

Chemical Analysis Report

CEN-DIST-2022-06-21-02

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

Event Description: **Lake Bryan - LVI**
Request ID: **RQ-2022-06-20-15**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 12-JUL-2022 11:28

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: Lake Bryan, center of lake

Collection Date/Time: 06/20/2022 11:15

Field ID: G4CE0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2335688	DEP SOP: NU-094-1	Color (true)**	29		PCU	P415505	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P415502	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P415805	
		Sulfate	10		mg SO4/L	P415807	
	SM 2320 B-2011	Total Alkalinity	30		mg CaCO3/L	P415767	
	SM 2540 C-2011	TDS	82		mg/L	P415902	
	SM 2540 D-2011	TSS	2	U	mg/L	P415891	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P415771	
2335689	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P415880	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P415786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416225	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P415813	
	SM 5310 B-2011	Organic Carbon	7.4		mg C/L	P415622	
2335690	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P415501	
2335692	EPA 8321B	2,4-D	0.0028	I	ug/L	P415542	
		Acesulfame K	0.10	U	ug/L	P415517	
		AMPA	0.10	U	ug/L	P415517	
		2,4,5-T	0.0040	U	ug/L	P415542	MS, RPD
		Acetaminophen	0.0080	U	ug/L	P415542	
		Acetamiprid	0.0020	U	ug/L	P415542	
		Endothall	0.25	U	ug/L	P415517	
		Glufosinate	0.10	U	ug/L	P415517	
		Glyphosate	0.10	U	ug/L	P415517	
		Afidopyropen	0.0020	U	ug/L	P415542	
		Bentazon	0.0017	I	ug/L	P415542	
		Sucralose	1.8		ug/L	P415517	
		Benzovindiflupyr	0.0020	U	ug/L	P415542	
		Carbamazepine	8.0E-04	U	ug/L	P415542	
		Clothianidin	0.0020	U	ug/L	P415542	
		Dinotefuran	0.0020	U	ug/L	P415542	
		Diuron	0.0024	I	ug/L	P415542	
		Fenuron	0.032	U	ug/L	P415542	
		Fluridone	0.011		ug/L	P415542	
		Imazapyr	0.0091	I	ug/L	P415542	
		Hydrocodone	0.0020	U	ug/L	P415542	
		Ibuprofen	0.080	U	ug/L	P415542	
		Imidacloprid	0.0020	U	ug/L	P415542	MS
		Linuron	0.0040	U	ug/L	P415542	
		Mandestrobin	0.0020	U	ug/L	P415542	
		MCPP	0.0040	U	ug/L	P415542	
		Naproxen	0.0080	U	ug/L	P415542	MS, RPD
		Primidone	0.0041	I	ug/L	P415542	
		Pyraclostrobin	0.0020	U	ug/L	P415542	

Field ID: G4CE0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2335692	EPA 8321B	Silvex	0.0040	U	ug/L	P415542	
		Thiamethoxam	0.0020	U	ug/L	P415542	MS
		Tolfenpyrad	0.0020	U	ug/L	P415542	
		Triclopyr	0.0040	U	ug/L	P415542	MS
2335693	EPA 200.7 Rev. 4.4	Calcium	13.4		mg/L	P415516	
		Iron	30	U	ug/L	P415516	
		Magnesium	2.65		mg/L	P415516	
		Potassium	2.6		mg/L	P415516	
		Sodium	17.8		mg/L	P415516	
		Strontium	73.8		ug/L	P415516	
		Tin	3.0	U	ug/L	P415516	
		Titanium	0.75	U	ug/L	P415516	
		Vanadium	2.0	U	ug/L	P415516	
		Zinc	5.0	U	ug/L	P415516	
	EPA 200.8 Rev. 5.4	Aluminum	55		ug/L	P415516	
		Antimony	0.26		ug/L	P415516	
		Arsenic	1.06		ug/L	P415516	
		Barium	6.13		ug/L	P415516	
		Beryllium	0.010	U	ug/L	P415516	
		Boron**	37.3		ug/L	P415516	
		Cadmium	0.020	U	ug/L	P415516	
		Chromium	0.40	U	ug/L	P415516	
		Cobalt	0.020	U	ug/L	P415516	
		Copper	1.07		ug/L	P415516	
		Lead	0.20	U	ug/L	P415516	
		Manganese	1.59		ug/L	P415516	
		Molybdenum	1.56		ug/L	P415516	
		Nickel	0.50	U	ug/L	P415516	
		Selenium	0.20	U	ug/L	P415516	
		Silver	0.010	U	ug/L	P415516	
		Thallium	0.10	U	ug/L	P415516	
		Hardness	44.4		mg/L	P415516	
2335694	SM 2340 B-2011	Oxybenzone**	9.7	U	ng/L	P415527	
	EPA 8270E	Acetochlor	0.24	U	ng/L	P415527	
		Octinoxate**	19	U	ng/L	P415527	
		Alachlor	0.24	U	ng/L	P415527	
		Avobenzone**	97	U	ng/L	P415527	
		Ametryn	0.58	U	ng/L	P415527	
		Atrazine	6.9		ng/L	P415527	
		PBDE-47**	3.9	U	ng/L	P415527	
		Atrazine Desethyl	1.9	I J	ng/L	P415527	LCS
		PBDE-99**	4.8	U	ng/L	P415527	
		Azinphos Methyl	1.9	U	ng/L	P415527	RPD
		Tri-o-cresyl Phosphate**	5.8	U	ng/L	P415527	
		Azoxystrobin**	0.48	U	ng/L	P415527	

Field ID: G4CE0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2335694	EPA 8270E	Bromacil	0.48	U	ng/L	P415527	MS
		2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)**	12	U	ng/L	P415527	
		Butylate	0.39	U	ng/L	P415527	
		Caffeine**	38		ng/L	P415527	
		Carbophenothion	0.19	U	ng/L	P415527	
		Carfentrazone Ethyl**	0.097	U	ng/L	P415527	
		Chlorfenapyr**	0.17	U	ng/L	P415527	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P415527	
		Chlorpyrifos Methyl	0.048	U	ng/L	P415527	MS
		Coumaphos**	0.48	U	ng/L	P415527	
		Cyanazine	3.1	U	ng/L	P415527	
		Cyprodinil**	0.097	U	ng/L	P415527	
		Demeton	1.5	U	ng/L	P415527	
		Diazinon	0.12	U	ng/L	P415527	
		Difenoconazole**	0.58	U	ng/L	P415527	
		Dimethenamid**	0.097	U	ng/L	P415527	
		Dimethomorph**	0.17	U	ng/L	P415527	
		Disulfoton	0.48	U	ng/L	P415527	
		Dithiopyr**	0.17	U	ng/L	P415527	
		EPTC	1.2	U	ng/L	P415527	
		Ethion	0.15	U	ng/L	P415527	
		Ethoprop	0.097	U	ng/L	P415527	
		Etridiazole**	0.15	U	ng/L	P415527	MS
		Fenamiphos	0.48	U	ng/L	P415527	
		Fenbuconazole**	0.24	I	ng/L	P415527	
		Fipronil	0.24	U	ng/L	P415527	
		Fipronil Desulfinyl**	0.45	I	ng/L	P415527	
		Fipronil Sulfide	0.15	U	ng/L	P415527	
		Fipronil Sulfone	0.42	I	ng/L	P415527	
		Fluazifop-P-butyl**	0.097	U	ng/L	P415527	
		Fludioxonil**	0.12	U	ng/L	P415527	
		Flumioxazin**	1.7	U	ng/L	P415527	
		Flutolanil**	0.097	U	ng/L	P415527	
		Fluxapyroxad**	0.16	I	ng/L	P415527	RPD
		Fonofos	0.19	U	ng/L	P415527	
		Hexazinone	0.48	U	ng/L	P415527	
		Imazalil**	0.73	U	ng/L	P415527	
		Iprodione**	0.58	U	ng/L	P415527	
		Loratadine**	0.097	U	ng/L	P415527	RPD
		Malathion	0.34	U	ng/L	P415527	
		Metaxyl	0.73	U	ng/L	P415527	
		Metolachlor	0.67	I	ng/L	P415527	
		Metribuzin	2.4	U	ng/L	P415527	
		Mevinphos	1.0	U	ng/L	P415527	

Field ID: G4CE0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2335694	EPA 8270E	Molinate	0.29	U	ng/L	P415527	
		Myclobutanil**	0.27	I	ng/L	P415527	
		Naled**	1.5	U	ng/L	P415527	
		Napropamide**	0.39	U	ng/L	P415527	MS
		Norflurazon	0.48	U	ng/L	P415527	
		Oxadiazon	1.5		ng/L	P415527	
		Oxyfluorfen**	0.15	U	ng/L	P415527	
		Parathion Ethyl	0.24	U	ng/L	P415527	
		Parathion Methyl	0.53	U	ng/L	P415527	
		Pendimethalin	0.97	U	ng/L	P415527	
		Phenytol**	3.4	U	ng/L	P415527	MS, RPD
		Phorate	0.51	U	ng/L	P415527	
		Prodiamine**	0.17	U	ng/L	P415527	
		Prometon	1.1	I	ng/L	P415527	
		Prometryn	0.19	U	ng/L	P415527	
		Pronamide**	0.15	U	ng/L	P415527	
		Propanil**	0.12	U	ng/L	P415527	
		Propargite**	1.5	U	ng/L	P415527	
		Propiconazole**	0.57	I	ng/L	P415527	
		Pyraflufen Ethyl**	0.24	U	ng/L	P415527	
		Pyridaben**	1.5	I	ng/L	P415527	
		Pyriproxyfen**	0.12	U	ng/L	P415527	
		Simazine	0.48	U	ng/L	P415527	
		Stirophos**	0.12	U	ng/L	P415527	MS
		Sulfentrazone**	0.48	U	ng/L	P415527	
		Tebuconazole**	0.90	I	ng/L	P415527	
		Terbufos	0.097	U	ng/L	P415527	
		Terbutylazine	0.41	U	ng/L	P415527	
		Thiobencarb**	0.58	U	ng/L	P415527	
		Triadimefon**	0.24	U	ng/L	P415527	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8270E: 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: P415505

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415502

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415516

Component	Result	Code	Units
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
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 200.8 Rev. 5.4
Batch ID: P415516

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
Manganese	0.10	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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415805

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415807

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415880

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416225

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415813

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415501

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

Reference Method: EPA 8270E
Batch ID: P415527

Component	Result	Code	Units
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
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
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415527

Component	Result	Code	Units
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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415527

Component	Result	Code	Units
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
Metaxyl	0.75	U	ng/L
Metaxyl	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
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415527

Component	Result	Code	Units
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
PBDE-47	4.0	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-99	5.0	U	ng/L
PBDE-99	5.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytol	3.5	U	ng/L
Phenytol	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiatone	0.18	U	ng/L
Prodiatone	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
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
Terbutylazine	0.42	U	ng/L
Terbutylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415527

Component	Result	Code	Units
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B

Batch ID: P415517

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: P415542

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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	0.0040	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: P415767

Component	Result	Code	Units
Total Alkalinity	1.0	U	mg CaCO3/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P415902

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P415891

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415771

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415622

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: P415505

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.1		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.5		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	102		P	85 - 115
Sodium	99.1		P	85 - 115
Strontium	98.3		P	85 - 115
Tin	101		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	95.8		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	106		P	85 - 115
Antimony	108		P	85 - 115
Arsenic	99.9		P	85 - 115
Barium	109		P	85 - 115
Beryllium	101		P	85 - 115
Boron	106		P	85 - 115
Cadmium	106		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	103		P	85 - 115
Copper	99.9		P	85 - 115
Lead	98.6		P	85 - 115
Manganese	107		P	85 - 115
Molybdenum	103		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	104		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415807

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415880

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415786

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416225

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415813

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415501

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

Reference Method: EPA 8270E
Batch ID: P415527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	98.3		P	50 - 150
Acetochlor	84.5		P	70 - 121
Alachlor	77.1		P	68 - 119
Ametryn	90.5		P	64 - 139
Atrazine	78.6		P	76 - 120
Atrazine Desethyl	42.0		F	44 - 126
Avobenzone	109		P	76 - 212
Azinphos Methyl	95.9		P	43 - 192
Azoxystrobin	85.9		P	36 - 224
Bromacil	65.7		P	52 - 121
Butylate	45.1		P	28 - 91.0
Caffeine	83.6		P	50 - 134
Carbophenothion	93.5		P	56 - 129
Carfentrazone Ethyl	108		P	60 - 141
Chlorfenapyr	67.5		P	56 - 115
Chlorpyrifos Ethyl	61.4		P	60 - 118

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P415527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Methyl	75.7		P	68 - 119
Coumaphos	174		P	18 - 250
Cyanazine	77.6		P	61 - 250
Cyprodinil	72.9		P	55 - 145
Demeton	63.4		P	30 - 159
Diazinon	116		P	70 - 123
Difenoconazole	91.7		P	49 - 204
Dimethenamid	72.4		P	64 - 115
Dimethomorph	92.3		P	12 - 219
Disulfoton	83.1		P	44 - 125
Dithiopyr	89.5		P	64 - 115
EPTC	47.6		P	28 - 86.0
Ethion	55.2		P	33 - 125
Ethoprop	87.8		P	64 - 116
Etridiazole	49.7		P	34 - 91.0
Fenamiphos	81.4		P	12 - 127
Fenbuconazole	135		P	59 - 151
Fipronil	85.5		P	67 - 129
Fipronil Desulfinyl	93.8		P	65 - 127
Fipronil Sulfide	89.6		P	61 - 116
Fipronil Sulfone	86.1		P	55 - 117
Fluazifop-P-butyl	85.6		P	62 - 127
Fludioxonil	82.4		P	62 - 128
Flumioxazin	214		P	33 - 250
Flutolanil	77.6		P	56 - 127
Fluxapyroxad	66.4		P	45 - 128
Fonofos	74.6		P	62 - 111
Hexazinone	85.6		P	46 - 139
Imazalil	72.6		P	38 - 142
Iprodione	84.0		P	47 - 135
Loratadine	98.0		P	10 - 244
Malathion	96.5		P	61 - 139
Metaxyl	77.7		P	10 - 119
Metolachlor	89.5		P	65 - 118
Metribuzin	78.1		P	51 - 250
Mevinphos	68.0		P	53 - 121
Molinate	60.3		P	42 - 96.0
Myclobutanil	82.9		P	55 - 128
Naled	69.8		P	10 - 98.0
Napropamide	61.8		P	49 - 121
Norflurazon	114		P	61 - 126
Octinoxate	89.3		P	30 - 159
Oxadiazon	85.0		P	59 - 116
Oxybenzone	84.1		P	61 - 139
Oxyfluorfen	97.9		P	64 - 137
Parathion Ethyl	86.1		P	70 - 112
Parathion Methyl	98.9		P	76 - 133
PBDE-47	88.6		P	50 - 150
PBDE-99	82.2		P	50 - 150
Pendimethalin	80.0		P	52 - 117
Phenytoin	45.9		P	10 - 199
Phorate	81.6		P	48 - 121

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P415527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prodiamine	76.6		P	26 - 142
Prometon	69.4		P	43 - 123
Prometryn	80.1		P	66 - 127
Pronamide	102		P	75 - 121
Propanil	65.2		P	45 - 150
Propargite	149		P	42 - 208
Propiconazole	114		P	60 - 125
Pyraflufen Ethyl	111		P	70 - 138
Pyridaben	150		P	35 - 245
Pyriproxyfen	93.6		P	30 - 149
Simazine	74.0		P	72 - 125
Stirophos	71.4		P	29 - 164
Sulfentrazone	118		P	21 - 139
Tebuconazole	110		P	10 - 115
Terbufos	84.8		P	60 - 123
Terbuthylazine	90.2		P	72 - 115
Thiobencarb	75.2		P	31 - 139
Tri-o-cresyl Phosphate	95.0		P	50 - 150
Triadimefon	66.5		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P415517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	86.3		P	40 - 150
AMPA	107		P	40 - 150
Endothall	105		P	40 - 150
Glufosinate	117		P	40 - 150
Glyphosate	101		P	40 - 150
Sucralose	97.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P415542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	62.0		P	40 - 150
2,4,5-T	40.5		P	40 - 150
Acetaminophen	75.5		P	30 - 150
Acetamiprid	70.1		P	40 - 150
Afidopyropen	56.4		P	30 - 150
Bentazon	72.6		P	30 - 150
Benzovindiflupyr	80.1		P	40 - 150
Carbamazepine	82.6		P	40 - 150
Clothianidin	89.5		P	40 - 150
Dinotefuran	87.8		P	40 - 150
Diuron	75.1		P	40 - 150
Fenuron	85.8		P	40 - 150
Fluridone	81.5		P	40 - 150
Hydrocodone	79.6		P	40 - 150
Ibuprofen	67.0		P	40 - 150
Imazapyr	82.4		P	40 - 150
Imidacloprid	94.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P415542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	80.9		P	40 - 150
Mandestrobin	79.8		P	40 - 150
MCPP	74.9		P	40 - 150
Naproxen	62.5		P	40 - 150
Primidone	94.8		P	40 - 150
Pyraclostrobin	66.0		P	40 - 150
Silvex	45.1		P	40 - 150
Thiamethoxam	86.5		P	40 - 150
Tolfenpyrad	37.2		P	30 - 150
Triclopyr	46.9		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P415767

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P415771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P415516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334462	Calcium	96.4		P	80 - 120
2334462	Iron	109		P	80 - 120
2334462	Magnesium	109		P	80 - 120
2334462	Potassium	101		P	80 - 120
2334462	Sodium	103		P	80 - 120
2334462	Strontium	101		P	80 - 120
2334462	Tin	103		P	80 - 120
2334462	Titanium	106		P	80 - 120
2334462	Vanadium	102		P	80 - 120
2334462	Zinc	103		P	80 - 120
2336029	Calcium	98.6		P	80 - 120
2336029	Iron	104	107	P/P	80 - 120
2336029	Magnesium	104	108	P/P	80 - 120
2336029	Potassium	100	101	P/P	80 - 120
2336029	Sodium	95.5	97.6	P/P	80 - 120
2336029	Strontium	97.7	99.2	P/P	80 - 120
2336029	Tin	97.8	99.7	P/P	80 - 120
2336029	Titanium	102	103	P/P	80 - 120
2336029	Vanadium	94.9	95.8	P/P	80 - 120
2336029	Zinc	100	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P415516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334462	Aluminum	105		P	80 - 120
2334462	Antimony	109		P	80 - 120
2334462	Arsenic	101		P	80 - 120
2334462	Barium	109		P	80 - 120
2334462	Beryllium	101		P	80 - 120
2334462	Boron	108		P	80 - 120
2334462	Cadmium	108		P	80 - 120
2334462	Chromium	104		P	80 - 120
2334462	Cobalt	103		P	80 - 120
2334462	Copper	97.8		P	80 - 120
2334462	Lead	98.8		P	80 - 120
2334462	Manganese	107		P	80 - 120
2334462	Molybdenum	106		P	80 - 120
2334462	Nickel	99.9		P	80 - 120
2334462	Selenium	99.9		P	80 - 120
2334462	Silver	104		P	80 - 120
2334462	Thallium	105		P	80 - 120
2336029	Aluminum	108	108	P/P	80 - 120
2336029	Antimony	105	109	P/P	80 - 120
2336029	Arsenic	102	103	P/P	80 - 120
2336029	Barium	109	110	P/P	80 - 120
2336029	Beryllium	102	104	P/P	80 - 120
2336029	Boron	108	106	P/P	80 - 120
2336029	Cadmium	103	104	P/P	80 - 120
2336029	Chromium	102	104	P/P	80 - 120
2336029	Cobalt	103	105	P/P	80 - 120
2336029	Copper	102	104	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P415516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336029	Lead	99.4	99.7	P/P	80 - 120
2336029	Manganese	105	107	P/P	80 - 120
2336029	Molybdenum	104	106	P/P	80 - 120
2336029	Nickel	99.6	102	P/P	80 - 120
2336029	Selenium	103	103	P/P	80 - 120
2336029	Silver	103	104	P/P	80 - 120
2336029	Thallium	105	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P415805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335624	Chloride	96.3		P	90 - 110
2335626	Chloride	94.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P415807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335624	Sulfate	95.9		P	90 - 110
2335626	Sulfate	95.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P415880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335662	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P415786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335674	Kjeldahl Nitrogen	98.2	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P416225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335675	NO2NO3-N	97.0	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P415813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335704	Total-P	104	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P415501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335669	O-Phosphate-P	97.0	96.8	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P415527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335685	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	74.5	79.6	P/P	50 - 150
2335685	Acetochlor	76.6	87.2	P/P	65 - 124
2335685	Alachlor	65.9	80.8	P/P	61 - 121
2335685	Ametryn	88.5	62.8	P/P	52 - 216
2335685	Atrazine Desethyl	42.0	40.0	P/P	15 - 160
2335685	Avobenzone	89.5	94.0	P/P	59 - 206
2335685	Azinphos Methyl	59.4	137	P/P	40 - 292
2335685	Azoxystrobin	83.2	97.0	P/P	12 - 242
2335685	Bromacil	51.6	50.7	F/F	54 - 167
2335685	Butylate	40.3	36.2	P/P	14 - 94.0
2335685	Caffeine	88.7	83.3	P/P	10 - 226
2335685	Carbophenothion	99.4	97.4	P/P	49 - 122
2335685	Carfentrazone Ethyl	102	110	P/P	53 - 138
2335685	Chlorfenapyr	62.8	55.4	P/P	50 - 150
2335685	Chlorpyrifos Ethyl	52.4	56.8	P/P	52 - 122
2335685	Chlorpyrifos Methyl	65.2	67.1	F/P	66 - 117
2335685	Coumaphos	159	145	P/P	50 - 220
2335685	Cyanazine	65.3	71.6	P/P	43 - 245
2335685	Cyprodinil	64.1	69.7	P/P	50 - 150
2335685	Demeton	64.4	57.2	P/P	43 - 188
2335685	Diazinon	114	100	P/P	69 - 131
2335685	Difenoconazole	193	203	P/P	34 - 231
2335685	Dimethenamid	66.6	71.0	P/P	55 - 118
2335685	Dimethomorph	102	82.0	P/P	50 - 150
2335685	Disulfoton	73.2	69.5	P/P	38 - 141
2335685	Dithiopyr	84.6	81.0	P/P	42 - 116
2335685	EPTC	37.9	33.8	P/P	18 - 85.0
2335685	Ethion	44.4	53.2	P/P	10 - 131
2335685	Ethoprop	74.2	76.4	P/P	65 - 129
2335685	Etridiazole	57.2	46.7	P/F	50 - 150
2335685	Fenamiphos	81.8	70.5	P/P	31 - 137
2335685	Fenbuconazole	127	127	P/P	57 - 160
2335685	Fipronil	75.1	84.9	P/P	62 - 132
2335685	Fipronil Desulfinyl	99.3	85.5	P/P	57 - 131
2335685	Fluazifop-P-butyl	75.5	72.6	P/P	54 - 133
2335685	Fludioxonil	71.5	78.0	P/P	58 - 127
2335685	Flumioxazin	128	157	P/P	33 - 300
2335685	Flutolanil	65.0	74.7	P/P	42 - 130
2335685	Fluxapyroxad	43.3	65.2	P/P	23 - 141
2335685	Fonofos	72.3	59.8	P/P	58 - 119
2335685	Hexazinone	68.1	76.6	P/P	68 - 172
2335685	Imazalil	66.8	59.3	P/P	48 - 283
2335685	Iprodione	133	134	P/P	38 - 140
2335685	Loratadine	127	78.3	P/P	50 - 150
2335685	Malathion	79.6	86.5	P/P	40 - 137
2335685	Metalaxyl	68.4	67.4	P/P	21 - 129
2335685	Metolachlor	77.6	80.9	P/P	55 - 122
2335685	Metribuzin	68.3	76.6	P/P	38 - 187
2335685	Mevinphos	54.9	59.0	P/P	54 - 134
2335685	Molinate	54.2	48.1	P/P	41 - 97.0
2335685	Myclobutanil	71.1	81.3	P/P	56 - 125
2335685	Naled	60.5	74.0	P/P	10 - 108

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P415527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335685	Napropamide	45.2	58.8	F/P	50 - 150
2335685	Norflurazon	104	99.3	P/P	32 - 122
2335685	Octinoxate	69.9	74.1	P/P	25 - 150
2335685	Oxadiazon	74.4	65.5	P/P	40 - 119
2335685	Oxybenzone	76.5	75.8	P/P	59 - 147
2335685	Oxyfluorfen	95.3	98.2	P/P	61 - 153
2335685	Parathion Ethyl	70.6	73.0	P/P	59 - 130
2335685	Parathion Methyl	95.4	94.1	P/P	65 - 155
2335685	PBDE-47	63.6	76.2	P/P	50 - 150
2335685	PBDE-99	58.0	73.6	P/P	50 - 150
2335685	Pendimethalin	74.8	77.3	P/P	49 - 138
2335685	Phenytoin	17.3	54.9	F/P	50 - 200
2335685	Phorate	65.6	57.6	P/P	54 - 161
2335685	Prodiamine	80.6	85.1	P/P	33 - 161
2335685	Prometon	70.5	75.3	P/P	48 - 140
2335685	Prometryn	72.5	67.4	P/P	55 - 134
2335685	Pronamide	95.6	96.3	P/P	66 - 137
2335685	Propanil	54.2	66.3	P/P	50 - 150
2335685	Propargite	132	164	P/P	50 - 200
2335685	Propiconazole	106	92.1	P/P	36 - 150
2335685	Pyraflufen Ethyl	119	120	P/P	50 - 150
2335685	Pyridaben	155	160	P/P	50 - 200
2335685	Pyriproxyfen	70.0	62.8	P/P	10 - 165
2335685	Simazine	59.2	58.7	P/P	57 - 145
2335685	Stirophos	49.9	56.3	F/P	50 - 150
2335685	Sulfentrazone	114	118	P/P	34 - 140
2335685	Tebuconazole	93.4	108	P/P	10 - 127
2335685	Terbufos	90.3	79.3	P/P	59 - 138
2335685	Terbuthylazine	80.6	81.1	P/P	68 - 119
2335685	Thiobencarb	63.6	73.6	P/P	50 - 150
2335685	Tri-o-cresyl Phosphate	73.5	76.2	P/P	50 - 150
2335685	Triadimefon	64.6	65.4	P/P	50 - 150

Reference Method: EPA 8321B
Batch ID: P415517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335341	Acesulfame K	80.6	79.9	P/P	40 - 150
2335341	AMPA	104	100	P/P	40 - 150
2335341	Endothall	108	112	P/P	40 - 150
2335341	Glufosinate	94.8	97.4	P/P	40 - 150
2335341	Glyphosate	87.7	94.8	P/P	40 - 150
2335341	Sucralose	94.0	96.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P415542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335680	2,4-D	80.4	55.2	P/P	40 - 150
2335680	2,4,5-T	43.1	29.3	P/F	40 - 150
2335680	Acetaminophen	96.2	93.8	P/P	30 - 150
2335680	Acetamiprid	93.2	83.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P415542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335680	Afidopyropen	84.1	66.4	P/P	30 - 150
2335680	Benzovindiflupyr	94.2	87.7	P/P	40 - 150
2335680	Carbamazepine	92.8	94.4	P/P	40 - 150
2335680	Clothianidin	112	108	P/P	40 - 150
2335680	Dinotefuran	137	129	P/P	40 - 150
2335680	Diuron	83.2	77.9	P/P	40 - 150
2335680	Fenuron	82.5	76.4	P/P	40 - 150
2335680	Hydrocodone	99.1	91.1	P/P	40 - 150
2335680	Ibuprofen	49.7	47.8	P/P	40 - 150
2335680	Imidacloprid	158	137	F/P	40 - 150
2335680	Linuron	75.2	82.1	P/P	40 - 150
2335680	Mandestrobin	79.6	75.5	P/P	40 - 150
2335680	MCPP	66.6	59.3	P/P	40 - 150
2335680	Naproxen	27.6	58.0	F/P	40 - 150
2335680	Primidone	92.5	93.2	P/P	40 - 150
2335680	Pyraclostrobin	86.0	79.5	P/P	40 - 150
2335680	Silvex	52.5	42.6	P/P	40 - 150
2335680	Thiamethoxam	150	142	F/P	40 - 150
2335680	Tolfenpyrad	51.6	50.3	P/P	30 - 150
2335680	Triclopyr	44.5	35.1	P/F	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P415771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335661	Fluoride	99.9	99.9	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P415622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2335689	Organic Carbon	97.1	97.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335624	Color (true)	6.24	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335624	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336029	Calcium	1.02	Spike	P	0 - 20
2336029	Iron	3.02	Spike	P	0 - 20
2336029	Magnesium	2.62	Spike	P	0 - 20
2336029	Potassium	1.17	Spike	P	0 - 20
2336029	Sodium	1.35	Spike	P	0 - 20
2336029	Strontium	1.56	Spike	P	0 - 20
2336029	Tin	1.97	Spike	P	0 - 20
2336029	Titanium	0.697	Spike	P	0 - 20
2336029	Vanadium	0.898	Spike	P	0 - 20
2336029	Zinc	1.02	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336029	Aluminum	0.0885	Spike	P	0 - 20
2336029	Antimony	3.15	Spike	P	0 - 20
2336029	Arsenic	0.482	Spike	P	0 - 20
2336029	Barium	1.24	Spike	P	0 - 20
2336029	Beryllium	2.03	Spike	P	0 - 20
2336029	Boron	1.65	Spike	P	0 - 20
2336029	Cadmium	0.997	Spike	P	0 - 20
2336029	Chromium	2.58	Spike	P	0 - 20
2336029	Cobalt	1.63	Spike	P	0 - 20
2336029	Copper	1.81	Spike	P	0 - 20
2336029	Lead	0.232	Spike	P	0 - 20
2336029	Manganese	1.39	Spike	P	0 - 20
2336029	Molybdenum	1.49	Spike	P	0 - 20
2336029	Nickel	1.95	Spike	P	0 - 20
2336029	Selenium	0.426	Spike	P	0 - 20
2336029	Silver	1.10	Spike	P	0 - 20
2336029	Thallium	0.883	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335624	Chloride	0.146	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335624	Sulfate	0.0244	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335662	Ammonia-N	1.96	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335674	Kjeldahl Nitrogen	0.771	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335675	NO2NO3-N	2.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335704	Total-P	3.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335669	O-Phosphate-P	0.206	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P415527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335685	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	6.63	Spike	P	0 - 30
2335685	Acetochlor	12.9	Spike	P	0 - 27

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P415527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335685	Alachlor	20.4	Spike	P	0 - 27
2335685	Ametryn	27.2	Spike	P	0 - 34
2335685	Atrazine	3.59	Spike	P	0 - 41
2335685	Atrazine Desethyl	4.88	Spike	P	0 - 38
2335685	Avobenzone	4.93	Spike	P	0 - 30
2335685	Azinphos Methyl	79.3	Spike	F	0 - 62
2335685	Azoxystrobin	15.4	Spike	P	0 - 32
2335685	Bromacil	1.81	Spike	P	0 - 30
2335685	Butylate	10.9	Spike	P	0 - 59
2335685	Caffeine	6.08	Spike	P	0 - 60
2335685	Carbophenothion	1.95	Spike	P	0 - 25
2335685	Carfentrazone Ethyl	6.99	Spike	P	0 - 26
2335685	Chlorfenapyr	12.5	Spike	P	0 - 30
2335685	Chlorpyrifos Ethyl	8.08	Spike	P	0 - 27
2335685	Chlorpyrifos Methyl	2.87	Spike	P	0 - 26
2335685	Coumaphos	9.59	Spike	P	0 - 30
2335685	Cyanazine	9.18	Spike	P	0 - 58
2335685	Cyprodinil	8.36	Spike	P	0 - 30
2335685	Demeton	11.9	Spike	P	0 - 25
2335685	Diazinon	12.4	Spike	P	0 - 29
2335685	Difenoconazole	4.70	Spike	P	0 - 25
2335685	Dimethenamid	6.31	Spike	P	0 - 30
2335685	Dimethomorph	21.4	Spike	P	0 - 30
2335685	Disulfoton	5.13	Spike	P	0 - 33
2335685	Dithiopyr	4.33	Spike	P	0 - 22
2335685	EPTC	11.4	Spike	P	0 - 38
2335685	Ethion	18.1	Spike	P	0 - 79
2335685	Ethoprop	3.01	Spike	P	0 - 23
2335685	Etridiazole	20.1	Spike	P	0 - 30
2335685	Fenamiphos	14.8	Spike	P	0 - 58
2335685	Fenbuconazole	0.0177	Spike	P	0 - 37
2335685	Fipronil	10.2	Spike	P	0 - 33
2335685	Fipronil Desulfinyl	9.62	Spike	P	0 - 26
2335685	Fipronil Sulfide	12.6	Spike	P	0 - 37
2335685	Fipronil Sulfone	2.00	Spike	P	0 - 50
2335685	Fluazifop-P-butyl	3.83	Spike	P	0 - 24
2335685	Fludioxonil	8.74	Spike	P	0 - 26
2335685	Flumioxazin	17.3	Spike	P	0 - 37
2335685	Flutolanil	13.9	Spike	P	0 - 26
2335685	Fluxapyroxad	40.4	Spike	F	0 - 34
2335685	Fonofos	19.0	Spike	P	0 - 27
2335685	Hexazinone	10.8	Spike	P	0 - 36
2335685	Imazalil	11.9	Spike	P	0 - 65
2335685	Iprodione	0.832	Spike	P	0 - 33
2335685	Loratadine	47.7	Spike	F	0 - 30
2335685	Malathion	8.24	Spike	P	0 - 44
2335685	Metalaxyl	1.42	Spike	P	0 - 38
2335685	Metolachlor	4.08	Spike	P	0 - 36
2335685	Metribuzin	11.5	Spike	P	0 - 63
2335685	Mevinphos	7.12	Spike	P	0 - 26
2335685	Molinate	11.8	Spike	P	0 - 40

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P415527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335685	Myclobutanil	12.4	Spike	P	0 - 21
2335685	Naled	20.1	Spike	P	0 - 26
2335685	Napropamide	26.1	Spike	P	0 - 30
2335685	Norflurazon	4.93	Spike	P	0 - 24
2335685	Octinoxate	5.76	Spike	P	0 - 30
2335685	Oxadiazon	8.32	Spike	P	0 - 27
2335685	Oxybenzone	0.920	Spike	P	0 - 30
2335685	Oxyfluorfen	3.01	Spike	P	0 - 24
2335685	Parathion Ethyl	3.40	Spike	P	0 - 28
2335685	Parathion Methyl	1.43	Spike	P	0 - 27
2335685	PBDE-47	18.0	Spike	P	0 - 30
2335685	PBDE-99	23.7	Spike	P	0 - 30
2335685	Pendimethalin	3.29	Spike	P	0 - 31
2335685	Phenytoin	104	Spike	F	0 - 30
2335685	Phorate	13.1	Spike	P	0 - 27
2335685	Prodiamine	5.34	Spike	P	0 - 52
2335685	Prometon	6.56	Spike	P	0 - 31
2335685	Prometryn	7.35	Spike	P	0 - 28
2335685	Pronamide	0.709	Spike	P	0 - 26
2335685	Propanil	20.1	Spike	P	0 - 30
2335685	Propargite	21.6	Spike	P	0 - 30
2335685	Propiconazole	8.18	Spike	P	0 - 31
2335685	Pyraflufen Ethyl	0.376	Spike	P	0 - 30
2335685	Pyridaben	2.89	Spike	P	0 - 30
2335685	Pyriproxyfen	10.7	Spike	P	0 - 50
2335685	Simazine	0.874	Spike	P	0 - 29
2335685	Stirophos	12.0	Spike	P	0 - 30
2335685	Sulfentrazone	2.59	Spike	P	0 - 33
2335685	Tebuconazole	11.9	Spike	P	0 - 44
2335685	Terbufos	13.0	Spike	P	0 - 29
2335685	Terbuthylazine	0.639	Spike	P	0 - 27
2335685	Thiobencarb	14.6	Spike	P	0 - 30
2335685	Tri-o-cresyl Phosphate	3.66	Spike	P	0 - 30
2335685	Triadimefon	1.23	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P415517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335341	Acesulfame K	0.916	Spike	P	0 - 30
2335341	AMPA	3.24	Spike	P	0 - 30
2335341	Endothall	3.05	Spike	P	0 - 30
2335341	Glufosinate	2.62	Spike	P	0 - 30
2335341	Glyphosate	7.05	Spike	P	0 - 30
2335341	Sucralose	2.98	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P415542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335680	2,4-D	19.8	Spike	P	0 - 30
2335680	2,4,5-T	38.2	Spike	F	0 - 30
2335680	Acetaminophen	2.51	Spike	P	0 - 30
2335680	Acetamiprid	11.4	Spike	P	0 - 30
2335680	Afidopyropen	23.5	Spike	P	0 - 30
2335680	Bentazon	5.57	Spike	P	0 - 30
2335680	Benzovindiflupyr	7.18	Spike	P	0 - 30
2335680	Carbamazepine	1.75	Spike	P	0 - 30
2335680	Clothianidin	4.11	Spike	P	0 - 30
2335680	Dinotefuran	5.75	Spike	P	0 - 30
2335680	Diuron	5.60	Spike	P	0 - 30
2335680	Fenuron	7.69	Spike	P	0 - 30
2335680	Fluridone	1.26	Spike	P	0 - 30
2335680	Hydrocodone	8.37	Spike	P	0 - 30
2335680	Ibuprofen	3.99	Spike	P	0 - 30
2335680	Imazapyr	3.68	Spike	P	0 - 30
2335680	Imidacloprid	13.8	Spike	P	0 - 30
2335680	Linuron	8.74	Spike	P	0 - 30
2335680	Mandestrobin	5.25	Spike	P	0 - 30
2335680	MCPP	11.6	Spike	P	0 - 30
2335680	Naproxen	71.1	Spike	F	0 - 30
2335680	Primidone	0.743	Spike	P	0 - 30
2335680	Pyraclostrobin	7.85	Spike	P	0 - 30
2335680	Silvex	20.8	Spike	P	0 - 30
2335680	Thiamethoxam	5.99	Spike	P	0 - 30
2335680	Tolfenpyrad	2.45	Spike	P	0 - 30
2335680	Triclopyr	23.5	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P415767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335661	Total Alkalinity	0.256	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P415902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335661	TDS	2.39	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P415771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335661	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P415622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2335689	Organic Carbon	0.372	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2335692
Field Sample ID: G4CE0190

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	64.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.7	P	30 - 160
EPA 8321B	Diuron-d6	77.6	P	30 - 160
EPA 8321B	Endothall-d6	84.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.9	P	30 - 160
EPA 8321B	Primidone-d5	95.7	P	30 - 160
EPA 8321B	Sucralose-d6	98.1	P	30 - 160

Lab Sample ID: 2335694
Field Sample ID: G4CE0190

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	43.4	P	20 - 200
EPA 8270E	Simazine-d10	89.7	P	71 - 140
EPA 8270E	Terbufos-d10	87.5	P	62 - 131
EPA 8270E	Terphenyl-d14	76.3	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A112962

Included Lab Sample IDs: 2335690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	98.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112963

Included Lab Sample IDs: 2335688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A112965

Included Lab Sample IDs: 2335688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	100	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112976

Included Lab Sample IDs: 2335688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.7	98.4	P/P	90 - 110
Sulfate	99.8	99.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113000

Included Lab Sample IDs: 2335689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113016

Included Lab Sample IDs: 2335692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	101	P/P	60 - 160
Endothall	106	81.9	P/P	60 - 160
Glufosinate	107	89.6	P/P	60 - 160
Glyphosate	98.0	98.7	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113025

Included Lab Sample IDs: 2335693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	99.6	100	P/P	90 - 110
Sodium	99.2	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113025

Included Lab Sample IDs: 2335693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Strontium	99.7	100	P/P	90 - 110
Tin	100	102	P/P	90 - 110
Titanium	101	103	P/P	90 - 110
Vanadium	101	102	P/P	90 - 110
Zinc	101	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113034

Included Lab Sample IDs: 2335692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	99.8	P/P	50 - 150
2,4,5-T	99.1	112	P/P	50 - 150
Acetaminophen	96.6	98.6	P/P	60 - 160
Acetamiprid	100	105	P/P	50 - 150
Afidopyropen	100	89.6	P/P	50 - 150
Bentazon	93.8	94.5	P/P	50 - 160
Benzovindiflupyr	108	107	P/P	50 - 150
Carbamazepine	99.0	101	P/P	60 - 150
Clothianidin	126	108	P/P	60 - 150
Dinotefuran	105	102	P/P	50 - 150
Diuron	99.3	98.0	P/P	60 - 160
Fenuron	100	98.2	P/P	60 - 150
Fluridone	106	110	P/P	60 - 160
Hydrocodone	97.4	104	P/P	60 - 150
Ibuprofen	71.4	80.5	P/P	50 - 160
Imazapyr	85.5	85.2	P/P	50 - 150
Imidacloprid	94.2	101	P/P	60 - 150
Linuron	105	86.8	P/P	60 - 150
Mandestrobin	96.0	99.2	P/P	50 - 150
MCPP	110	109	P/P	50 - 150
Naproxen	112	89.2	P/P	50 - 160
Primidone	116	96.2	P/P	60 - 150
Pyraclostrobin	101	101	P/P	60 - 150
Silvex	90.4	96.7	P/P	50 - 150
Thiamethoxam	95.3	98.9	P/P	50 - 150
Tolfenpyrad	98.4	101	P/P	60 - 150
Triclopyr	100	103	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A113044

Included Lab Sample IDs: 2335692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.4	77.7	P/P	60 - 160
Sucralose	93.6	96.3	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A113067

Included Lab Sample IDs: 2335688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113067

Included Lab Sample IDs: 2335688

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113085

Included Lab Sample IDs: 2335693

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	105	P/P	90 - 110
Antimony	104	104	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Barium	103	105	P/P	90 - 110
Beryllium	98.5	102	P/P	90 - 110
Boron	104	101	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Cobalt	101	102	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Lead	95.3	97.1	P/P	90 - 110
Manganese	104	105	P/P	90 - 110
Molybdenum	100	101	P/P	90 - 110
Nickel	99.9	101	P/P	90 - 110
Selenium	102	103	P/P	90 - 110
Silver	102	103	P/P	90 - 110
Thallium	97.5	101	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A113131

Included Lab Sample IDs: 2335694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	96.9		P	80 - 120
Alachlor	97.4		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine Desethyl	98.3		P	80 - 120
Azinphos Methyl	90.9		P	80 - 120
Azoxystrobin	94.7		P	80 - 120
Bromacil	97.9		P	80 - 120
Butylate	102		P	80 - 120
Caffeine	97.8		P	80 - 120
Carbophenothion	88.5		P	80 - 120
Carfentrazone Ethyl	89.1		P	80 - 120
Chlorfenapyr	96.7		P	80 - 120
Chlorpyrifos Ethyl	81.2		P	80 - 120
Chlorpyrifos Methyl	88.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A113131
 Included Lab Sample IDs: 2335694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Coumaphos	98.2		P	80 - 120
Cyanazine	91.0		P	80 - 120
Cyprodinil	92.5		P	80 - 120
Demeton	95.5		P	80 - 120
Diazinon	102		P	80 - 120
Difenoconazole	87.9		P	80 - 120
Dimethenamid	98.1		P	80 - 120
Dimethomorph	97.4		P	80 - 120
Disulfoton	87.8		P	80 - 120
Dithiopyr	98.8		P	80 - 120
EPTC	99.7		P	80 - 120
Ethion	80.7		P	80 - 120
Ethoprop	88.9		P	80 - 120
Etridiazole	99.0		P	80 - 120
Fenamiphos	86.3		P	80 - 120
Fenbuconazole	87.7		P	80 - 120
Fipronil	98.2		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	102		P	80 - 120
Fipronil Sulfone	104		P	80 - 120
Fluazifop-P-butyl	100		P	80 - 120
Fludioxonil	96.6		P	80 - 120
Flumioxazin	85.2		P	80 - 120
Flutolanil	91.0		P	80 - 120
Fluxapyroxad	92.0		P	80 - 120
Fonofos	104		P	80 - 120
Hexazinone	100		P	80 - 120
Imazalil	92.1		P	80 - 120
Iprodione	92.9		P	80 - 120
Loratadine	107		P	80 - 120
Malathion	96.0		P	80 - 120
Metaxyl	95.1		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	99.1		P	80 - 120
Mevinphos	94.1		P	80 - 120
Molinate	104		P	80 - 120
Myclobutanil	99.5		P	80 - 120
Naled	97.9		P	80 - 120
Napropamide	95.0		P	80 - 120
Norflurazon	93.7		P	80 - 120
Oxadiazon	107		P	80 - 120
Oxyfluorfen	94.3		P	80 - 120
Parathion Ethyl	94.1		P	80 - 120
Parathion Methyl	96.6		P	80 - 120
Pendimethalin	95.8		P	80 - 120
Phenytoin	87.7		P	80 - 120
Phorate	93.6		P	80 - 120
Prodiamine	103		P	80 - 120
Prometon	95.2		P	80 - 120
Prometryn	101		P	80 - 120
Pronamide	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113131
Included Lab Sample IDs: 2335694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Propanil	91.8		P	80 - 120
Propargite	94.1		P	80 - 120
Propiconazole	91.4		P	80 - 120
Pyraflufen Ethyl	97.2		P	80 - 120
Pyridaben	88.5		P	80 - 120
Pyriproxyfen	93.2		P	80 - 120
Simazine	98.1		P	80 - 120
Stirophos	94.7		P	80 - 120
Sulfentrazone	98.5		P	80 - 120
Tebuconazole	87.7		P	80 - 120
Terbufos	93.1		P	80 - 120
Terbuthylazine	93.3		P	80 - 120
Thiobencarb	86.7		P	80 - 120
Triadimefon	101		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113138
Included Lab Sample IDs: 2335689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	98.0	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A113176
Included Lab Sample IDs: 2335694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	94.7		P	80 - 120
Avobenzone	96.3		P	80 - 120
Octinoxate	94.8		P	80 - 120
Oxybenzone	101		P	80 - 120
PBDE-47	95.6		P	80 - 120
PBDE-99	94.2		P	80 - 120
Tri-o-cresyl Phosphate	98.2		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A113179
Included Lab Sample IDs: 2335689

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113208
Included Lab Sample IDs: 2335689

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113265
Included Lab Sample IDs: 2335694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	99.8		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A113310
Included Lab Sample IDs: 2335689

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	98.1				6.24	
EPA 180.1 Rev. 2.0	Turbidity	96.5				0.0	
EPA 200.7 Rev. 4.4	Calcium	104	96.4	98.6			1.02
	Iron	107	109	104	107		3.02
	Magnesium	110	109	104	108		2.62
	Potassium	102	101	100	101		1.17
	Sodium	99.1	103	95.5	97.6		1.35
	Strontium	98.3	101	97.7	99.2		1.56
	Tin	101	103	97.8	99.7		1.97
	Titanium	103	106	102	103		0.697
	Vanadium	95.8	102	94.9	95.8		0.898
	Zinc	101	103	100	101		1.02
EPA 200.8 Rev. 5.4	Aluminum	106	108	108	105		0.0885
	Antimony	108	105	109	109		3.15
	Arsenic	99.9	102	103	101		0.482
	Barium	109	109	110	109		1.24
	Beryllium	101	102	104	101		2.03
	Boron	106	108	106	108		1.65
	Cadmium	106	104	108	103		0.997
	Chromium	102	102	104	104		2.58
	Cobalt	103	103	105	103		1.63
	Copper	99.9	102	104	97.8		1.81
	Lead	98.6	99.4	99.7	98.8		0.232
	Manganese	107	105	107	107		1.39
	Molybdenum	103	104	106	106		1.49
	Nickel	102	99.6	102	99.9		1.95
	Selenium	101	103	103	99.9		0.426
	Silver	104	103	104	104		1.10
	Thallium	103	105	105	105		0.883
EPA 300.0 Rev. 2.1	Chloride	97.0	96.3	94.0		0.146	
	Sulfate	99.3	95.9	95.4		0.0244	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	101	103			1.96
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	98.2	99.5			0.771
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.0	99.5			2.40
EPA 365.1 Rev. 2.0	Total-P	106	104	108			3.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.3	97.0	96.8			0.206
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	98.3	74.5	79.6			6.63
	Acetochlor	84.5	76.6	87.2			12.9
	Alachlor	77.1	65.9	80.8			20.4
	Ametryn	90.5	88.5	62.8			27.2
	Atrazine	78.6					3.59
	Atrazine Desethyl	42.0	42.0	40.0			4.88
	Avobenzone	109	89.5	94.0			4.93
	Azinphos Methyl	95.9	59.4	137			79.3
	Azoxystrobin	85.9	83.2	97.0			15.4
	Bromacil	65.7	51.6	50.7			1.81
	Butylate	45.1	40.3	36.2			10.9
	Caffeine	83.6	88.7	83.3			6.08
	Carbophenothion	93.5	99.4	97.4			1.95
	Carfentrazone Ethyl	108	102	110			6.99
	Chlorfenapyr	67.5	62.8	55.4			12.5
	Chlorpyrifos Ethyl	61.4	52.4	56.8			8.08

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Chlorpyrifos Methyl	75.7	65.2	67.1			2.87
	Coumaphos	174	159	145			9.59
	Cyanazine	77.6	65.3	71.6			9.18
	Cyprodinil	72.9	64.1	69.7			8.36
	Demeton	63.4	64.4	57.2			11.9
	Diazinon	116	100	114			12.4
	Difenoconazole	91.7	193	203			4.70
	Dimethenamid	72.4	66.6	71.0			6.31
	Dimethomorph	92.3	102	82.0			21.4
	Disulfoton	83.1	73.2	69.5			5.13
	Dithiopyr	89.5	84.6	81.0			4.33
	EPTC	47.6	37.9	33.8			11.4
	Ethion	55.2	44.4	53.2			18.1
	Ethoprop	87.8	74.2	76.4			3.01
	Etridiazole	49.7	57.2	46.7			20.1
	Fenamiphos	81.4	81.8	70.5			14.8
	Fenbuconazole	135	127	127			0.0177
	Fipronil	85.5	75.1	84.9			10.2
	Fipronil Desulfinyl	93.8	99.3	85.5			9.62
	Fipronil Sulfide	89.6					12.6
	Fipronil Sulfone	86.1					2.00
	Fluazifop-P-butyl	85.6	75.5	72.6			3.83
	Fludioxonil	82.4	71.5	78.0			8.74
	Flumioxazin	214	128	157			17.3
	Flutolanil	77.6	65.0	74.7			13.9
	Fluxapyroxad	66.4	43.3	65.2			40.4
	Fonofos	74.6	72.3	59.8			19.0
	Hexazinone	85.6	68.1	76.6			10.8
	Imazalil	72.6	66.8	59.3			11.9
	Iprodione	84.0	133	134			0.832
	Loratadine	98.0	127	78.3			47.7
	Malathion	96.5	79.6	86.5			8.24
	Metalaxyl	77.7	68.4	67.4			1.42
	Metolachlor	89.5	77.6	80.9			4.08
	Metribuzin	78.1	68.3	76.6			11.5
	Mevinphos	68.0	54.9	59.0			7.12
	Molinate	60.3	54.2	48.1			11.8
	Myclobutanil	82.9	71.1	81.3			12.4
	Naled	69.8	60.5	74.0			20.1
	Napropamide	61.8	45.2	58.8			26.1
	Norflurazon	114	104	99.3			4.93
	Octinoxate	89.3	69.9	74.1			5.76
	Oxadiazon	85.0	74.4	65.5			8.32
	Oxybenzone	84.1	76.5	75.8			0.920
	Oxyfluorfen	97.9	95.3	98.2			3.01
	Parathion Ethyl	86.1	70.6	73.0			3.40
	Parathion Methyl	98.9	95.4	94.1			1.43
	PBDE-47	88.6	63.6	76.2			18.0
	PBDE-99	82.2	58.0	73.6			23.7
	Pendimethalin	80.0	74.8	77.3			3.29
	Phenytoin	45.9	17.3	54.9			104
	Phorate	81.6	65.6	57.6			13.1
	Prodiamine	76.6	80.6	85.1			5.34
	Prometon	69.4	70.5	75.3			6.56

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Prometryn	80.1	72.5	67.4			7.35
	Pronamide	102	95.6	96.3			0.709
	Propanil	65.2	54.2	66.3			20.1
	Propargite	149	132	164			21.6
	Propiconazole	114	106	92.1			8.18
	Pyraflufen Ethyl	111	119	120			0.376
	Pyridaben	150	155	160			2.89
	Pyriproxyfen	93.6	70.0	62.8			10.7
	Simazine	74.0	59.2	58.7			0.874
	Stirophos	71.4	49.9	56.3			12.0
	Sulfentrazone	118	114	118			2.59
	Tebuconazole	110	93.4	108			11.9
	Terbufos	84.8	90.3	79.3			13.0
	Terbuthylazine	90.2	80.6	81.1			0.639
	Thiobencarb	75.2	63.6	73.6			14.6
	Tri-o-cresyl Phosphate	95.0	73.5	76.2			3.66
	Triadimefon	66.5	64.6	65.4			1.23
EPA 8321B	2,4-D	62.0	80.4	55.2			19.8
	2,4,5-T	40.5	43.1	29.3			38.2
	Acesulfame K	86.3	80.6	79.9			0.916
	Acetaminophen	75.5	96.2	93.8			2.51
	Acetamiprid	70.1	93.2	83.2			11.4
	Afidopyropen	56.4	84.1	66.4			23.5
	AMPA	107	104	100			3.24
	Bentazon	72.6					5.57
	Benzovindiflupyr	80.1	94.2	87.7			7.18
	Carbamazepine	82.6	92.8	94.4			1.75
	Clothianidin	89.5	112	108			4.11
	Dinotefuran	87.8	137	129			5.75
	Diuron	75.1	83.2	77.9			5.60
	Endothall	105	108	112			3.05
	Fenuron	85.8	82.5	76.4			7.69
	Fluridone	81.5					1.26
	Glufosinate	117	94.8	97.4			2.62
	Glyphosate	101	87.7	94.8			7.05
	Hydrocodone	79.6	99.1	91.1			8.37
	Ibuprofen	67.0	49.7	47.8			3.99
	Imazapyr	82.4					3.68
	Imidacloprid	94.6	158	137			13.8
	Linuron	80.9	75.2	82.1			8.74
	Mandestrobin	79.8	79.6	75.5			5.25
	MCPP	74.9	66.6	59.3			11.6
	Naproxen	62.5	27.6	58.0			71.1
	Primidone	94.8	92.5	93.2			0.743
	Pyraclostrobin	66.0	86.0	79.5			7.85
	Silvex	45.1	52.5	42.6			20.8
	Sucralose	97.2	94.0	96.9			2.98
	Thiamethoxam	86.5	150	142			5.99
	Tolfenpyrad	37.2	51.6	50.3			2.45
	Triclopyr	46.9	44.5	35.1			23.5
SM 2320 B-2011	Total Alkalinity	101				0.256	
SM 2540 C-2011	TDS					2.39	
SM 4500-F- C-2011	Fluoride	99.9	99.9	99.9			0.0
SM 5310 B-2011	Organic Carbon	94.0	97.1	97.6			0.372

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2335688
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2335688
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2335693
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2335693
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2335688
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2335688
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2335689
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2335689
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2335689
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2335689
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2335690
EPA 8270E	Analysis of Sunscreen Compounds in Water by GC/MS-SIM	2335694
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2335694
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2335692
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2335688
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2335693
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2335688
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2335688
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2335688
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2335689

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	06/21/2022			06/21/2022 15:33	Anna M. Plaviak	2335688
EPA 180.1 Rev. 2.0	06/21/2022			06/21/2022 15:19	Khloe J Berg	2335688
EPA 200.7 Rev. 4.4	06/21/2022	06/22/2022 09:56	Megan Whitefoot	06/23/2022 17:53	McKinley C Carter	2335693
EPA 200.8 Rev. 5.4	06/21/2022	06/22/2022 09:56	Megan Whitefoot	06/24/2022 17:19	Emily M Philpot	2335693
EPA 300.0 Rev. 2.1	06/21/2022			06/24/2022 22:11	Anna M. Plaviak	2335688
EPA 350.1 Rev. 2.0	06/21/2022			06/28/2022 10:44	Ping Hua	2335689
EPA 351.2 Rev. 2.0	06/21/2022	06/28/2022 09:59	Samantha L Bates	06/29/2022 14:35	Alexandra J Mattheus	2335689
EPA 353.2 Rev. 2.0	06/21/2022			07/06/2022 12:10	Judith K. Clark	2335689
EPA 365.1 Rev. 2.0	06/21/2022	06/28/2022 16:02	Adam P Silver	06/30/2022 14:35	James L Waggerby	2335689
EPA 365.1 Rev. 2.0 dissolved	06/21/2022			06/21/2022 16:04	Nathaniel J Jones	2335690
EPA 8270E	06/21/2022	06/23/2022 10:00	Fe-Val Siddell	06/26/2022 22:02	Michael Poppell	2335694
	06/21/2022	06/23/2022 10:00	Fe-Val Siddell	06/29/2022 17:54	Lipi Saha	2335694
	06/21/2022	06/23/2022 10:00	Fe-Val Siddell	07/01/2022 20:04	Michael Poppell	2335694
EPA 8321B	06/21/2022	06/22/2022 12:00	Umesh Chiluwal	06/22/2022 14:29	Umesh Chiluwal	2335692
	06/21/2022	06/22/2022 12:00	Umesh Chiluwal	06/23/2022 03:52	Umesh Chiluwal	2335692
	06/21/2022	06/23/2022 09:00	June Rhew	06/23/2022 23:59	Juyoung Kim	2335692
SM 2320 B-2011	06/21/2022			06/25/2022 07:03	Dale L. Simmons	2335688
SM 2340 B-2011	06/21/2022			06/23/2022 17:53	McKinley C Carter	2335693
SM 2540 C-2011	06/21/2022			06/24/2022 15:21	Yijie Li	2335688
SM 2540 D-2011	06/21/2022			06/24/2022 15:21	Yijie Li	2335688
SM 4500-F- C-2011	06/21/2022			06/25/2022 07:03	Dale L. Simmons	2335688
SM 5310 B-2011	06/21/2022			06/22/2022 13:22	Khloe J Berg	2335689