloride	99.4		97.8	99.1		0.578	
	Sulfate	99.9		97.7	98.7		1.03	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2		97.8	100			2.08
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107		106	113			3.42
EPA 353.2 Rev. 2.0	NO2NO3-N	100		97.0	97.0			0.0
EPA 365.1 Rev. 2.0	Total-P	102		102	99.5			1.76
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6		101	100			0.498
EPA 8270E	Acetochlor	92.0	88.8	92.3	84.1	3.58		9.30
	Alachlor	92.4	90.4	94.9	83.7	2.26		12.5
	Ametryn	108	132			20.5		8.51
	Atrazine	98.0	96.9	105	94.1	1.14		10.2
	Atrazine Desethyl	92.2	95.1	91.1	87.4	3.07		4.12
	Azinphos Methyl	142	135	138	133	4.96		4.12
	Azoxystrobin	108	78.1	126	114	32.5		5.71
	Bromacil	82.3	82.8			0.640		30.0
	Butylate	76.2	68.8	60.2	62.4	10.2		3.64
	Carbophenothion	92.4	89.0	84.5	82.5	3.77		2.34
	Carfentrazone Ethyl	104	101	96.4	89.1	2.26		7.86
	Chlorpyrifos Ethyl	81.8	81.0	89.3	96.0	0.971		7.32
	Chlorpyrifos Methyl	91.9	93.7	90.8	90.0	1.86		0.880
	Cyanazine	133	146	131	126	9.05		3.53
	Demeton	79.1	76.7	77.8	78.5	3.03		0.973
	Diazinon	96.1	98.8	104	91.3	2.72		12.6
	Difenoconazole	104	86.5	111	115	18.2		3.93
	Dimethenamid	87.0	79.2	83.5	78.6	9.45		6.07
	Disulfoton	87.9	95.2	102	93.9	7.96		8.67
	Dithiopyr	82.6	82.0	87.5	82.2	0.736		6.23
	EPTC	67.1	56.8	57.7	52.8	16.5		8.86
	Ethion	49.7	31.6	49.7	67.6	44.7		30.5
	Ethoprop	91.3	91.4	88.4	86.3	0.156		2.16
	Fenamiphos	95.0	82.9	72.4	58.6	13.6		20.9
	Fenbuconazole	105	102	103	93.8	2.80		9.08
	Fipronil	104	102	104	92.1	1.83		12.7
	Fipronil Desulfinyl	96.2	96.1	96.5	86.0	0.169		11.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Fipronil Sulfide	95.3	93.3	90.0	89.0	2.13	1.17
	Fipronil Sulfone	76.5	82.9	78.4	74.2	7.99	5.47
	Fluazifop-P-butyl	94.8	89.4	93.2	87.5	5.85	6.31
	Fludioxonil	96.9	84.9	88.9	83.7	13.2	6.06
	Flumioxazin	133	120	152	154	10.2	0.976
	Flutolanil	93.4	89.5	83.2	83.8	4.21	0.703
	Fluxapyroxad	89.4	75.6	90.5	88.9	16.7	1.84
	Fonofos	92.3	94.3	96.7	87.0	2.21	10.6
	Hexazinone	84.6	83.6	92.8	82.3	1.20	8.57
	Imazalil	104	101	110	108	3.86	1.51
	Iprodione	97.4	87.7	82.0	86.6	10.4	5.46
	Malathion	86.8	88.4	88.4	92.9	1.77	5.00
	Metalaxyl	101	99.1	109	83.8	2.13	13.7
	Metolachlor	83.7	85.2			1.88	29.2
	Metribuzin	112	126	132	98.9	12.3	28.8
	Mevinphos	93.0	89.6	88.1	84.9	3.70	3.64
	Molinate	79.9	75.2	74.1	70.5	6.11	4.90
	Myclobutanil	95.3	95.4	91.7	85.7	0.102	6.75
	Naled	45.2	42.2	42.6	41.8	6.79	1.92
	Norflurazon	96.1	96.6			0.557	4.25
	Oxadiazon	86.4	83.8	89.6	70.0	3.04	14.8
	Oxyfluorfen	101	91.2	119	113	10.2	4.95
	Parathion Ethyl	83.2	91.9	98.7	90.4	9.97	8.79
	Parathion Methyl	111	108	119	107	2.53	10.4
	Pendimethalin	83.3	83.8	252	106	0.593	81.6
	Phorate	75.0	74.8	87.8	77.2	0.344	12.9
	Prodiamine	73.9	76.8	63.6	92.5	3.89	37.1
	Prometon	88.7	83.2	87.5	81.8	6.43	6.76
	Prometryn	94.7	94.9	100	87.8	0.150	13.4
	Pronamide	93.4	91.6	105	95.5	1.94	9.87
	Propiconazole	99.2	93.9			5.48	8.12
	Pyriproxyfen	90.2	85.4	95.3	91.0	5.39	4.55
	Simazine	100	113	107	97.7	12.1	9.11
	Sulfentrazone	69.6	72.6	99.6	77.1	4.20	13.1
	Tebuconazole	51.8	42.1	50.1	54.3	20.6	7.99
	Terbufos	83.4	85.5	92.0	86.9	2.55	5.70
	Terbutylazine	91.5	90.5	91.3	83.2	1.10	9.33
EPA 8321B	2,4-D	96.7		77.1	75.2		2.55
	Acesulfame K	112		105	105		0.330
	Acetaminophen	74.2		66.8	62.0		7.36
	Acetamiprid	91.7		84.9	82.6		2.80
	Afidopyropen	77.3		61.9	58.2		6.16
	AMPA	65.1		75.7	71.1		5.91
	Bentazon	30.5		15.7	14.6		7.31
	Benzovindiflupyr	84.3		72.5	82.0		12.3
	Carbamazepine	104		84.8	82.4		2.93
	Clothianidin	82.2		80.9	73.4		9.75
	Dinotefuran	87.9		104	96.3		7.81
	Diuron	82.4		66.1	59.4		10.6
	Endothall	95.7		116	118		1.24
	Fenuron	97.6		73.3	69.0		6.04
	Fluridone	89.6		66.5	70.6		6.03
	Glufosinate	102		95.9	103		6.63
	Glyphosate	99.4		172	160		7.06

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Hydrocodone	94.4	88.5	83.2			6.26
	Ibuprofen	58.2	53.3	54.1			1.64
	Imazapyr	84.5	91.1	88.4			2.99
	Imidacloprid	101	138	118			10.4
	Linuron	86.0	82.7	70.9			15.3
	Mandestrobin	105	92.7	69.9			28.1
	MCCP	105	84.2	72.2			15.3
	Naproxen	59.5	60.3	32.2			60.8
	Primidone	89.0	78.9	67.1			16.2
	Pyraclostrobin	80.0	71.7	69.9			2.53
	Sucralose	102	98.7	102			2.92
	Thiamethoxam	93.4	122	119			2.72
	Tolfenpyrad	50.5	47.3	50.0			5.62
	Triclopyr	101	82.8	83.0			0.219
SM 2120 B-2011	Color (true)	102				1.26	
SM 2320 B-2011	Total Alkalinity	97.2				1.16	
SM 2540 C-2011	TDS					3.85	
SM 4500 F-C-2011	Fluoride	96.7	94.5	95.0			0.477
SM 5310 B-2011	Organic Carbon	101	101	101			0.172

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2215457
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2215464
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2215464
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2215457
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2215457
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2215458
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2215458
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2215458
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2215458
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2215459
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2215465
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2215463
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2215463
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2215457
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2215457
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2215457
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2215457
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2215457
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2215458

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	12/22/2020			12/22/2020 14:51	Yen Ta	2215457
EPA 200.7 Rev. 4.4	12/22/2020	12/28/2020 14:15	Elliott D. Healy	12/29/2020 16:32	Betina Topolski	2215464
EPA 200.8 Rev. 5.4	12/22/2020	12/28/2020 14:15	Elliott D. Healy	01/04/2021 10:46	Alexander Thompson	2215464
	12/22/2020	12/28/2020 14:15	Elliott D. Healy	01/05/2021 12:23	Alexander Thompson	2215464
EPA 300.0 Rev. 2.1	12/22/2020			01/06/2021 19:14	Lipi Saha	2215457
EPA 350.1 Rev. 2.0	12/22/2020			12/27/2020 14:23	Ping Hua	2215458
EPA 351.2 Rev. 2.0	12/22/2020	12/29/2020 10:24	Yen Ta	12/30/2020 16:53	Virginia P. Brown	2215458
EPA 353.2 Rev. 2.0	12/22/2020			12/23/2020 09:57	Beverly Y. Sanders	2215458
EPA 365.1 Rev. 2.0	12/22/2020	12/23/2020 10:14	Yen Ta	12/28/2020 12:55	Shengyu Wang	2215458
EPA 365.1 Rev. 2.0 dissolved	12/22/2020			12/22/2020 15:20	Blanca Fach	2215459
EPA 8270E	12/22/2020	12/22/2020 13:30	Fe-Val Siddell	12/23/2020 18:51	Vandana T. Nagar	2215465
EPA 8321B	12/22/2020	12/22/2020 13:45	Rebecca Ware	12/22/2020 16:27	Rebecca Ware	2215463
	12/22/2020	12/22/2020 13:45	Rebecca Ware	12/31/2020 00:22	Rebecca Ware	2215463
	12/22/2020	12/23/2020 09:00	Hoor Shaik	12/24/2020 18:15	Juyoung Kim	2215463
SM 2120 B-2011	12/22/2020			12/22/2020 15:54	Benjamin T. Nordmann	2215457
SM 2320 B-2011	12/22/2020			12/23/2020 18:51	Dale L. Simmons	2215457
SM 2540 C-2011	12/22/2020			12/26/2020 16:45	Yijie Li	2215457
SM 2540 D-2011	12/22/2020			12/26/2020 16:45	Yijie Li	2215457
SM 4500 F-C-2011	12/22/2020			12/23/2020 18:51	Dale L. Simmons	2215457
SM 5310 B-2011	12/22/2020			12/24/2020 00:00	Madeline Gruver	2215458