

Chemical Analysis Report

NW-DIST-2022-03-09-01

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

Event Description: **Bioassessment Deadfall Creek**
Request ID: **RQ-2022-01-31-60**
Customer: **NW-DIST**
Project ID: **SMP**

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

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 01-APR-2022 10:49

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Deadfall Creek upstream of Old River Rd

Collection Date/Time: 03/08/2022 10:45

Field ID: G4NW0491

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311416	DEP SOP: NU-094-1	Color (true)**	23	A	PCU	P410884	
	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P410886	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P411236	
		Sulfate	1.2		mg SO4/L	P411238	
	SM 2320 B-2011	Total Alkalinity	1.5	I	mg CaCO3/L	P411006	
	SM 2540 C-2011	TDS	19	I	mg/L	P411395	
	SM 2540 D-2011	TSS	2	I	mg/L	P411375	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P411009	
2311418	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P410950	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.11	I	mg N/L	P411004	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P411158	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P411142	
	SM 5310 B-2011	Organic Carbon	2.0		mg C/L	P411102	
2311420	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P410881	
2311433	EPA 8321B	2,4-D	0.0020	U	ug/L	P410917	
		Acesulfame K	0.10	U	ug/L	P410753	
		2,4,5-T	0.0040	U	ug/L	P410917	
		AMPA	0.10	U	ug/L	P410753	
		Sucralose	0.010	U	ug/L	P410753	
		Acetaminophen	0.0080	U	ug/L	P410917	
		Acetamiprid	0.0020	U	ug/L	P410917	
		Endothall	0.25	U	ug/L	P410753	
		Glufosinate	0.10	U	ug/L	P410753	
		Glyphosate	0.10	U	ug/L	P410753	
		Afidopyropen	0.0020	U	ug/L	P410917	
		Bentazon	8.0E-04	U	ug/L	P410917	
		Benzovindiflupyr	0.0020	U	ug/L	P410917	
		Carbamazepine	8.0E-04	U	ug/L	P410917	
		Clothianidin	0.0020	U	ug/L	P410917	
		Dinotefuran	0.0020	U	ug/L	P410917	
		Diuron	0.0020	U	ug/L	P410917	
		Fenuron	0.016	U	ug/L	P410917	
		Fluridone	8.0E-04	U	ug/L	P410917	
		Imazapyr	0.0040	U	ug/L	P410917	
		Hydrocodone	0.0020	U	ug/L	P410917	
		Ibuprofen	0.020	U	ug/L	P410917	
		Imidacloprid	0.0020	U	ug/L	P410917	MS
		Linuron	0.0040	U	ug/L	P410917	
		Mandestrobin	0.0020	U	ug/L	P410917	
		MCPP	0.0040	U	ug/L	P410917	
		Naproxen	0.0080	U	ug/L	P410917	
		Primidone	0.0040	U	ug/L	P410917	RPD
		Pyraclostrobin	0.0020	U	ug/L	P410917	

Field ID: G4NW0491

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311433	EPA 8321B	Silvex	0.0040	U	ug/L	P410917	
		Thiamethoxam	0.0020	U	ug/L	P410917	MS
		Tolfenpyrad	0.0020	U	ug/L	P410917	
		Triclopyr	0.0040	U	ug/L	P410917	
2311435	EPA 200.7 Rev. 4.4	Barium	15.6		ug/L	P410896	
		Calcium	1.09		mg/L	P410896	
		Iron	230		ug/L	P411149	
		Magnesium	0.66		mg/L	P410896	
		Manganese	10.6		ug/L	P410896	
		Potassium	0.30	U	mg/L	P410896	
		Sodium	1.8	I	mg/L	P410896	
		Strontium	7.4	I	ug/L	P410896	
		Tin	3.0	U	ug/L	P410896	
		Titanium	0.98	I	ug/L	P410896	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P410896	
		Zinc	5.0	U	ug/L	P410896	
		Aluminum	75		ug/L	P410896	
		Antimony	0.050	U	ug/L	P410896	
		Arsenic	0.12	I	ug/L	P410896	
		Beryllium	0.058		ug/L	P410896	
		Boron**	7.1	I	ug/L	P410896	
		Cadmium	0.020	U	ug/L	P410896	
		Chromium	0.40	U	ug/L	P410896	
		Cobalt	0.331		ug/L	P410896	
2311437	SM 2340B	Copper	0.40	U	ug/L	P410896	
		Lead	0.20	U	ug/L	P410896	
	EPA 8270E	Molybdenum	0.15	U	ug/L	P410896	
		Nickel	0.56	I	ug/L	P410896	
		Selenium	0.20	U	ug/L	P410896	
		Silver	0.010	U	ug/L	P410896	
		Thallium	0.10	U	ug/L	P410896	
		Hardness	5.4		mg/L	P410896	
		Oxybenzone**	9.7	U	ng/L	P410922	
		Acetochlor	0.26	UQ	ng/L	P411545	
		Octinoxate**	36	IQJ	ng/L	P411545	LCS, RPD
		Alachlor	0.26	UQ	ng/L	P411545	
		Avobenzone**	97	U	ng/L	P410922	RPD
		Ametryn	0.63	UQ	ng/L	P411545	
		Atrazine	0.26	UQ	ng/L	P411545	
		Atrazine Desethyl	1.6	UQ	ng/L	P411545	
		Azinphos Methyl	2.1	UQ	ng/L	P411545	
		Azoxystrobin**	0.52	UQ	ng/L	P411545	
		Bromacil	0.52	UQ	ng/L	P411545	
		Butylate	0.42	UQ	ng/L	P411545	
		Caffeine**	39	Q	ng/L	P411545	

Field ID: G4NW0491

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311437	EPA 8270E	Carbophenothion	0.21	UQ	ng/L	P411545	MS
		Carfentrazone Ethyl**	0.10	UQ	ng/L	P411545	MS
		Chlorfenapyr**	0.18	UQ	ng/L	P411545	
		Chlorpyrifos Ethyl	0.26	UQ	ng/L	P411545	
		Chlorpyrifos Methyl	0.052	UQ	ng/L	P411545	
		Coumaphos**	0.52	UQ	ng/L	P411545	
		Cyanazine	3.4	UQ	ng/L	P411545	
		Cyprodinil**	0.10	UQ	ng/L	P411545	
		Demeton	1.6	UQ	ng/L	P411545	
		Diazinon	0.13	UQ	ng/L	P411545	
		Difenoconazole**	0.63	UQ	ng/L	P411545	
		Dimethenamid**	0.10	UQ	ng/L	P411545	
		Dimethomorph**	0.18	UQ	ng/L	P411545	
		Disulfoton	0.52	UQ	ng/L	P411545	
		Dithiopyr**	0.18	UQ	ng/L	P411545	
		EPTC	1.3	UQ	ng/L	P411545	
		Ethion	0.16	UQ	ng/L	P411545	
		Ethoprop	0.10	UQ	ng/L	P411545	
		Etridiazole**	0.16	UQJ	ng/L	P411545	MS, RPD
		Fenamiphos	0.52	UQ	ng/L	P411545	
		Fenbuconazole**	0.13	UQ	ng/L	P411545	
		Fipronil	0.26	UQ	ng/L	P411545	
		Fipronil Desulfinyl**	0.13	UQ	ng/L	P411545	
		Fipronil Sulfide	0.16	UQ	ng/L	P411545	
		Fipronil Sulfone	0.16	UQ	ng/L	P411545	
		Fluazifop-P-butyl**	0.10	UQ	ng/L	P411545	
		Fludioxonil**	0.13	UQ	ng/L	P411545	
		Flumioxazin**	1.8	UQ	ng/L	P411545	MS
		Flutolanil**	0.10	UQ	ng/L	P411545	
		Fluxapyroxad**	0.17	IQ	ng/L	P411545	
		Fonofos	0.21	UQ	ng/L	P411545	
		Hexazinone	0.52	UQ	ng/L	P411545	
		Imazalil**	0.78	UQ	ng/L	P411545	
		Iprodione**	0.63	UQJ	ng/L	P411545	LCS
		Loratadine**	0.10	UQ	ng/L	P411545	
		Malathion	0.36	UQ	ng/L	P411545	
		Metalaxyl	0.78	UQ	ng/L	P411545	
		Metolachlor	0.82	IQ	ng/L	P411545	
		Metribuzin	2.6	UQ	ng/L	P411545	
		Mevinphos	1.1	UQ	ng/L	P411545	
		Molinate	0.31	UQ	ng/L	P411545	MS
		Myclobutanil**	0.26	UQ	ng/L	P411545	
		Naled**	1.6	UQ	ng/L	P411545	
		Napropamide**	0.42	UQ	ng/L	P411545	
		Norflurazon	0.66	IQ	ng/L	P411545	

Field ID: G4NW0491

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311437	EPA 8270E	Oxadiazon	0.31	UQ	ng/L	P411545	
		Oxyfluorfen**	0.16	UQ	ng/L	P411545	
		Parathion Ethyl	0.26	UQ	ng/L	P411545	
		Parathion Methyl	0.57	UQ	ng/L	P411545	
		Pendimethalin	1.0	UQ	ng/L	P411545	
		Phenytol**	3.6	UQ	ng/L	P411545	
		Phorate	0.55	UQ	ng/L	P411545	
		Prodiatone**	0.18	UQ	ng/L	P411545	
		Prometon	0.94	UQ	ng/L	P411545	
		Prometryn	0.21	UQ	ng/L	P411545	
		Pronamide**	0.16	UQ	ng/L	P411545	
		Propanil**	0.13	UQ	ng/L	P411545	
		Propargite**	1.6	UQJ	ng/L	P411545	RPD
		Propiconazole**	0.52	UQ	ng/L	P411545	
		Pyraflufen Ethyl**	0.26	UQ	ng/L	P411545	
		Pyridaben**	0.47	UQ	ng/L	P411545	
		Pyriproxyfen**	0.13	UQ	ng/L	P411545	
		Simazine	0.52	UQ	ng/L	P411545	
		Stirophos**	0.15	IQ	ng/L	P411545	
		Sulfentrazon**	0.52	UQ	ng/L	P411545	MS
		Tebuconazole**	0.52	UQ	ng/L	P411545	MS
		Terbufos	0.10	UQ	ng/L	P411545	
		Terbutylazine	0.44	UQ	ng/L	P411545	
		Thiobencarb**	0.63	UQ	ng/L	P411545	
		Triadimefon**	0.26	UQ	ng/L	P411545	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 8270E: Sample expired for preparation for octinoxate due to need for re-extraction. Insufficient sample available to perform duplicate matrix spikes in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8270E: Sample expired for preparation due to need for re-extraction. Insufficient sample available to perform duplicate matrix spikes in re-extraction. MS accuracy for multiple 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.

Sample Location: Deadfall Creek upstream of Shockley Springs Rd **Collection Date/Time: 03/08/2022 11:30**

Field ID: G4NW0490

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311417	DEP SOP: NU-094-1	Color (true)**	26		PCU	P410884	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P410886	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P411236	
		Sulfate	1.5		mg SO4/L	P411238	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P411006	
	SM 2540 C-2011	TDS	17	I	mg/L	P411395	
	SM 2540 D-2011	TSS	2	I	mg/L	P411375	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P411009	
2311419	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P410950	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P411041	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P411159	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P411142	
	SM 5310 B-2011	Organic Carbon	2.1		mg C/L	P411102	
2311421	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P410881	
2311434	EPA 8321B	2,4-D	0.0020	U	ug/L	P410917	
		Acesulfame K	0.10	U	ug/L	P410753	
		2,4,5-T	0.0040	U	ug/L	P410917	
		AMPA	0.10	U	ug/L	P410753	
		Sucralose	0.010	U	ug/L	P410753	
		Acetaminophen	0.0080	U	ug/L	P410917	
		Acetamiprid	0.0020	U	ug/L	P410917	
		Endothall	0.25	U	ug/L	P410753	
		Glufosinate	0.10	U	ug/L	P410753	
		Glyphosate	0.10	U	ug/L	P410753	
		Afidopyropen	0.0020	U	ug/L	P410917	
		Bentazon	8.0E-04	U	ug/L	P410917	
		Benzovindiflupyr	0.0020	U	ug/L	P410917	
		Carbamazepine	8.0E-04	U	ug/L	P410917	
		Clothianidin	0.0020	U	ug/L	P410917	
		Dinotefuran	0.0020	U	ug/L	P410917	
		Diuron	0.0020	U	ug/L	P410917	
		Fenuron	0.016	U	ug/L	P410917	
		Fluridone	8.0E-04	U	ug/L	P410917	
		Imazapyr	0.0040	U	ug/L	P410917	
		Hydrocodone	0.0020	U	ug/L	P410917	
		Ibuprofen	0.020	U	ug/L	P410917	
		Imidacloprid	0.0020	U	ug/L	P410917	MS
		Linuron	0.0040	U	ug/L	P410917	
		Mandestrobin	0.0020	U	ug/L	P410917	
		MCPP	0.0040	U	ug/L	P410917	
		Naproxen	0.0080	U	ug/L	P410917	
		Primidone	0.0040	U	ug/L	P410917	RPD

Field ID: G4NW0490

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311434	EPA 8321B	Pyraclostrobin	0.0020	U	ug/L	P410917	MS
		Silvex	0.0040	U	ug/L	P410917	
		Thiamethoxam	0.0020	U	ug/L	P410917	
		Tolfenpyrad	0.0020	U	ug/L	P410917	
		Triclopyr	0.0040	U	ug/L	P410917	
2311436	EPA 200.7 Rev. 4.4	Barium	12.5		ug/L	P410896	
		Calcium	0.64		mg/L	P410896	
		Iron	200		ug/L	P411149	
		Magnesium	0.50		mg/L	P410896	
		Manganese	12.6		ug/L	P410896	
		Potassium	0.30	U	mg/L	P410896	
		Sodium	1.8	I	mg/L	P410896	
		Strontium	5.8	I	ug/L	P410896	
		Tin	3.0	U	ug/L	P410896	
		Titanium	0.98	I	ug/L	P410896	
		Vanadium	2.0	U	ug/L	P410896	
		Zinc	5.0	U	ug/L	P410896	
	EPA 200.8 Rev. 5.4	Aluminum	104		ug/L	P410896	
		Antimony	0.050	U	ug/L	P410896	
		Arsenic	0.12	I	ug/L	P410896	
		Beryllium	0.069		ug/L	P410896	
		Boron**	7.1	I	ug/L	P410896	
		Cadmium	0.020	U	ug/L	P410896	
		Chromium	0.40	U	ug/L	P410896	
		Cobalt	0.568		ug/L	P410896	
		Copper	0.40	U	ug/L	P410896	
		Lead	0.20	U	ug/L	P410896	
		Molybdenum	0.15	U	ug/L	P410896	
		Nickel	0.68	I	ug/L	P410896	
		Selenium	0.20	U	ug/L	P410896	
		Silver	0.010	U	ug/L	P410896	
		Thallium	0.10	U	ug/L	P410896	
	SM 2340B	Hardness	3.7		mg/L	P410896	
2311438	EPA 8270E	Oxybenzone**	10	U	ng/L	P410922	LCS, RPD
		Acetochlor	0.27	UQ	ng/L	P411545	
		Octinoxate**	32	I QJ	ng/L	P411545	
		Alachlor	0.27	UQ	ng/L	P411545	
		Avobenzone**	110	UQ	ng/L	P411545	
		Ametryn	0.64	UQ	ng/L	P411545	
		Atrazine	0.27	UQ	ng/L	P411545	
		Atrazine Desethyl	1.6	UQ	ng/L	P411545	
		Azinphos Methyl	2.1	UQ	ng/L	P411545	
		Azoxystrobin**	0.53	UQ	ng/L	P411545	
		Bromacil	0.53	UQ	ng/L	P411545	
		Butylate	0.42	UQ	ng/L	P411545	

Field ID: G4NW0490

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311438	EPA 8270E	Caffeine**	8.0	UQ	ng/L	P411545	
		Carbophenothion	0.21	UQ	ng/L	P411545	MS
		Carfentrazone Ethyl**	0.11	UQ	ng/L	P411545	MS
		Chlorfenapyr**	0.19	UQ	ng/L	P411545	
		Chlorpyrifos Ethyl	0.27	UQ	ng/L	P411545	
		Chlorpyrifos Methyl	0.053	UQ	ng/L	P411545	
		Coumaphos**	0.53	UQ	ng/L	P411545	
		Cyanazine	3.4	UQ	ng/L	P411545	
		Cyprodinil**	0.11	UQ	ng/L	P411545	
		Demeton	1.6	UQ	ng/L	P411545	
		Diazinon	0.13	UQ	ng/L	P411545	
		Difenoconazole**	0.64	UQ	ng/L	P411545	
		Dimethenamid**	0.11	UQ	ng/L	P411545	
		Dimethomorph**	0.19	UQ	ng/L	P411545	
		Disulfoton	0.53	UQ	ng/L	P411545	
		Dithiopyr**	0.19	UQ	ng/L	P411545	
		EPTC	1.3	UQ	ng/L	P411545	
		Ethion	0.16	UQ	ng/L	P411545	
		Ethoprop	0.11	UQ	ng/L	P411545	
		Etridiazole**	0.16	UQJ	ng/L	P411545	MS, RPD
		Fenamiphos	0.53	UQ	ng/L	P411545	
		Fenbuconazole**	0.13	UQ	ng/L	P411545	
		Fipronil	0.27	UQ	ng/L	P411545	
		Fipronil Desulfinyl**	0.13	UQ	ng/L	P411545	
		Fipronil Sulfide	0.16	UQ	ng/L	P411545	
		Fipronil Sulfone	0.16	UQ	ng/L	P411545	
		Fluazifop-P-butyl**	0.11	UQ	ng/L	P411545	
		Fludioxonil**	0.13	UQ	ng/L	P411545	
		Flumioxazin**	1.9	UQ	ng/L	P411545	MS
		Flutolanil**	0.11	UQ	ng/L	P411545	
		Fluxapyroxad**	0.11	UQ	ng/L	P411545	
		Fonofos	0.21	UQ	ng/L	P411545	
		Hexazinone	0.53	UQ	ng/L	P411545	
		Imazalil**	0.80	UQ	ng/L	P411545	
		Iprodione**	0.64	UQJ	ng/L	P411545	LCS
		Loratadine**	0.11	UQ	ng/L	P411545	
		Malathion	0.37	UQ	ng/L	P411545	
		Metalaxyl	0.80	UQ	ng/L	P411545	
		Metolachlor	0.37	UQ	ng/L	P411545	
		Metribuzin	2.7	UQ	ng/L	P411545	
		Mevinphos	1.1	UQ	ng/L	P411545	
		Molinate	0.32	UQ	ng/L	P411545	MS
		Myclobutanil**	0.27	UQ	ng/L	P411545	
		Naled**	1.6	UQ	ng/L	P411545	
		Napropamide**	0.42	UQ	ng/L	P411545	

Field ID: G4NW0490

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2311438	EPA 8270E	Norflurazon	0.53	UQ	ng/L	P411545	
		Oxadiazon	0.32	UQ	ng/L	P411545	
		Oxyfluorfen**	0.16	UQ	ng/L	P411545	
		Parathion Ethyl	0.27	UQ	ng/L	P411545	
		Parathion Methyl	0.58	UQ	ng/L	P411545	
		Pendimethalin	1.1	UQ	ng/L	P411545	
		Phenytoin**	3.7	UQ	ng/L	P411545	
		Phorate	0.56	UQ	ng/L	P411545	
		Prodiamine**	0.19	UQ	ng/L	P411545	
		Prometon	0.95	UQ	ng/L	P411545	
		Prometryn	0.21	UQ	ng/L	P411545	
		Pronamide**	0.16	UQ	ng/L	P411545	
		Propanil**	0.13	UQ	ng/L	P411545	
		Propargite**	1.6	UQJ	ng/L	P411545	RPD
		Propiconazole**	0.53	UQ	ng/L	P411545	
		Pyraflufen Ethyl**	0.27	UQ	ng/L	P411545	
		Pyridaben**	0.48	UQ	ng/L	P411545	
		Pyriproxyfen**	0.13	UQ	ng/L	P411545	
		Simazine	0.53	UQ	ng/L	P411545	
		Stirophos**	0.13	UQ	ng/L	P411545	
		Sulfentrazone**	0.53	UQ	ng/L	P411545	MS
		Tebuconazole**	0.53	UQ	ng/L	P411545	MS
		Terbufos	0.11	UQ	ng/L	P411545	
		Terbuthylazine	0.45	UQ	ng/L	P411545	
		Thiobencarb**	0.64	UQ	ng/L	P411545	
		Triadimefon**	0.27	UQ	ng/L	P411545	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 8270E: Sample expired for preparation for octinoxate and avobenzone due to need for re-extraction. Insufficient sample available to perform duplicate matrix spikes in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8270E: Sample expired for preparation due to need for re-extraction. Insufficient sample available to perform duplicate matrix spikes in re-extraction. MS accuracy for multiple 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: DEP SOP: NU-094-1
Batch ID: P410884

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P410886

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P410896

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411149

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P410896

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Molybdenum	0.15	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411236

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411238

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410950

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411004

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411041

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411158

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411159

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411142

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P410881

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
 Batch ID: P410922

Component	Result	Code	Units
Avobenzene	100	U	ng/L
Avobenzene	100	U	ng/L
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L

Reference Method: EPA 8270E
 Batch ID: P411545

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Avobenzene	100	U	ng/L
Avobenzene	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.20	U	ng/L
Carbophenothion	0.20	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P411545

Component	Result	Code	Units
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P411545

Component	Result	Code	Units
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	2.5	U	ng/L
Metribuzin	2.5	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Napropamide	0.40	U	ng/L
Napropamide	0.40	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Octinoxate	20	U	ng/L
Octinoxate	20	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytoin	3.5	U	ng/L
Phenytoin	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	U	ng/L
Pyriproxyfen	0.12	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P411545

Component	Result	Code	Units
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Stirophos	0.12	U	ng/L
Stirophos	0.12	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B

Batch ID: P410753

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: P410917

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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	0.027	I	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P410917

Component	Result	Code	Units
MCPPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P411006

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

Reference Method: SM 2540 C-2011
Batch ID: P411395

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P411375

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P411009

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P411102

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P410884

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.0		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P410886

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P410896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	107		P	85 - 115
Calcium	108		P	85 - 115
Magnesium	108		P	85 - 115
Manganese	105		P	85 - 115
Potassium	104		P	85 - 115
Sodium	105		P	85 - 115
Strontium	104		P	85 - 115
Tin	106		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	97.2		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P410896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	100		P	85 - 115
Beryllium	98.4		P	85 - 115
Boron	101		P	85 - 115
Cadmium	99.7		P	85 - 115
Chromium	98.2		P	85 - 115
Cobalt	106		P	85 - 115
Copper	97.0		P	85 - 115
Lead	102		P	85 - 115
Molybdenum	98.9		P	85 - 115
Nickel	97.8		P	85 - 115
Selenium	101		P	85 - 115
Silver	106		P	85 - 115
Thallium	100		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411236

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411238

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410950

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411004

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411041

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411158

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411159

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P410881

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P410922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Avobenzone	159		P	50 - 200
Oxybenzone	91.3		P	50 - 150

Reference Method: EPA 8270E
 Batch ID: P411545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	96.3	87.0	P/P	70 - 121
Alachlor	89.0	81.1	P/P	68 - 119
Ametryn	88.3	76.1	P/P	64 - 139
Atrazine	94.9	90.2	P/P	76 - 120
Atrazine Desethyl	66.2	70.2	P/P	44 - 126
Avobenzone	96.2		P	76 - 212
Avobenzone	125		P	59 - 206
Azinphos Methyl	67.5	78.9	P/P	43 - 192
Azoxystrobin	92.8	101	P/P	36 - 224
Bromacil	90.7	91.9	P/P	52 - 121
Butylate	40.0	32.7	P/P	28 - 91.0
Caffeine	101	120	P/P	50 - 134
Carbophenothion	104	107	P/P	56 - 129
Carfentrazone Ethyl	114	110	P/P	60 - 141
Chlorfenapyr	72.2	78.2	P/P	56 - 115
Chlorpyrifos Ethyl	82.0	81.9	P/P	60 - 118
Chlorpyrifos Methyl	90.6	91.8	P/P	68 - 119
Coumaphos	143	151	P/P	18 - 250
Cyanazine	106	104	P/P	61 - 250
Cyprodinil	82.5	82.9	P/P	55 - 145
Demeton	60.8	49.6	P/P	30 - 159
Diazinon	97.1	84.9	P/P	70 - 123
Difenoconazole	57.6	60.4	P/P	49 - 204
Dimethenamid	74.6	71.9	P/P	64 - 115
Dimethomorph	97.4	84.1	P/P	12 - 219
Disulfoton	79.8	67.5	P/P	44 - 125
Dithiopyr	84.9	83.8	P/P	64 - 115
EPTC	39.1	31.2	P/P	28 - 86.0
Ethion	84.7	86.4	P/P	33 - 125
Ethoprop	74.1	65.4	P/P	64 - 116
Etridiazole	53.0	37.4	P/P	34 - 91.0
Fenamiphos	96.6	96.0	P/P	12 - 127
Fenbuconazole	118	111	P/P	59 - 151
Fipronil	92.6	89.6	P/P	67 - 129
Fipronil Desulfinyl	86.1	81.2	P/P	65 - 127
Fipronil Sulfide	68.8	76.2	P/P	61 - 116
Fipronil Sulfone	73.0	76.9	P/P	55 - 117
Fluazifop-P-butyl	82.4	78.2	P/P	62 - 127
Fludioxonil	88.8	86.2	P/P	62 - 128
Flumioxazin	217	208	P/P	33 - 250
Flutolanil	87.9	81.7	P/P	56 - 127
Fluxapyroxad	109	111	P/P	45 - 128
Fonofos	78.1	77.7	P/P	62 - 111
Hexazinone	97.4	96.2	P/P	46 - 139
Imazalil	102	111	P/P	38 - 142

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P411545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iprodione	38.5	46.9	F/F	47 - 135
Loratadine	64.3	61.9	P/P	10 - 244
Malathion	108	111	P/P	61 - 139
Metalaxyl	79.4	74.8	P/P	10 - 119
Metolachlor	88.1	82.5	P/P	65 - 118
Metribuzin	100	92.5	P/P	51 - 250
Mevinphos	72.4	67.0	P/P	53 - 121
Molinate	61.0	46.2	P/P	42 - 96.0
Myclobutanil	88.8	87.2	P/P	55 - 128
Naled	67.1	60.3	P/P	10 - 98.0
Napropamide	84.5	82.3	P/P	49 - 121
Norflurazon	99.9	95.1	P/P	61 - 126
Octinoxate	152		P	30 - 159
Octinoxate	220		F	25 - 150
Oxadiazon	74.2	72.4	P/P	59 - 116
Oxyfluorfen	108	92.0	P/P	64 - 137
Parathion Ethyl	93.5	88.4	P/P	70 - 112
Parathion Methyl	121	120	P/P	76 - 133
Pendimethalin	79.2	69.7	P/P	52 - 117
Phenytol	112	83.6	P/P	10 - 199
Phorate	62.7	51.3	P/P	48 - 121
Prodiamine	109	91.4	P/P	26 - 142
Prometon	94.1	89.3	P/P	43 - 123
Prometryn	76.5	73.8	P/P	66 - 127
Pronamide	104	89.8	P/P	75 - 121
Propanil	92.8	89.3	P/P	45 - 150
Propargite	146	79.2	P/P	42 - 208
Propiconazole	101	92.6	P/P	60 - 125
Pyraflufen Ethyl	108	108	P/P	70 - 138
Pyridaben	129	119	P/P	35 - 245
Pyriproxyfen	41.2	47.2	P/P	30 - 149
Simazine	91.6	88.8	P/P	72 - 125
Stirophos	90.4	94.0	P/P	29 - 164
Sulfentrazone	111	84.9	P/P	21 - 139
Tebuconazole	114	102	P/P	10 - 115
Terbufos	90.5	82.7	P/P	60 - 123
Terbuthylazine	92.7	86.4	P/P	72 - 115
Thiobencarb	89.3	88.0	P/P	31 - 139
Triadimefon	84.1	78.1	P/P	65 - 116

Reference Method: EPA 8321B
 Batch ID: P410753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.9		P	40 - 150
AMPA	87.3		P	40 - 150
Endothall	96.5		P	40 - 150
Glufosinate	87.5		P	40 - 150
Glyphosate	87.1		P	40 - 150
Sucralose	63.4		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P410917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.3		P	40 - 150
2,4,5-T	58.0		P	40 - 150
Acetaminophen	73.4		P	30 - 150
Acetamiprid	77.3		P	40 - 150
Afidopyropen	54.8		P	40 - 150
Bentazon	86.8		P	30 - 150
Benzovindiflupyr	102		P	40 - 150
Carbamazepine	106		P	40 - 150
Clothianidin	118		P	40 - 150
Dinotefuran	96.7		P	40 - 150
Diuron	98.5		P	40 - 150
Fenuron	117		P	40 - 150
Fluridone	83.4		P	40 - 150
Hydrocodone	100		P	40 - 150
Ibuprofen	56.3		P	40 - 150
Imazapyr	91.5		P	40 - 150
Imidacloprid	89.6		P	40 - 150
Linuron	122		P	40 - 150
Mandestrobin	92.3		P	40 - 150
MCPP	81.4		P	40 - 150
Naproxen	61.5		P	40 - 150
Primidone	59.1		P	40 - 150
Pyraclostrobin	82.8		P	40 - 150
Silvex	62.1		P	40 - 150
Thiamethoxam	107		P	40 - 150
Tolfenpyrad	52.2		P	30 - 150
Triclopyr	52.8		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P411006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P411009

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P411102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P410896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311435	Barium	103	104	P/P	80 - 120
2311435	Calcium	102	104	P/P	80 - 120
2311435	Magnesium	102	103	P/P	80 - 120
2311435	Manganese	100	102	P/P	80 - 120
2311435	Potassium	106	106	P/P	80 - 120
2311435	Sodium	96.5	98.0	P/P	80 - 120
2311435	Strontium	99.1	101	P/P	80 - 120
2311435	Tin	100	101	P/P	80 - 120
2311435	Titanium	97.8	98.5	P/P	80 - 120
2311435	Vanadium	93.1	94.5	P/P	80 - 120
2311435	Zinc	101	102	P/P	80 - 120
2311436	Barium	108		P	80 - 120
2311436	Calcium	107		P	80 - 120
2311436	Magnesium	107		P	80 - 120
2311436	Manganese	105		P	80 - 120
2311436	Potassium	110		P	80 - 120
2311436	Sodium	102		P	80 - 120
2311436	Strontium	103		P	80 - 120
2311436	Tin	105		P	80 - 120
2311436	Titanium	103		P	80 - 120
2311436	Vanadium	97.8		P	80 - 120
2311436	Zinc	106		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P411149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312279	Iron	104		P	80 - 120
2312474	Iron	108	109	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P410896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311435	Aluminum	102	104	P/P	80 - 120
2311435	Antimony	101	103	P/P	80 - 120
2311435	Arsenic	100	102	P/P	80 - 120
2311435	Beryllium	97.5	97.6	P/P	80 - 120
2311435	Boron	103	104	P/P	80 - 120
2311435	Cadmium	99.5	103	P/P	80 - 120
2311435	Chromium	100	102	P/P	80 - 120
2311435	Cobalt	107	109	P/P	80 - 120
2311435	Copper	99.3	102	P/P	80 - 120
2311435	Lead	102	104	P/P	80 - 120
2311435	Molybdenum	99.2	102	P/P	80 - 120
2311435	Nickel	99.2	101	P/P	80 - 120
2311435	Selenium	99.6	102	P/P	80 - 120
2311435	Silver	105	108	P/P	80 - 120
2311435	Thallium	102	105	P/P	80 - 120
2311436	Aluminum	103		P	80 - 120
2311436	Antimony	104		P	80 - 120
2311436	Arsenic	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P410896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311436	Beryllium	97.4		P	80 - 120
2311436	Boron	107		P	80 - 120
2311436	Cadmium	103		P	80 - 120
2311436	Chromium	101		P	80 - 120
2311436	Cobalt	107		P	80 - 120
2311436	Copper	99.5		P	80 - 120
2311436	Lead	104		P	80 - 120
2311436	Molybdenum	101		P	80 - 120
2311436	Nickel	98.9		P	80 - 120
2311436	Selenium	98.3		P	80 - 120
2311436	Silver	107		P	80 - 120
2311436	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P411236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311312	Chloride	98.0		P	90 - 110
2311447	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P411238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311312	Sulfate	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P410950

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311356	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P411004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311098	Kjeldahl Nitrogen	106	113	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P411041

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311082	Kjeldahl Nitrogen	96.6	96.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P411158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311308	NO2NO3-N	96.4	96.9	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P411159

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311419	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P411142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311392	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P410881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311359	O-Phosphate-P	99.3	101	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P410922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311867	Avobenzene	175	109	P/P	50 - 200
2311867	Oxybenzone	113	90.4	P/P	50 - 150

Reference Method: EPA 8270E

Batch ID: P411545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311773	Acetochlor	107		P	65 - 124
2311773	Alachlor	101		P	61 - 121
2311773	Ametryn	107		P	52 - 216
2311773	Atrazine Desethyl	76.7		P	15 - 160
2311773	Avobenzene	85.2		P	59 - 206
2311773	Azinphos Methyl	94.9		P	40 - 292
2311773	Azoxystrobin	103		P	12 - 242
2311773	Butylate	20.3		P	14 - 94.0
2311773	Caffeine	40.6		P	10 - 226
2311773	Carbophenothion	123		F	49 - 122
2311773	Carfentrazone Ethyl	144		F	53 - 138
2311773	Chlorfenapyr	93.1		P	50 - 150
2311773	Chlorpyrifos Ethyl	97.6		P	52 - 122
2311773	Chlorpyrifos Methyl	103		P	66 - 117
2311773	Coumaphos	174		P	50 - 220
2311773	Cyanazine	136		P	43 - 245
2311773	Cyprodinil	99.3		P	50 - 150
2311773	Demeton	63.0		P	43 - 188
2311773	Diazinon	115		P	69 - 131
2311773	Difenoconazole	76.8		P	34 - 231
2311773	Dimethenamid	86.7		P	55 - 118
2311773	Dimethomorph	122		P	50 - 150
2311773	Disulfoton	87.9		P	38 - 141
2311773	Dithiopyr	106		P	42 - 116
2311773	EPTC	18.6		P	18 - 85.0
2311773	Ethion	104		P	10 - 131
2311773	Ethoprop	79.3		P	65 - 129

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P411545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311773	Etridiazole	28.1		F	50 - 150
2311773	Fenamiphos	109		P	31 - 137
2311773	Fenbuconazole	151		P	57 - 160
2311773	Fipronil	115		P	62 - 132
2311773	Fipronil Desulfinyl	103		P	57 - 131
2311773	Fipronil Sulfide	91.6		P	15 - 138
2311773	Fipronil Sulfone	94.3		P	21 - 134
2311773	Fluazifop-P-butyl	106		P	54 - 133
2311773	Fludioxonil	102		P	58 - 127
2311773	Flumioxazin	316		F	33 - 300
2311773	Flutolanil	97.7		P	42 - 130
2311773	Fonofos	78.0		P	58 - 119
2311773	Hexazinone	111		P	68 - 172
2311773	Imazalil	146		P	48 - 283
2311773	Iprodione	57.3		P	38 - 140
2311773	Loratadine	79.6		P	50 - 150
2311773	Malathion	136		P	40 - 137
2311773	Metaxyl	91.0		P	21 - 129
2311773	Metolachlor	111		P	55 - 122
2311773	Metribuzin	127		P	38 - 187
2311773	Mevinphos	71.4		P	54 - 134
2311773	Molinate	37.5		F	41 - 97.0
2311773	Myclobutanil	107		P	56 - 125
2311773	Naled	69.9		P	10 - 108
2311773	Napropamide	97.6		P	50 - 150
2311773	Norflurazon	120		P	32 - 122
2311773	Octinoxate	101		P	25 - 150
2311773	Oxadiazon	85.6		P	40 - 119
2311773	Oxyfluorfen	129		P	61 - 153
2311773	Parathion Ethyl	105		P	59 - 130
2311773	Parathion Methyl	135		P	65 - 155
2311773	Pendimethalin	89.0		P	49 - 138
2311773	Phenytoin	146		P	50 - 200
2311773	Phorate	68.7		P	54 - 161
2311773	Prodiamine	154		P	33 - 161
2311773	Prometon	128		P	48 - 140
2311773	Prometryn	92.0		P	55 - 134
2311773	Pronamide	132		P	66 - 137
2311773	Propanil	103		P	50 - 150
2311773	Propargite	192		P	50 - 200
2311773	Propiconazole	131		P	36 - 150
2311773	Pyraflufen Ethyl	141		P	50 - 150
2311773	Pyridaben	153		P	50 - 200
2311773	Pyriproxyfen	58.8		P	10 - 165
2311773	Simazine	105		P	57 - 145
2311773	Stirophos	111		P	50 - 150
2311773	Sulfentrazone	153		F	34 - 140
2311773	Tebuconazole	153		F	10 - 127
2311773	Terbufos	99.3		P	59 - 138
2311773	Terbutylazine	102		P	68 - 119
2311773	Thiobencarb	108		P	50 - 150
2311773	Triadimefon	98.9		P	50 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P410753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2310519	Acesulfame K	105	109	P/P	40 - 150
2310519	AMPA	112	116	P/P	40 - 150
2310519	Endothall	69.4	69.9	P/P	40 - 150
2310519	Glufosinate	89.6	92.6	P/P	40 - 150
2310519	Glyphosate	87.4	89.3	P/P	40 - 150
2310519	Sucralose	68.9	92.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P410917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311123	2,4-D	84.8	92.7	P/P	40 - 150
2311123	2,4,5-T	56.7	47.0	P/P	40 - 150
2311123	Acetaminophen	99.1	92.3	P/P	30 - 150
2311123	Acetamiprid	102	83.9	P/P	40 - 150
2311123	Afidopyropen	75.7	69.8	P/P	40 - 150
2311123	Bentazon	68.1	71.2	P/P	30 - 150
2311123	Benzovindiflupyr	107	88.7	P/P	40 - 150
2311123	Carbamazepine	91.1	106	P/P	40 - 150
2311123	Clothianidin	141	121	P/P	40 - 150
2311123	Dinotefuran	136	142	P/P	40 - 150
2311123	Diuron	51.5	53.2	P/P	40 - 150
2311123	Fenuron	118	111	P/P	40 - 150
2311123	Fluridone	88.5	81.8	P/P	40 - 150
2311123	Hydrocodone	119	112	P/P	40 - 150
2311123	Ibuprofen	65.6	52.7	P/P	40 - 150
2311123	Imazapyr	106	102	P/P	40 - 150
2311123	Imidacloprid	143	159	P/F	40 - 150
2311123	Linuron	91.5	92.2	P/P	40 - 150
2311123	Mandestrobin	103	95.3	P/P	40 - 150
2311123	MCCP	92.9	85.1	P/P	40 - 150
2311123	Naproxen	67.5	60.2	P/P	40 - 150
2311123	Primidone	80.6	126	P/P	40 - 150
2311123	Pyraclostrobin	107	97.2	P/P	40 - 150
2311123	Silvex	71.0	61.8	P/P	40 - 150
2311123	Thiamethoxam	182	168	F/F	40 - 150
2311123	Tolfenpyrad	52.0	52.4	P/P	30 - 150
2311123	Triclopyr	60.6	58.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P411009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311136	Fluoride	98.1	98.7	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P411102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311474	Organic Carbon	97.5	99.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P410884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311416	Color (true)	1.39	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P410886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311471	Turbidity	10.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P410896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311435	Barium	1.19	Spike	P	0 - 20
2311435	Calcium	0.932	Spike	P	0 - 20
2311435	Magnesium	1.01	Spike	P	0 - 20
2311435	Manganese	1.26	Spike	P	0 - 20
2311435	Potassium	0.387	Spike	P	0 - 20
2311435	Sodium	1.03	Spike	P	0 - 20
2311435	Strontium	1.53	Spike	P	0 - 20
2311435	Tin	1.16	Spike	P	0 - 20
2311435	Titanium	0.771	Spike	P	0 - 20
2311435	Vanadium	1.53	Spike	P	0 - 20
2311435	Zinc	1.68	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312474	Iron	1.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P410896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311435	Aluminum	1.19	Spike	P	0 - 20
2311435	Antimony	1.58	Spike	P	0 - 20
2311435	Arsenic	1.93	Spike	P	0 - 20
2311435	Beryllium	0.0664	Spike	P	0 - 20
2311435	Boron	0.798	Spike	P	0 - 20
2311435	Cadmium	3.49	Spike	P	0 - 20
2311435	Chromium	1.93	Spike	P	0 - 20
2311435	Cobalt	2.08	Spike	P	0 - 20
2311435	Copper	2.42	Spike	P	0 - 20
2311435	Lead	1.41	Spike	P	0 - 20
2311435	Molybdenum	2.47	Spike	P	0 - 20
2311435	Nickel	2.15	Spike	P	0 - 20
2311435	Selenium	2.30	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P410896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311435	Silver	2.25	Spike	P	0 - 20
2311435	Thallium	3.13	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311312	Chloride	0.270	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311312	Sulfate	0.574	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311356	Ammonia-N	0.950	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311098	Kjeldahl Nitrogen	5.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311082	Kjeldahl Nitrogen	0.471	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311308	NO2NO3-N	0.407	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411159

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311419	NO2NO3-N	0.303	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P411142

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311392	Total-P	0.275	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P410881

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311359	O-Phosphate-P	1.40	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P410922

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311867	Avobenzone	46.2	Spike	F	0 - 30
2311867	Oxybenzone	21.8	Spike	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P411545

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Acetochlor	10.1	LCS	P	0 - 24
LFB	Alachlor	9.22	LCS	P	0 - 26
LFB	Ametryn	14.8	LCS	P	0 - 25
LFB	Atrazine	5.15	LCS	P	0 - 29
LFB	Atrazine Desethyl	5.81	LCS	P	0 - 62
LFB	Avobenzone	25.9	LCS	P	0 - 30
LFB	Azinphos Methyl	15.6	LCS	P	0 - 76
LFB	Azoxystrobin	8.38	LCS	P	0 - 47
LFB	Bromacil	1.26	LCS	P	0 - 39
LFB	Butylate	20.0	LCS	P	0 - 35
LFB	Caffeine	17.5	LCS	P	0 - 27
LFB	Carbophenothion	2.54	LCS	P	0 - 28
LFB	Carfentrazone Ethyl	3.88	LCS	P	0 - 21
LFB	Chlorfenapyr	7.93	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.00991	LCS	P	0 - 23
LFB	Chlorpyrifos Methyl	1.35	LCS	P	0 - 30
LFB	Coumaphos	5.32	LCS	P	0 - 30
LFB	Cyanazine	1.51	LCS	P	0 - 77
LFB	Cyprodinil	0.509	LCS	P	0 - 30
LFB	Demeton	20.2	LCS	P	0 - 48
LFB	Diazinon	13.4	LCS	P	0 - 25
LFB	Difenoconazole	4.89	LCS	P	0 - 37
LFB	Dimethenamid	3.74	LCS	P	0 - 21
LFB	Dimethomorph	14.6	LCS	P	0 - 30
LFB	Disulfoton	16.7	LCS	P	0 - 51
LFB	Dithiopyr	1.29	LCS	P	0 - 21
LFB	EPTC	22.7	LCS	P	0 - 41
LFB	Ethion	1.98	LCS	P	0 - 63
LFB	Ethoprop	12.5	LCS	P	0 - 38

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P411545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Etridiazole	34.6	LCS	F	0 - 30
LFB	Fenamiphos	0.541	LCS	P	0 - 91
LFB	Fenbuconazole	6.15	LCS	P	0 - 36
LFB	Fipronil	3.27	LCS	P	0 - 32
LFB	Fipronil Desulfinyl	5.86	LCS	P	0 - 23
LFB	Fipronil Sulfide	10.3	LCS	P	0 - 31
LFB	Fipronil Sulfone	5.11	LCS	P	0 - 32
LFB	Fluazifop-P-butyl	5.24	LCS	P	0 - 23
LFB	Fludioxonil	3.01	LCS	P	0 - 23
LFB	Flumioxazin	4.43	LCS	P	0 - 39
LFB	Flutolanil	7.36	LCS	P	0 - 27
LFB	Fluxapyroxad	1.83	LCS	P	0 - 38
LFB	Fonofos	0.587	LCS	P	0 - 28
LFB	Hexazinone	1.27	LCS	P	0 - 63
LFB	Imazalil	8.17	LCS	P	0 - 58
LFB	Iprodione	19.7	LCS	P	0 - 42
LFB	Loratadine	3.88	LCS	P	0 - 30
LFB	Malathion	2.30	LCS	P	0 - 23
LFB	Metalaxyl	6.08	LCS	P	0 - 100
LFB	Metolachlor	6.56	LCS	P	0 - 27
LFB	Metribuzin	8.02	LCS	P	0 - 79
LFB	Mevinphos	7.71	LCS	P	0 - 58
LFB	Molinate	27.6	LCS	P	0 - 42
LFB	Myclobutanil	1.77	LCS	P	0 - 27
LFB	Naled	10.8	LCS	P	0 - 32
LFB	Napropamide	2.62	LCS	P	0 - 30
LFB	Norflurazon	5.00	LCS	P	0 - 25
LFB	Octinoxate	36.9	LCS	F	0 - 30
LFB	Oxadiazon	2.56	LCS	P	0 - 30
LFB	Oxyfluorfen	16.1	LCS	P	0 - 22
LFB	Parathion Ethyl	5.57	LCS	P	0 - 32
LFB	Parathion Methyl	0.780	LCS	P	0 - 30
LFB	Pendimethalin	12.7	LCS	P	0 - 39
LFB	Phenytol	29.0	LCS	P	0 - 30
LFB	Phorate	20.0	LCS	P	0 - 41
LFB	Prodiamine	17.2	LCS	P	0 - 70
LFB	Prometon	5.22	LCS	P	0 - 47
LFB	Prometryn	3.69	LCS	P	0 - 30
LFB	Pronamide	14.4	LCS	P	0 - 25
LFB	Propanil	3.83	LCS	P	0 - 30
LFB	Propargite	59.0	LCS	F	0 - 30
LFB	Propiconazole	8.27	LCS	P	0 - 25
LFB	Pyraflufen Ethyl	0.0592	LCS	P	0 - 30
LFB	Pyridaben	8.15	LCS	P	0 - 30
LFB	Pyriproxyfen	13.6	LCS	P	0 - 53
LFB	Simazine	3.09	LCS	P	0 - 25
LFB	Stirophos	3.90	LCS	P	0 - 30
LFB	Sulfentrazone	26.7	LCS	P	0 - 45
LFB	Tebuconazole	11.2	LCS	P	0 - 51
LFB	Terbufos	9.07	LCS	P	0 - 36
LFB	Terbutylazine	7.07	LCS	P	0 - 24

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P411545

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Thiobencarb	1.47	LCS	P	0 - 30
LFB	Triadimefon	7.44	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P410753

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2310519	Acesulfame K	3.53	Spike	P	0 - 30
2310519	AMPA	3.84	Spike	P	0 - 30
2310519	Endothall	0.702	Spike	P	0 - 30
2310519	Glufosinate	3.22	Spike	P	0 - 30
2310519	Glyphosate	2.21	Spike	P	0 - 30
2310519	Sucralose	29.4	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P410917

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311123	2,4-D	8.85	Spike	P	0 - 30
2311123	2,4,5-T	18.7	Spike	P	0 - 30
2311123	Acetaminophen	7.09	Spike	P	0 - 30
2311123	Acetamiprid	19.3	Spike	P	0 - 30
2311123	Afidopyropen	8.11	Spike	P	0 - 30
2311123	Bentazon	4.53	Spike	P	0 - 30
2311123	Benzovindiflupyr	18.3	Spike	P	0 - 30
2311123	Carbamazepine	15.1	Spike	P	0 - 30
2311123	Clothianidin	15.0	Spike	P	0 - 30
2311123	Dinotefuran	4.70	Spike	P	0 - 30
2311123	Diuron	3.29	Spike	P	0 - 30
2311123	Fenuron	6.92	Spike	P	0 - 30
2311123	Fluridone	7.25	Spike	P	0 - 30
2311123	Hydrocodone	5.93	Spike	P	0 - 30
2311123	Ibuprofen	21.8	Spike	P	0 - 30
2311123	Imazapyr	3.79	Spike	P	0 - 30
2311123	Imidacloprid	10.3	Spike	P	0 - 30
2311123	Linuron	0.678	Spike	P	0 - 30
2311123	Mandestrobin	8.04	Spike	P	0 - 30
2311123	MCPP	8.77	Spike	P	0 - 30
2311123	Naproxen	11.4	Spike	P	0 - 30
2311123	Primidone	43.9	Spike	F	0 - 30
2311123	Pyraclostrobin	9.83	Spike	P	0 - 30
2311123	Silvex	13.9	Spike	P	0 - 30
2311123	Thiamethoxam	8.21	Spike	P	0 - 30
2311123	Tolfenpyrad	0.814	Spike	P	0 - 30
2311123	Triclopyr	4.07	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P411006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311136	Total Alkalinity	0.195	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P411395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311422	TDS	6.51	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P411009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311136	Fluoride	0.483	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P411102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311474	Organic Carbon	1.21	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2311433

Field Sample ID: G4NW0491

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	74.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	67.2	P	30 - 160
EPA 8321B	Endothall-d6	96.6	P	30 - 160
EPA 8321B	Endothall-d6	96.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.3	P	30 - 160
EPA 8321B	Primidone-d5	56.9	P	30 - 160
EPA 8321B	Sucralose-d6	77.3	P	30 - 160
EPA 8321B	Sucralose-d6	77.3	P	30 - 160

Lab Sample ID: 2311434

Field Sample ID: G4NW0490

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	119	P	30 - 160
EPA 8321B	Diuron-d6	86.5	P	30 - 160
EPA 8321B	Endothall-d6	62.7	P	30 - 160
EPA 8321B	Endothall-d6	62.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	109	P	30 - 160
EPA 8321B	Primidone-d5	85.9	P	30 - 160
EPA 8321B	Sucralose-d6	88.9	P	30 - 160
EPA 8321B	Sucralose-d6	88.9	P	30 - 160

Lab Sample ID: 2311437

Field Sample ID: G4NW0491

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	73.5	P	20 - 200
EPA 8270E	Simazine-d10	116	P	71 - 140
EPA 8270E	Terbufos-d10	83.1	P	62 - 131
EPA 8270E	Terphenyl-d14	78.4	P	55 - 108
EPA 8270E	Terphenyl-d14	88.5	P	55 - 108

Lab Sample ID: 2311438

Field Sample ID: G4NW0490

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	79.0	P	20 - 200
EPA 8270E	Simazine-d10	131	P	71 - 140
EPA 8270E	Terbufos-d10	105	P	62 - 131
EPA 8270E	Terphenyl-d14	101	P	55 - 108
EPA 8270E	Terphenyl-d14	85.9	P	55 - 108

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A110841

Included Lab Sample IDs: 2311420, 2311421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A110842

Included Lab Sample IDs: 2311416, 2311417

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A110843

Included Lab Sample IDs: 2311416, 2311417

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110865

Included Lab Sample IDs: 2311418, 2311419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110875

Included Lab Sample IDs: 2311435, 2311436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.1	99.7	P/P	90 - 110
Aluminum	99.7	99.9	P/P	90 - 110
Antimony	94.7	96.4	P/P	90 - 110
Antimony	96.4	98.2	P/P	90 - 110
Arsenic	98.4	97.8	P/P	90 - 110
Arsenic	99.2	98.4	P/P	90 - 110
Beryllium	93.1	96.6	P/P	90 - 110
Beryllium	96.6	96.5	P/P	90 - 110
Boron	95.4	97.8	P/P	90 - 110
Boron	97.8	98.5	P/P	90 - 110
Cadmium	98.2	98.7	P/P	90 - 110
Cadmium	98.7	99.7	P/P	90 - 110
Chromium	95.1	97.4	P/P	90 - 110
Chromium	97.4	98.4	P/P	90 - 110
Cobalt	102	103	P/P	90 - 110
Cobalt	103	103	P/P	90 - 110
Copper	95.4	96.9	P/P	90 - 110
Copper	96.9	96.0	P/P	90 - 110
Lead	98.9	98.9	P/P	90 - 110
Lead	99.1	98.9	P/P	90 - 110
Molybdenum	97.3	98.1	P/P	90 - 110
Molybdenum	97.7	97.3	P/P	90 - 110
Nickel	96.4	97.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110875

Included Lab Sample IDs: 2311435, 2311436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	97.1	96.3	P/P	90 - 110
Selenium	98.6	99.3	P/P	90 - 110
Selenium	99.3	100	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Thallium	100	98.8	P/P	90 - 110
Thallium	98.6	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A110885

Included Lab Sample IDs: 2311416, 2311417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.0	95.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A110885

Included Lab Sample IDs: 2311416, 2311417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110902

Included Lab Sample IDs: 2311433, 2311434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	94.9	91.8	P/P	60 - 160
Glufosinate	88.2	83.0	P/P	60 - 160
Glyphosate	90.5	90.9	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110913

Included Lab Sample IDs: 2311435, 2311436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	101	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Manganese	96.9	99.2	P/P	90 - 110
Potassium	102	103	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Strontium	96.7	99.0	P/P	90 - 110
Tin	98.0	99.7	P/P	90 - 110
Titanium	96.3	98.6	P/P	90 - 110
Vanadium	97.1	99.6	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A110934

Included Lab Sample IDs: 2311418, 2311419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	95.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110938

Included Lab Sample IDs: 2311433, 2311434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	102	102	P/P	60 - 160
Endothall	80.2	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A110940

Included Lab Sample IDs: 2311433, 2311434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.8	97.8	P/P	50 - 150
2,4-D	97.8	106	P/P	50 - 150
2,4,5-T	104	107	P/P	50 - 150
2,4,5-T	107	93.7	P/P	50 - 150
Acetaminophen	106	118	P/P	60 - 160
Acetaminophen	118	103	P/P	60 - 160
Acetamiprid	112	115	P/P	50 - 150
Acetamiprid	116	112	P/P	50 - 150
Afidopyropen	103	91.0	P/P	50 - 150
Afidopyropen	103	103	P/P	50 - 150
Bentazon	76.8	91.6	P/P	50 - 160
Bentazon	91.6	106	P/P	50 - 160
Benzovindiflupyr	123	117	P/P	50 - 150
Benzovindiflupyr	95.6	123	P/P	50 - 150
Carbamazepine	90.8	98.0	P/P	60 - 150
Carbamazepine	98.0	90.1	P/P	60 - 150
Clothianidin	117	110	P/P	60 - 150
Clothianidin	98.0	117	P/P	60 - 150
Dinotefuran	100	106	P/P	50 - 150
Dinotefuran	106	110	P/P	50 - 150
Diuron	118	99.6	P/P	60 - 160
Diuron	99.6	90.2	P/P	60 - 160
Fenuron	96.4	94.3	P/P	60 - 150
Fenuron	97.1	96.4	P/P	60 - 150
Fluridone	107	107	P/P	60 - 160
Fluridone	107	112	P/P	60 - 160
Hydrocodone	109	110	P/P	60 - 150
Hydrocodone	97.8	109	P/P	60 - 150
Ibuprofen	105	69.8	P/P	50 - 160
Ibuprofen	69.8	81.2	P/P	50 - 160
Imazapyr	105	100	P/P	50 - 150
Imazapyr	81.6	105	P/P	50 - 150
Imidacloprid	83.1	96.7	P/P	60 - 150
Imidacloprid	96.7	103	P/P	60 - 150
Linuron	142	75.3	P/P	60 - 150
Linuron	75.3	73.3	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A110940

Included Lab Sample IDs: 2311433, 2311434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mandestrobin	104	119	P/P	50 - 150
Mandestrobin	119	113	P/P	50 - 150
MCPD	95.1	97.3	P/P	50 - 150
MCPD	97.3	93.3	P/P	50 - 150
Naproxen	102	79.8	P/P	50 - 160
Naproxen	115	102	P/P	50 - 160
Primidone	109	80.8	P/P	60 - 150
Primidone	80.8	99.0	P/P	60 - 150
Pyraclostrobin	111	116	P/P	60 - 150
Pyraclostrobin	116	105	P/P	60 - 150
Silvex	116	95.5	P/P	50 - 150
Silvex	95.5	108	P/P	50 - 150
Thiamethoxam	102	109	P/P	50 - 150
Thiamethoxam	109	109	P/P	50 - 150
Tolfenpyrad	123	92.1	P/P	60 - 150
Tolfenpyrad	92.1	98.4	P/P	60 - 150
Triclopyr	93.0	85.0	P/P	50 - 150
Triclopyr	95.2	93.0	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110959

Included Lab Sample IDs: 2311418, 2311419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	100	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110962

Included Lab Sample IDs: 2311433, 2311434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	86.3	89.1	P/P	60 - 160
Sucralose	89.1	101	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A110994

Included Lab Sample IDs: 2311416, 2311417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	100	P/P	90 - 110
Sulfate	99.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110999

Included Lab Sample IDs: 2311418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.5	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111012

Included Lab Sample IDs: 2311435, 2311436

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111064

Included Lab Sample IDs: 2311419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.9	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111066

Included Lab Sample IDs: 2311418, 2311419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	103	P/P	90 - 110
Total-P	103	102	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A111187

Included Lab Sample IDs: 2311437, 2311438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Avobenzone	98.0		P	80 - 120
Oxybenzone	95.6		P	80 - 120

Reference Method: EPA 8270E

Run ID: A111197

Included Lab Sample IDs: 2311437, 2311438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.9		P	80 - 120
Alachlor	97.7		P	80 - 120
Ametryn	86.5		P	80 - 120
Atrazine	100		P	80 - 120
Atrazine Desethyl	112		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Azoxystrobin	101		P	80 - 120
Bromacil	98.2		P	80 - 120
Butylate	101		P	80 - 120
Caffeine	95.4		P	80 - 120
Carbophenothion	106		P	80 - 120
Carfentrazone Ethyl	108		P	80 - 120
Chlorfenapyr	99.6		P	80 - 120
Chlorpyrifos Ethyl	96.5		P	80 - 120
Chlorpyrifos Methyl	92.3		P	80 - 120
Coumaphos	92.3		P	80 - 120
Cyanazine	112		P	80 - 120
Cyprodinil	93.8		P	80 - 120
Demeton	97.4		P	80 - 120
Diazinon	106		P	80 - 120
Difenoconazole	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A111197

Included Lab Sample IDs: 2311437, 2311438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dimethenamid	95.2		P	80 - 120
Dimethomorph	103		P	80 - 120
Disulfoton	91.9		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	99.1		P	80 - 120
Ethion	97.3		P	80 - 120
Ethoprop	98.6		P	80 - 120
Etridiazole	93.7		P	80 - 120
Fenamiphos	90.9		P	80 - 120
Fenbuconazole	88.6		P	80 - 120
Fipronil	99.9		P	80 - 120
Fipronil Desulfinyl	94.9		P	80 - 120
Fipronil Sulfide	93.2		P	80 - 120
Fipronil Sulfone	87.0		P	80 - 120
Fluazifop-P-butyl	105		P	80 - 120
Fludioxonil	97.6		P	80 - 120
Flumioxazin	106		P	80 - 120
Flutolanil	86.5		P	80 - 120
Fluxapyroxad	100		P	80 - 120
Fonofos	99.4		P	80 - 120
Hexazinone	99.1		P	80 - 120
Imazalil	109		P	80 - 120
Iprodione	106		P	80 - 120
Loratadine	107		P	80 - 120
Malathion	97.5		P	80 - 120
Metalaxyl	94.4		P	80 - 120
Metolachlor	99.8		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	95.1		P	80 - 120
Molinate	102		P	80 - 120
Myclobutanil	101		P	80 - 120
Naled	90.9		P	80 - 120
Napropamide	94.8		P	80 - 120
Norflurazon	98.6		P	80 - 120
Oxadiazon	101		P	80 - 120
Oxyfluorfen	109		P	80 - 120
Parathion Ethyl	110		P	80 - 120
Parathion Methyl	107		P	80 - 120
Pendimethalin	103		P	80 - 120
Phenytoin	97.0		P	80 - 120
Phorate	96.9		P	80 - 120
Prodiamine	119		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	91.4		P	80 - 120
Pronamide	103		P	80 - 120
Propanil	96.8		P	80 - 120
Propargite	93.3		P	80 - 120
Propiconazole	102		P	80 - 120
Pyraflufen Ethyl	106		P	80 - 120
Pyridaben	95.9		P	80 - 120
Pyriproxyfen	94.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A111197

Included Lab Sample IDs: 2311437, 2311438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Simazine	98.1		P	80 - 120
Stirophos	86.8		P	80 - 120
Sulfentrazone	101		P	80 - 120
Tebuconazole	98.9		P	80 - 120
Terbufos	94.4		P	80 - 120
Terbutylazine	94.3		P	80 - 120
Thiobencarb	105		P	80 - 120
Triadimefon	106		P	80 - 120

Reference Method: EPA 8270E

Run ID: A111225

Included Lab Sample IDs: 2311437, 2311438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Avobenzone	102		P	80 - 120
Octinoxate	88.4		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	MS
								SMP	
DEP SOP: NU-094-1	Color (true)	98.0						1.39	
EPA 180.1 Rev. 2.0	Turbidity	97.3						10.0	
EPA 200.7 Rev. 4.4	Barium	107		103	104	108			1.19
	Calcium	108		102	104	107			0.932
	Iron	105		104	108	109			1.27
	Magnesium	108		102	103	107			1.01
	Manganese	105		100	102	105			1.26
	Potassium	104		106	106	110			0.387
	Sodium	105		96.5	98.0	102			1.03
	Strontium	104		99.1	101	103			1.53
	Tin	106		100	101	105			1.16
	Titanium	103		97.8	98.5	103			0.771
	Vanadium	97.2		93.1	94.5	97.8			1.53
	Zinc	105		101	102	106			1.68
EPA 200.8 Rev. 5.4	Aluminum	100		102	104	103			1.19
	Antimony	100		101	103	104			1.58
	Arsenic	100		100	102	101			1.93
	Beryllium	98.4		97.5	97.6	97.4			0.0664
	Boron	101		103	104	107			0.798
	Cadmium	99.7		99.5	103	103			3.49
	Chromium	98.2		100	102	101			1.93
	Cobalt	106		107	109	107			2.08
	Copper	97.0		99.3	102	99.5			2.42
	Lead	102		102	104	104			1.41
	Molybdenum	98.9		99.2	102	101			2.47
	Nickel	97.8		99.2	101	98.9			2.15
	Selenium	101		99.6	102	98.3			2.30
	Silver	106		105	108	107			2.25
	Thallium	100		102	105	102			3.13
EPA 300.0 Rev. 2.1	Chloride	98.7		98.0	100			0.270	
	Sulfate	100		99.5				0.574	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4		101	102				0.950
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.0		106	113				5.66
	Kjeldahl Nitrogen	93.0		96.6	96.1				0.471
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5		96.4	96.9				0.407
	NO2NO3-N	98.0		99.5	100				0.303
EPA 365.1 Rev. 2.0	Total-P	99.0		101	101				0.275
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0		99.3	101				1.40
EPA 8270E	Acetochlor	96.3	87.0	107			10.1		
	Alachlor	89.0	81.1	101			9.22		
	Ametryn	88.3	76.1	107			14.8		
	Atrazine	94.9	90.2				5.15		
	Atrazine Desethyl	66.2	70.2	76.7			5.81		
	Avobenzone	159		175	109				46.2
	Avobenzone	96.2	125	85.2			25.9		
	Azinphos Methyl	67.5	78.9	94.9			15.6		
	Azoxystrobin	92.8	101	103			8.38		
	Bromacil	90.7	91.9				1.26		
	Butylate	40.0	32.7	20.3			20.0		
	Caffeine	101	120	40.6			17.5		
	Carbophenothion	104	107	123			2.54		
	Carfentrazone Ethyl	114	110	144			3.88		
	Chlorfenapyr	72.2	78.2	93.1			7.93		
	Chlorpyrifos Ethyl	82.0	81.9	97.6			0.0099		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	MS
						SMP	
EPA 8270E	Chlorpyrifos Methyl	90.6	91.8	103		1.35	
	Coumaphos	143	151	174		5.32	
	Cyanazine	106	104	136		1.51	
	Cyprodinil	82.5	82.9	99.3		0.509	
	Demeton	60.8	49.6	63.0		20.2	
	Diazinon	97.1	84.9	115		13.4	
	Difenoconazole	57.6	60.4	76.8		4.89	
	Dimethenamid	74.6	71.9	86.7		3.74	
	Dimethomorph	97.4	84.1	122		14.6	
	Disulfoton	79.8	67.5	87.9		16.7	
	Dithiopyr	84.9	83.8	106		1.29	
	EPTC	39.1	31.2	18.6		22.7	
	Ethion	84.7	86.4	104		1.98	
	Ethoprop	74.1	65.4	79.3		12.5	
	Etridiazole	53.0	37.4	28.1		34.6	
	Fenamiphos	96.6	96.0	109		0.541	
	Fenbuconazole	118	111	151		6.15	
	Fipronil	92.6	89.6	115		3.27	
	Fipronil Desulfinyl	86.1	81.2	103		5.86	
	Fipronil Sulfide	68.8	76.2	91.6		10.3	
	Fipronil Sulfone	73.0	76.9	94.3		5.11	
	Fluazifop-P-butyl	82.4	78.2	106		5.24	
	Fludioxonil	88.8	86.2	102		3.01	
	Flumioxazin	217	208	316		4.43	
	Flutolanil	87.9	81.7	97.7		7.36	
	Fluxapyroxad	109	111			1.83	
	Fonofos	78.1	77.7	78.0		0.587	
	Hexazinone	97.4	96.2	111		1.27	
	Imazalil	102	111	146		8.17	
	Iprodione	38.5	46.9	57.3		19.7	
	Loratadine	64.3	61.9	79.6		3.88	
	Malathion	108	111	136		2.30	
	Metalaxyl	79.4	74.8	91.0		6.08	
	Metolachlor	88.1	82.5	111		6.56	
	Metribuzin	100	92.5	127		8.02	
	Mevinphos	72.4	67.0	71.4		7.71	
	Molinate	61.0	46.2	37.5		27.6	
	Myclobutanil	88.8	87.2	107		1.77	
	Naled	67.1	60.3	69.9		10.8	
	Napropamide	84.5	82.3	97.6		2.62	
	Norflurazon	99.9	95.1	120		5.00	
	Octinoxate	152	220	101		36.9	
	Oxadiazon	74.2	72.4	85.6		2.56	
	Oxybenzone	91.3		113	90.4		21.8
	Oxyfluorfen	108	92.0	129		16.1	
	Parathion Ethyl	93.5	88.4	105		5.57	
	Parathion Methyl	121	120	135		0.780	
	Pendimethalin	79.2	69.7	89.0		12.7	
	Phenytol	112	83.6	146		29.0	
	Phorate	62.7	51.3	68.7		20.0	
	Prodiamine	109	91.4	154		17.2	
	Prometon	94.1	89.3	128		5.22	
	Prometryn	76.5	73.8	92.0		3.69	
	Pronamide	104	89.8	132		14.4	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision SMP	MS
EPA 8270E	Propanil	92.8	89.3	103		3.83	
	Propargite	146	79.2	192		59.0	
	Propiconazole	101	92.6	131		8.27	
	Pyraflufen Ethyl	108	108	141		0.0592	
	Pyridaben	129	119	153		8.15	
	Pyriproxyfen	41.2	47.2	58.8		13.6	
	Simazine	91.6	88.8	105		3.09	
	Stirophos	90.4	94.0	111		3.90	
	Sulfentrazone	111	84.9	153		26.7	
	Tebuconazole	114	102	153		11.2	
	Terbufos	90.5	82.7	99.3		9.07	
	Terbutylazine	92.7	86.4	102		7.07	
	Thiobencarb	89.3	88.0	108		1.47	
	Triadimefon	84.1	78.1	98.9		7.44	
EPA 8321B	2,4-D	89.3		84.8	92.7		8.85
	2,4,5-T	58.0		56.7	47.0		18.7
	Acesulfame K	96.9		105	109		3.53
	Acetaminophen	73.4		99.1	92.3		7.09
	Acetamiprid	77.3		102	83.9		19.3
	Afidopyropen	54.8		75.7	69.8		8.11
	AMPA	87.3		112	116		3.84
	Bentazon	86.8		68.1	71.2		4.53
	Benzovindiflupyr	102		107	88.7		18.3
	Carbamazepine	106		91.1	106		15.1
	Clothianidin	118		141	121		15.0
	Dinotefuran	96.7		136	142		4.70
	Diuron	98.5		51.5	53.2		3.29
	Endothall	96.5		69.4	69.9		0.702
	Fenuron	117		118	111		6.92
	Fluridone	83.4		88.5	81.8		7.25
	Glufosinate	87.5		89.6	92.6		3.22
	Glyphosate	87.1		87.4	89.3		2.21
	Hydrocodone	100		119	112		5.93
	Ibuprofen	56.3		65.6	52.7		21.8
	Imazapyr	91.5		106	102		3.79
	Imidacloprid	89.6		143	159		10.3
	Linuron	122		91.5	92.2		0.678
	Mandestrobin	92.3		103	95.3		8.04
	MCPP	81.4		92.9	85.1		8.77
	Naproxen	61.5		67.5	60.2		11.4
	Primidone	59.1		80.6	126		43.9
	Pyraclostrobin	82.8		107	97.2		9.83
	Silvex	62.1		71.0	61.8		13.9
	Sucralose	63.4		68.9	92.6		29.4
	Thiamethoxam	107		182	168		8.21
	Tolfenpyrad	52.2		52.0	52.4		0.814
	Triclopyr	52.8		60.6	58.2		4.07
SM 2320 B-2011	Total Alkalinity	98.3				0.195	
SM 2540 C-2011	TDS					6.51	
SM 4500 F-C-2011	Fluoride	99.0		98.1	98.7		0.483
SM 5310 B-2011	Organic Carbon	95.6		97.5	99.4		1.21

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2311416, 2311417
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2311416, 2311417
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2311435, 2311436
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2311435, 2311436
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2311416, 2311417
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2311416, 2311417
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2311418, 2311419
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2311418, 2311419
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2311418, 2311419
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2311418, 2311419
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2311420, 2311421
EPA 8270E	Analysis of Sunscreen Compounds in Water by GC/MS-SIM	2311437, 2311438
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2311437, 2311438
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2311433, 2311434
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2311433, 2311434
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2311416, 2311417
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2311435, 2311436
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2311416, 2311417
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2311416, 2311417
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2311416, 2311417
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2311418, 2311419

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	03/09/2022			03/09/2022 16:02	Samantha L Bates	2311416
	03/09/2022			03/09/2022 16:03	Samantha L Bates	2311417
EPA 180.1 Rev. 2.0	03/09/2022			03/09/2022 14:26	Anna M. Plaviak	2311416
	03/09/2022			03/09/2022 14:29	Anna M. Plaviak	2311417
EPA 200.7 Rev. 4.4	03/09/2022	03/10/2022 10:42	Megan Whitefoot	03/11/2022 18:11	Josef B Mick	2311435
	03/09/2022	03/10/2022 10:42	Megan Whitefoot	03/11/2022 18:39	Josef B Mick	2311436
	03/09/2022	03/16/2022 11:24	Emily M Philpot	03/17/2022 16:23	Josef B Mick	2311435
	03/09/2022	03/16/2022 11:24	Emily M Philpot	03/17/2022 16:29	Josef B Mick	2311436
EPA 200.8 Rev. 5.4	03/09/2022	03/10/2022 10:42	Megan Whitefoot	03/10/2022 16:26	Emily M Philpot	2311435
	03/09/2022	03/10/2022 10:42	Megan Whitefoot	03/10/2022 18:32	Emily M Philpot	2311436
EPA 300.0 Rev. 2.1	03/09/2022			03/16/2022 21:28	Anna M. Plaviak	2311416
	03/09/2022			03/16/2022 21:40	Anna M. Plaviak	2311417
EPA 350.1 Rev. 2.0	03/09/2022			03/10/2022 11:46	Judith K. Clark	2311418
	03/09/2022			03/10/2022 11:47	Judith K. Clark	2311419
EPA 351.2 Rev. 2.0	03/09/2022	03/15/2022 17:10	Samantha L Bates	03/17/2022 13:39	Alexandra J Mattheus	2311418
	03/09/2022	03/15/2022 17:10	Samantha L Bates	03/21/2022 12:26	Samantha L Bates	2311419
EPA 353.2 Rev. 2.0	03/09/2022			03/16/2022 10:33	Beverly Y. Sanders	2311418
	03/09/2022			03/16/2022 10:40	Beverly Y. Sanders	2311419
EPA 365.1 Rev. 2.0	03/09/2022	03/17/2022 15:15	Simonne.V. Calhoun	03/21/2022 14:25	James L Waggeberby	2311418
	03/09/2022	03/17/2022 15:15	Simonne.V. Calhoun	03/21/2022 14:32	James L Waggeberby	2311419
EPA 365.1 Rev. 2.0 dissolved	03/09/2022			03/09/2022 15:03	James L Waggeberby	2311420
	03/09/2022			03/09/2022 15:04	James L Waggeberby	2311421
EPA 8270E	03/09/2022	03/11/2022 08:30	Rasheda Ghaffari	03/25/2022 20:45	Lipi Saha	2311437
	03/09/2022	03/11/2022 08:30	Rasheda Ghaffari	03/25/2022 21:10	Lipi Saha	2311438
	03/09/2022	03/22/2022 08:00	Rasheda Ghaffari	03/24/2022 19:10	Michael Poppell	2311437
	03/09/2022	03/22/2022 08:00	Rasheda Ghaffari	03/24/2022 19:35	Michael Poppell	2311438
	03/09/2022	03/22/2022 08:00	Rasheda Ghaffari	03/29/2022 17:35	Lipi Saha	2311437
	03/09/2022	03/22/2022 08:00	Rasheda Ghaffari	03/29/2022 17:59	Lipi Saha	2311438
EPA 8321B	03/09/2022	03/09/2022 13:30	Manjita Shrestha	03/09/2022 14:00	Manjita Shrestha	2311433
	03/09/2022	03/09/2022 13:30	Manjita Shrestha	03/09/2022 14:11	Manjita Shrestha	2311434
	03/09/2022	03/09/2022 13:30	Manjita Shrestha	03/10/2022 01:07	Manjita Shrestha	2311433
	03/09/2022	03/09/2022 13:30	Manjita Shrestha	03/10/2022 01:21	Manjita Shrestha	2311434
	03/09/2022	03/09/2022 13:30	Manjita Shrestha	03/15/2022 20:09	Manjita Shrestha	2311433
	03/09/2022	03/09/2022 13:30	Manjita Shrestha	03/15/2022 20:39	Manjita Shrestha	2311434
	03/09/2022	03/11/2022 09:30	June Rhew	03/12/2022 09:07	Juyoung Kim	2311433
	03/09/2022	03/11/2022 09:30	June Rhew	03/12/2022 10:16	Juyoung Kim	2311434
SM 2320 B-2011	03/09/2022			03/11/2022 02:17	Dale L. Simmons	2311416
	03/09/2022			03/11/2022 02:26	Dale L. Simmons	2311417
SM 2340B	03/09/2022			03/11/2022 18:11	Josef B Mick	2311435
	03/09/2022			03/11/2022 18:39	Josef B Mick	2311436

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2011	03/09/2022			03/14/2022 14:02	Yijie Li	2311416, 2311417
SM 2540 D-2011	03/09/2022			03/14/2022 15:03	Yijie Li	2311416, 2311417
SM 4500 F-C-2011	03/09/2022			03/11/2022 02:17	Dale L. Simmons	2311416
	03/09/2022			03/11/2022 02:26	Dale L. Simmons	2311417
SM 5310 B-2011	03/09/2022			03/15/2022 03:19	Khloe J Berg	2311418
	03/09/2022			03/15/2022 04:43	Khloe J Berg	2311419