

Chemical Analysis Report

TLH-ROC-2022-07-07-01

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

Event Description: **2022 LVI's (Compass Lake, Lake Martin, Dead Lakes)**

Request ID: **RQ-2022-06-13-49**

Customer: **TLH-ROC**

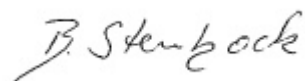
Project ID: **SMP**

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Date Certified: 27-JUL-2022 13:11



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 MARTIN

Collection Date/Time: 07/07/2022 11:05

Field ID: G3TLHR0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2339790	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P416364	
	EPA 300.0 Rev. 2.1	Sulfate	13		mg SO4/L	P416734	
	SM 2320 B-2011	Total Alkalinity	68		mg CaCO3/L	P417019	
	SM 2540 C-2011	TDS	129		mg/L	P416901	
	SM 2540 D-2011	TSS	2	U	mg/L	P416815	
	SM 4500-F- C-2011	Fluoride	0.049	I	mg F/L	P417022	
2339791	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P416422	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P416704	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416652	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P416597	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P416468	
2339793	EPA 8321B	2,4-D	0.048		ug/L	P416352	
		Acesulfame K	0.10	U	ug/L	P416535	
		2,4,5-T	0.0040	U	ug/L	P416352	
		AMPA	0.10	U	ug/L	P416535	
		Acetaminophen	0.0080	U	ug/L	P416352	
		Acetamiprid	0.0020	U	ug/L	P416352	
		Endothall	0.25	U	ug/L	P416535	
		Glufosinate	0.10	U	ug/L	P416535	
		Glyphosate	0.10	U	ug/L	P416535	
		Afidopyropen	0.0020	U	ug/L	P416352	
		Bentazon	8.0E-04	U	ug/L	P416352	
		Sucralose	0.067		ug/L	P416535	
		Benzovindiflupyr	0.0020	U	ug/L	P416352	
		Carbamazepine	8.0E-04	U	ug/L	P416352	
		Clothianidin	0.0020	U	ug/L	P416352	
		Dinotefuran	0.0020	U	ug/L	P416352	
		Diuron	0.0020	U	ug/L	P416352	
		Fenuron	0.032	U	ug/L	P416352	
		Fluridone	0.0085		ug/L	P416352	
		Imazapyr	0.0057	I	ug/L	P416352	
		Hydrocodone	0.0020	U	ug/L	P416352	
		Ibuprofen	0.080	U	ug/L	P416352	
		Imidacloprid	0.011		ug/L	P416352	MS
		Linuron	0.0040	U	ug/L	P416352	
		Mandestrobin	0.0020	U	ug/L	P416352	
		MCP	0.0040	U	ug/L	P416352	
		Naproxen	0.0080	U	ug/L	P416352	
		Primidone	0.0040	U	ug/L	P416352	
		Pyraclostrobin	0.0020	U	ug/L	P416352	
		Silvex	0.0040	U	ug/L	P416352	
		Thiamethoxam	0.0020	U	ug/L	P416352	
		Tolfenpyrad	0.0020	U	ug/L	P416352	
		Triclopyr	0.0040	U	ug/L	P416352	

Field ID: G3TLHR0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2339794	EPA 200.7 Rev. 4.4	Calcium	13.9		mg/L	P416378	
		Iron	390		ug/L	P416378	
		Magnesium	4.46		mg/L	P416378	
		Potassium	3.0		mg/L	P416378	
		Sodium	29.3		mg/L	P416378	
		Strontium	68.3		ug/L	P416378	
		Tin	3.0	U	ug/L	P416378	
		Titanium	0.75	U	ug/L	P416378	
		Vanadium	2.0	U	ug/L	P416378	
		Zinc	5.0	U	ug/L	P416378	
	EPA 200.8 Rev. 5.4	Aluminum	18	I	ug/L	P416378	
		Antimony	0.058	I	ug/L	P416378	
		Arsenic	2.20		ug/L	P416378	
		Barium	13.3		ug/L	P416378	
		Beryllium	0.010	U	ug/L	P416378	
		Boron	43.7		ug/L	P416378	
		Cadmium	0.020	U	ug/L	P416378	
		Chromium	0.40	U	ug/L	P416378	
		Cobalt	0.047	I	ug/L	P416378	
		Copper	0.40	U	ug/L	P416616	
		Lead	0.20	U	ug/L	P416378	
		Manganese	22.4		ug/L	P416378	
		Molybdenum	1.40		ug/L	P416378	
		Nickel	0.50	U	ug/L	P416616	
		Selenium	0.20	U	ug/L	P416378	
		Silver	0.010	U	ug/L	P416378	
		Thallium	0.10	U	ug/L	P416378	
	SM 2340 B-2011	Hardness	53.0		mg/L	P416378	
2339795	EPA 8270E	Oxybenzone**	9.7	U	ng/L	P416296	
		Acetochlor	0.24	U	ng/L	P416296	
		Octinoxate**	19	U	ng/L	P416296	
		Alachlor	0.24	U	ng/L	P416296	
		Avobenzone**	97	U	ng/L	P416296	
		Ametryn	0.58	U	ng/L	P416296	
		Atrazine	22		ng/L	P416296	
		PBDE-47**	3.9	U	ng/L	P416296	
		Atrazine Desethyl	3.1	I	ng/L	P416296	
		PBDE-99**	4.8	U	ng/L	P416296	
		Azinphos Methyl	1.9	U	ng/L	P416296	
		Tri-o-cresyl Phosphate**	5.8	U	ng/L	P416296	
		Azoxystrobin	0.48	U	ng/L	P416296	
		Bromacil	0.48	U	ng/L	P416296	
		2-Ethylhexyl	12	U	ng/L	P416296	
		2,3,4,5-tetrabromobenzoate (EHTBB)**					
		Butylate	0.39	U	ng/L	P416296	

Field ID: G3TLHR0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2339795	EPA 8270E	Caffeine**	15	I	ng/L	P416296	
		Carbophenothion	0.19	U	ng/L	P416296	
		Carfentrazone Ethyl	0.097	U	ng/L	P416296	
		Chlorfenapyr	0.17	U	ng/L	P416296	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P416296	
		Chlorpyrifos Methyl	0.048	U	ng/L	P416296	
		Coumaphos	0.48	U	ng/L	P416296	
		Cyanazine	3.2	U	ng/L	P416296	
		Cyprodinil	0.097	U	ng/L	P416296	
		Demeton	1.5	U	ng/L	P416296	
		Diazinon	0.12	U	ng/L	P416296	
		Difenoconazole	0.58	U	ng/L	P416296	
		Dimethenamid	0.18	I J	ng/L	P416296	LCS
		Dimethomorph	0.17	U	ng/L	P416296	
		Disulfoton	0.48	U	ng/L	P416296	
		Dithiopyr	0.81	V	ng/L	P416296	
		EPTC	1.2	U	ng/L	P416296	
		Ethion	0.15	UJ	ng/L	P416296	LCS
		Ethoprop	0.097	U	ng/L	P416296	
		Etridiazole	0.15	U	ng/L	P416296	
		Fenamiphos	0.48	U	ng/L	P416296	
		Fenbuconazole	0.12	U	ng/L	P416296	
		Fipronil	0.24	U	ng/L	P416296	
		Fipronil Desulfinyl**	0.29	I	ng/L	P416296	
		Fipronil Sulfide	0.30	I	ng/L	P416296	
		Fipronil Sulfone	1.1		ng/L	P416296	
		Fluazifop-P-butyl	0.097	U	ng/L	P416296	
		Fludioxonil	0.12	U	ng/L	P416296	
		Flumioxazin	1.7	UJ	ng/L	P416296	RPD
		Flutolanil	0.097	U	ng/L	P416296	
		Fluxapyroxad	0.097	U	ng/L	P416296	
		Fonofos	0.19	U	ng/L	P416296	
		Hexazinone	0.48	U	ng/L	P416296	
		Imazalil	0.73	U	ng/L	P416296	
		Iprodione	0.58	U	ng/L	P416296	
		Loratadine**	0.097	U	ng/L	P416296	
		Malathion	0.34	U	ng/L	P416296	
		Metalaxyl	0.73	U	ng/L	P416296	
		Metolachlor	0.34	U	ng/L	P416296	
		Metribuzin	2.4	U	ng/L	P416296	
		Mevinphos	1.0	U	ng/L	P416296	
		Molinate	0.29	U	ng/L	P416296	
		Myclobutanil	0.24	U	ng/L	P416296	
		Naled	1.5	U	ng/L	P416296	
		Napropamide	0.39	UJ	ng/L	P416296	LCS

Field ID: G3TLHR0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2339795	EPA 8270E	Norflurazon	0.48	U	ng/L	P416296	
		Oxadiazon	0.81	I	ng/L	P416296	
		Oxyfluorfen	0.15	U	ng/L	P416296	
		Parathion Ethyl	0.24	U	ng/L	P416296	
		Parathion Methyl	0.53	U	ng/L	P416296	
		Pendimethalin	0.97	U	ng/L	P416296	
		Phenytoin**	3.4	UJ	ng/L	P416296	LCS, MS
		Phorate	0.51	U	ng/L	P416296	
		Prodiamine	0.17	U	ng/L	P416296	
		Prometon	5.7		ng/L	P416296	
		Prometryn	0.19	U	ng/L	P416296	
		Pronamide	0.15	U	ng/L	P416296	
		Propanil	0.12	U	ng/L	P416296	
		Propargite	1.5	UJ	ng/L	P416296	LCS
		Propiconazole	0.52	I	ng/L	P416296	
		Pyraflufen Ethyl	0.24	U	ng/L	P416296	
		Pyridaben	0.90	I	ng/L	P416296	
		Pyriproxyfen	0.12	U	ng/L	P416296	
		Simazine	0.48	U	ng/L	P416296	
		Stirophos	0.12	UJ	ng/L	P416296	MS
		Sulfentrazone	0.48	U	ng/L	P416296	
		Tebuconazole	0.48	U	ng/L	P416296	
		Terbufos	0.097	U	ng/L	P416296	
		Terbuthylazine	0.41	U	ng/L	P416296	
		Thiobencarb	0.58	U	ng/L	P416296	
		Triadimefon	0.24	U	ng/L	P416296	

Ref. Method and Comment:

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

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

EPA 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 atrazine not assessed due to high content of this parameter in the sample spiked. V - Due to the presence of dithiopyr in both the Method Blank and the sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416364

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416378

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: P416378

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
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416616

Component	Result	Code	Units
Copper	0.40	U	ug/L
Nickel	0.50	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416734

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416422

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416704

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416652

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416597

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

Reference Method: EPA 8270E
Batch ID: P416296

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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416296

Component	Result	Code	Units
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	0.60	I	ng/L
Dithiopyr	0.28	I	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416296

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416296

Component	Result	Code	Units
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
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
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B

Batch ID: P416352

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P416352

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	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: EPA 8321B

Batch ID: P416535

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

Reference Method: SM 2320 B-2011

Batch ID: P417019

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

Reference Method: SM 2540 C-2011

Batch ID: P416901

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P416815

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P417022

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416468

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P416364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	94.9		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	102		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	103		P	85 - 115
Sodium	103		P	85 - 115
Strontium	101		P	85 - 115
Tin	101		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	97.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	101		P	85 - 115
Barium	104		P	85 - 115
Beryllium	93.8		P	85 - 115
Boron	107		P	85 - 115
Cadmium	96.1		P	85 - 115
Chromium	98.4		P	85 - 115
Cobalt	101		P	85 - 115
Lead	102		P	85 - 115
Manganese	98.6		P	85 - 115
Molybdenum	99.3		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	98.9		P	85 - 115
Thallium	98.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	99.5		P	85 - 115
Nickel	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P416734

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.6		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416704

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416597

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

Reference Method: EPA 8270E
Batch ID: P416296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	71.9		P	50 - 150
Acetochlor	94.4		P	70 - 121
Alachlor	85.2		P	68 - 119
Ametryn	91.2		P	64 - 139
Atrazine	86.9		P	76 - 120
Atrazine Desethyl	64.0		P	44 - 126
Avobenzone	90.3		P	76 - 212
Azinphos Methyl	101		P	43 - 192
Azoxystrobin	66.8		P	36 - 224
Bromacil	76.0		P	52 - 121
Butylate	64.1		P	28 - 91.0
Caffeine	69.7		P	50 - 134
Carbophenothion	76.2		P	56 - 129
Carfentrazone Ethyl	101		P	60 - 141
Chlorfenapyr	70.3		P	56 - 115
Chlorpyrifos Ethyl	78.5		P	60 - 118
Chlorpyrifos Methyl	81.6		P	68 - 119
Coumaphos	60.1		P	18 - 250
Cyanazine	138		P	61 - 250
Cyprodinil	102		P	55 - 145
Demeton	82.1		P	30 - 159
Diazinon	110		P	70 - 123
Difenoconazole	59.4		P	49 - 204
Dimethenamid	58.3		F	64 - 115
Dimethomorph	84.8		P	12 - 219
Disulfoton	87.0		P	44 - 125
Dithiopyr	102		P	64 - 115
EPTC	59.1		P	28 - 86.0

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P416296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethion	24.7		F	33 - 125
Ethoprop	91.6		P	64 - 116
Etridiazole	73.3		P	34 - 91.0
Fenamiphos	69.6		P	12 - 127
Fenbuconazole	62.5		P	59 - 151
Fipronil	96.0		P	67 - 129
Fipronil Desulfinyl	95.0		P	65 - 127
Fipronil Sulfide	80.0		P	61 - 116
Fipronil Sulfone	73.4		P	55 - 117
Fluazifop-P-butyl	98.4		P	62 - 127
Fludioxonil	79.1		P	62 - 128
Flumioxazin	41.0		P	33 - 250
Flutolanil	86.8		P	56 - 127
Fluxapyroxad	52.4		P	45 - 128
Fonofos	86.7		P	62 - 111
Hexazinone	76.8		P	46 - 139
Imazalil	108		P	38 - 142
Iprodione	68.6		P	47 - 135
Loratadine	99.8		P	10 - 244
Malathion	99.7		P	61 - 139
Metalaxyl	83.2		P	10 - 119
Metolachlor	82.1		P	65 - 118
Metribuzin	108		P	51 - 250
Mevinphos	73.2		P	53 - 121
Molinate	71.9		P	42 - 96.0
Myclobutanil	88.7		P	55 - 128
Naled	69.0		P	10 - 98.0
Napropamide	45.0		F	49 - 121
Norflurazon	79.1		P	61 - 126
Octinoxate	77.5		P	30 - 159
Oxadiazon	73.5		P	59 - 116
Oxybenzone	70.3		P	61 - 139
Oxyfluorfen	93.5		P	64 - 137
Parathion Ethyl	85.2		P	70 - 112
Parathion Methyl	111		P	76 - 133
PBDE-47	65.1		P	50 - 150
PBDE-99	60.6		P	50 - 150
Pendimethalin	102		P	52 - 117
Phenytol	3.03		F	10 - 199
Phorate	74.6		P	48 - 121
Prodiamine	51.8		P	26 - 142
Prometon	60.4		P	43 - 123
Prometryn	105		P	66 - 127
Pronamide	90.5		P	75 - 121
Propanil	79.0		P	45 - 150
Propargite	37.5		F	42 - 208
Propiconazole	84.6		P	60 - 125
Pyraflufen Ethyl	86.2		P	70 - 138
Pyridaben	78.8		P	35 - 245
Pyriproxyfen	37.6		P	30 - 149
Simazine	74.1		P	72 - 125
Stirophos	31.4		P	29 - 164

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P416296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfentrazone	48.4		P	21 - 139
Tebuconazole	28.7		P	10 - 115
Terbufos	112		P	60 - 123
Terbutylazine	90.7		P	72 - 115
Thiobencarb	77.4		P	31 - 139
Tri-o-cresyl Phosphate	76.5		P	50 - 150
Triadimefon	66.8		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P416352

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	71.2		P	40 - 150
2,4,5-T	52.8		P	40 - 150
Acetaminophen	89.6		P	30 - 150
Acetamiprid	68.2		P	40 - 150
Afidopyropen	40.1		P	30 - 150
Bentazon	53.8		P	30 - 150
Benzovindiflupyr	76.8		P	40 - 150
Carbamazepine	83.5		P	40 - 150
Clothianidin	96.4		P	40 - 150
Dinotefuran	94.1		P	40 - 150
Diuron	76.0		P	40 - 150
Fenuron	92.0		P	40 - 150
Fluridone	79.4		P	40 - 150
Hydrocodone	87.9		P	40 - 150
Ibuprofen	64.6		P	40 - 150
Imazapyr	89.1		P	40 - 150
Imidacloprid	97.8		P	40 - 150
Linuron	63.1		P	40 - 150
Mandestrobin	79.2		P	40 - 150
MCPP	73.0		P	40 - 150
Naproxen	43.8		P	40 - 150
Primidone	81.3		P	40 - 150
Pyraclostrobin	69.8		P	40 - 150
Silvex	58.4		P	40 - 150
Thiamethoxam	87.1		P	40 - 150
Tolfenpyrad	33.6		P	30 - 150
Triclopyr	54.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416535

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	78.7		P	40 - 150
AMPA	111		P	40 - 150
Endothall	103		P	40 - 150
Glufosinate	123		P	40 - 150
Glyphosate	104		P	40 - 150
Sucralose	97.1		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P417019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P417022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338848	Calcium	105	105	P/P	80 - 120
2338848	Iron	98.8	104	P/P	80 - 120
2338848	Magnesium	100	103	P/P	80 - 120
2338848	Potassium	106	105	P/P	80 - 120
2338848	Sodium	101	105	P/P	80 - 120
2338848	Strontium	101	102	P/P	80 - 120
2338848	Tin	102	101	P/P	80 - 120
2338848	Titanium	102	102	P/P	80 - 120
2338848	Vanadium	101	100	P/P	80 - 120
2338848	Zinc	97.0	96.7	P/P	80 - 120
2339748	Calcium	105		P	80 - 120
2339748	Iron	105		P	80 - 120
2339748	Magnesium	104		P	80 - 120
2339748	Potassium	105		P	80 - 120
2339748	Sodium	106		P	80 - 120
2339748	Strontium	104		P	80 - 120
2339748	Tin	100		P	80 - 120
2339748	Titanium	104		P	80 - 120
2339748	Vanadium	103		P	80 - 120
2339748	Zinc	97.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338848	Aluminum	100	99.8	P/P	80 - 120
2338848	Antimony	98.6	99.3	P/P	80 - 120
2338848	Arsenic	97.4	99.5	P/P	80 - 120
2338848	Barium	102	103	P/P	80 - 120
2338848	Beryllium	94.2	94.3	P/P	80 - 120
2338848	Boron	105	104	P/P	80 - 120
2338848	Cadmium	94.7	95.3	P/P	80 - 120
2338848	Chromium	96.9	97.9	P/P	80 - 120
2338848	Cobalt	98.3	99.4	P/P	80 - 120
2338848	Lead	101	101	P/P	80 - 120
2338848	Manganese	96.2	96.4	P/P	80 - 120
2338848	Molybdenum	98.8	98.9	P/P	80 - 120
2338848	Selenium	95.8	98.1	P/P	80 - 120
2338848	Silver	97.0	97.4	P/P	80 - 120
2338848	Thallium	97.3	99.0	P/P	80 - 120
2339748	Aluminum	99.6		P	80 - 120
2339748	Antimony	101		P	80 - 120
2339748	Arsenic	102		P	80 - 120
2339748	Barium	103		P	80 - 120
2339748	Beryllium	96.2		P	80 - 120
2339748	Boron	105		P	80 - 120
2339748	Cadmium	95.4		P	80 - 120
2339748	Chromium	93.7		P	80 - 120
2339748	Cobalt	99.6		P	80 - 120
2339748	Lead	102		P	80 - 120
2339748	Manganese	96.1		P	80 - 120
2339748	Molybdenum	101		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339748	Selenium	97.8		P	80 - 120
2339748	Silver	96.3		P	80 - 120
2339748	Thallium	97.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339618	Copper	91.4	96.9	P/P	80 - 120
2339618	Nickel	91.6	97.4	P/P	80 - 120
2339698	Copper	98.2		P	80 - 120
2339698	Nickel	97.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P416734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339681	Sulfate	92.2		P	90 - 110
2339743	Sulfate	94.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P416422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339687	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P416652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339744	NO2NO3-N	95.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P416597

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341012	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P416296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339795	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	75.9	85.3	P/P	50 - 150
2339795	Acetochlor	94.0	99.2	P/P	65 - 124
2339795	Alachlor	80.4	80.4	P/P	61 - 121
2339795	Ametryn	106	114	P/P	52 - 216
2339795	Atrazine Desethyl	40.3	39.2	P/P	15 - 160
2339795	Avobenzone	86.9	89.6	P/P	59 - 206
2339795	Azinphos Methyl	106	134	P/P	40 - 292
2339795	Azoxystrobin	108	106	P/P	12 - 242
2339795	Bromacil	75.4	80.9	P/P	54 - 167
2339795	Butylate	57.5	51.3	P/P	14 - 94.0

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P416296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339795	Caffeine	69.8	75.0	P/P	10 - 226
2339795	Carbophenothion	70.6	77.9	P/P	49 - 122
2339795	Carfentrazone Ethyl	96.8	99.9	P/P	53 - 138
2339795	Chlorfenapyr	74.7	72.2	P/P	50 - 150
2339795	Chlorpyrifos Ethyl	67.1	67.7	P/P	52 - 122
2339795	Chlorpyrifos Methyl	74.6	76.5	P/P	66 - 117
2339795	Coumaphos	72.8	74.1	P/P	50 - 220
2339795	Cyanazine	129	130	P/P	43 - 245
2339795	Cyprodinil	99.2	82.6	P/P	50 - 150
2339795	Demeton	84.4	77.8	P/P	43 - 188
2339795	Diazinon	97.4	99.8	P/P	69 - 131
2339795	Difenoconazole	103	119	P/P	34 - 231
2339795	Dimethenamid	64.4	73.2	P/P	55 - 118
2339795	Dimethomorph	140	142	P/P	50 - 150
2339795	Disulfoton	69.6	73.8	P/P	38 - 141
2339795	Dithiopyr	71.6	81.0	P/P	42 - 116
2339795	EPTC	51.0	48.9	P/P	18 - 85.0
2339795	Ethion	41.9	53.5	P/P	10 - 131
2339795	Ethoprop	86.1	83.7	P/P	65 - 129
2339795	Etridiazole	68.8	59.9	P/P	50 - 150
2339795	Fenamiphos	89.4	72.2	P/P	31 - 137
2339795	Fenbuconazole	78.7	83.4	P/P	57 - 160
2339795	Fipronil	97.5	107	P/P	62 - 132
2339795	Fipronil Desulfanyl	90.4	97.2	P/P	57 - 131
2339795	Fipronil Sulfide	75.4	89.4	P/P	15 - 138
2339795	Fipronil Sulfone	71.1	78.4	P/P	21 - 134
2339795	Fluazifop-P-butyl	97.7	97.9	P/P	54 - 133
2339795	Fludioxonil	90.6	95.7	P/P	58 - 127
2339795	Flumioxazin	62.2	93.2	P/P	33 - 300
2339795	Flutolanil	87.1	91.6	P/P	42 - 130
2339795	Fluxapyroxad	69.3	80.4	P/P	23 - 141
2339795	Fonofos	72.9	72.1	P/P	58 - 119
2339795	Hexazinone	73.3	73.6	P/P	68 - 172
2339795	Imazalil	90.4	82.6	P/P	48 - 283
2339795	Iprodione	82.7	89.1	P/P	38 - 140
2339795	Loratadine	134	137	P/P	50 - 150
2339795	Malathion	92.8	103	P/P	40 - 137
2339795	Metalaxyl	80.2	82.0	P/P	21 - 129
2339795	Metolachlor	84.2	86.7	P/P	55 - 122
2339795	Metribuzin	86.6	89.8	P/P	38 - 187
2339795	Mevinphos	66.5	61.8	P/P	54 - 134
2339795	Molinate	63.6	61.2	P/P	41 - 97.0
2339795	Myclobutanil	95.5	102	P/P	56 - 125
2339795	Naled	71.3	74.5	P/P	10 - 108
2339795	Napropamide	65.9	72.7	P/P	50 - 150
2339795	Norflurazon	78.9	81.9	P/P	32 - 122
2339795	Octinoxate	73.3	76.2	P/P	25 - 150
2339795	Oxadiazon	63.7	68.0	P/P	40 - 119
2339795	Oxybenzone	74.4	74.5	P/P	59 - 147
2339795	Oxyfluorfen	106	113	P/P	61 - 153
2339795	Parathion Ethyl	77.2	81.1	P/P	59 - 130
2339795	Parathion Methyl	102	99.9	P/P	65 - 155

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P416296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339795	PBDE-47	70.3	73.2	P/P	50 - 150
2339795	PBDE-99	66.2	73.2	P/P	50 - 150
2339795	Pendimethalin	90.7	89.2	P/P	49 - 138
2339795	Phenytoin	9.74	10.5	F/F	50 - 200
2339795	Phorate	72.8	66.3	P/P	54 - 161
2339795	Prodiamine	60.6	59.0	P/P	33 - 161
2339795	Prometon	51.6	78.6	P/P	48 - 140
2339795	Prometryn	98.8	104	P/P	55 - 134
2339795	Pronamide	88.5	76.1	P/P	66 - 137
2339795	Propanil	88.8	76.1	P/P	50 - 150
2339795	Propargite	52.1	70.2	P/P	50 - 200
2339795	Propiconazole	78.5	90.9	P/P	36 - 150
2339795	Pyraflufen Ethyl	84.0	97.3	P/P	50 - 150
2339795	Pyridaben	90.4	89.9	P/P	50 - 200
2339795	Pyriproxyfen	80.4	77.5	P/P	10 - 165
2339795	Simazine	63.5	69.1	P/P	57 - 145
2339795	Stirophos	43.6	50.0	F/F	50 - 150
2339795	Sulfentrazone	63.6	73.9	P/P	34 - 140
2339795	Tebuconazole	49.7	63.7	P/P	10 - 127
2339795	Terbufos	98.8	96.5	P/P	59 - 138
2339795	Terbutylazine	82.3	83.1	P/P	68 - 119
2339795	Thiobencarb	76.3	76.6	P/P	50 - 150
2339795	Tri-o-cresyl Phosphate	71.1	76.8	P/P	50 - 150
2339795	Triadimefon	66.1	68.4	P/P	50 - 150

Reference Method: EPA 8321B

Batch ID: P416352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339492	2,4-D	82.4	76.3	P/P	40 - 150
2339492	2,4,5-T	56.3	46.9	P/P	40 - 150
2339492	Acetaminophen	123	115	P/P	30 - 150
2339492	Acetamiprid	90.4	112	P/P	40 - 150
2339492	Afidopyropen	64.5	75.4	P/P	30 - 150
2339492	Bentazon	43.2	46.3	P/P	30 - 150
2339492	Benzovindiflupyr	82.8	89.3	P/P	40 - 150
2339492	Carbamazepine	87.9	89.8	P/P	40 - 150
2339492	Clothianidin	109	121	P/P	40 - 150
2339492	Diuron	69.9	73.9	P/P	40 - 150
2339492	Fenuron	91.6	91.6	P/P	40 - 150
2339492	Fluridone	85.3	82.1	P/P	40 - 150
2339492	Hydrocodone	110	107	P/P	40 - 150
2339492	Ibuprofen	65.8	71.4	P/P	40 - 150
2339492	Imazapyr	90.1	88.7	P/P	40 - 150
2339492	Imidacloprid	132	151	P/F	40 - 150
2339492	Linuron	68.2	79.8	P/P	40 - 150
2339492	Mandestrobin	83.8	87.8	P/P	40 - 150
2339492	MCCPP	70.1	72.4	P/P	40 - 150
2339492	Naproxen	68.2	66.9	P/P	40 - 150
2339492	Primidone	113	111	P/P	40 - 150
2339492	Pyraclostrobin	84.1	87.4	P/P	40 - 150
2339492	Silvex	68.5	67.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P416352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339492	Tolfenpyrad	43.2	48.6	P/P	30 - 150
2339492	Triclopyr	58.5	56.7	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P416535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338847	Acesulfame K	74.7	77.2	P/P	40 - 150
2338847	AMPA	116	118	P/P	40 - 150
2338847	Endothall	100	97.4	P/P	40 - 150
2338847	Glufosinate	110	117	P/P	40 - 150
2338847	Glyphosate	106	105	P/P	40 - 150
2338847	Sucralose	96.6	96.7	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P417022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341057	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339926	Organic Carbon	96.6	98.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P416364

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340136	Turbidity	3.98	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416378

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338848	Calcium	0.135	Spike	P	0 - 20
2338848	Iron	5.50	Spike	P	0 - 20
2338848	Magnesium	2.46	Spike	P	0 - 20
2338848	Potassium	0.980	Spike	P	0 - 20
2338848	Sodium	2.79	Spike	P	0 - 20
2338848	Strontium	0.826	Spike	P	0 - 20
2338848	Tin	1.10	Spike	P	0 - 20
2338848	Titanium	0.371	Spike	P	0 - 20
2338848	Vanadium	0.343	Spike	P	0 - 20
2338848	Zinc	0.330	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416378

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338848	Aluminum	0.500	Spike	P	0 - 20
2338848	Antimony	0.754	Spike	P	0 - 20
2338848	Arsenic	2.07	Spike	P	0 - 20
2338848	Barium	0.873	Spike	P	0 - 20
2338848	Beryllium	0.146	Spike	P	0 - 20
2338848	Boron	0.344	Spike	P	0 - 20
2338848	Cadmium	0.588	Spike	P	0 - 20
2338848	Chromium	0.967	Spike	P	0 - 20
2338848	Cobalt	1.15	Spike	P	0 - 20
2338848	Lead	0.531	Spike	P	0 - 20
2338848	Manganese	0.202	Spike	P	0 - 20
2338848	Molybdenum	0.114	Spike	P	0 - 20
2338848	Selenium	2.31	Spike	P	0 - 20
2338848	Silver	0.413	Spike	P	0 - 20
2338848	Thallium	1.72	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416616

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339618	Copper	5.79	Spike	P	0 - 20
2339618	Nickel	6.08	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339681	Sulfate	0.455	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339687	Ammonia-N	0.789	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339975	Kjeldahl Nitrogen	1.58	Sample	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339744	NO2NO3-N	2.07	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341012	Total-P	0.954	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P416296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339795	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	11.7	Spike	P	0 - 30
2339795	Acetochlor	5.33	Spike	P	0 - 27
2339795	Alachlor	0.000777	Spike	P	0 - 27
2339795	Ametryn	7.64	Spike	P	0 - 34
2339795	Atrazine	1.58	Spike	P	0 - 41
2339795	Atrazine Desethyl	1.77	Spike	P	0 - 38
2339795	Avobenzone	3.13	Spike	P	0 - 30
2339795	Azinphos Methyl	22.9	Spike	P	0 - 62
2339795	Azoxystrobin	2.42	Spike	P	0 - 32
2339795	Bromacil	7.11	Spike	P	0 - 30
2339795	Butylate	11.4	Spike	P	0 - 59
2339795	Caffeine	6.86	Spike	P	0 - 60
2339795	Carbophenothion	9.81	Spike	P	0 - 25
2339795	Carfentrazone Ethyl	3.21	Spike	P	0 - 26
2339795	Chlorfenapyr	3.39	Spike	P	0 - 30
2339795	Chlorpyrifos Ethyl	0.809	Spike	P	0 - 27

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P416296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339795	Chlorpyrifos Methyl	2.49	Spike	P	0 - 26
2339795	Coumaphos	1.86	Spike	P	0 - 30
2339795	Cyanazine	1.42	Spike	P	0 - 58
2339795	Cyprodinil	18.2	Spike	P	0 - 30
2339795	Demeton	8.13	Spike	P	0 - 25
2339795	Diazinon	2.40	Spike	P	0 - 29
2339795	Difenoconazole	14.9	Spike	P	0 - 25
2339795	Dimethenamid	11.2	Spike	P	0 - 30
2339795	Dimethomorph	1.70	Spike	P	0 - 30
2339795	Disulfoton	5.86	Spike	P	0 - 33
2339795	Dithiopyr	9.69	Spike	P	0 - 22
2339795	EPTC	4.38	Spike	P	0 - 38
2339795	Ethion	24.3	Spike	P	0 - 79
2339795	Ethoprop	2.74	Spike	P	0 - 23
2339795	Etridiazole	13.8	Spike	P	0 - 30
2339795	Fenamiphos	21.2	Spike	P	0 - 58
2339795	Fenbuconazole	5.77	Spike	P	0 - 37
2339795	Fipronil	9.65	Spike	P	0 - 33
2339795	Fipronil Desulfanyl	6.71	Spike	P	0 - 26
2339795	Fipronil Sulfide	14.3	Spike	P	0 - 37
2339795	Fipronil Sulfone	5.51	Spike	P	0 - 50
2339795	Fluazifop-P-butyl	0.192	Spike	P	0 - 24
2339795	Fludioxonil	5.49	Spike	P	0 - 26
2339795	Flumioxazin	39.9	Spike	F	0 - 37
2339795	Flutolanil	4.95	Spike	P	0 - 26
2339795	Fluxapyroxad	14.8	Spike	P	0 - 34
2339795	Fonofos	1.12	Spike	P	0 - 27
2339795	Hexazinone	0.377	Spike	P	0 - 36
2339795	Imazalil	9.02	Spike	P	0 - 65
2339795	Iprodione	7.40	Spike	P	0 - 33
2339795	Loratadine	2.41	Spike	P	0 - 30
2339795	Malathion	10.3	Spike	P	0 - 44
2339795	Metalaxyl	2.22	Spike	P	0 - 38
2339795	Metolachlor	2.95	Spike	P	0 - 36
2339795	Metribuzin	3.69	Spike	P	0 - 63
2339795	Mevinphos	7.29	Spike	P	0 - 26
2339795	Molinate	3.85	Spike	P	0 - 40
2339795	Myclobutanil	6.29	Spike	P	0 - 21
2339795	Naled	4.48	Spike	P	0 - 26
2339795	Napropamide	9.79	Spike	P	0 - 30
2339795	Norflurazon	3.68	Spike	P	0 - 24
2339795	Octinoxate	3.94	Spike	P	0 - 30
2339795	Oxadiazon	4.92	Spike	P	0 - 27
2339795	Oxybenzone	0.156	Spike	P	0 - 30
2339795	Oxyfluorfen	5.66	Spike	P	0 - 24
2339795	Parathion Ethyl	4.97	Spike	P	0 - 28
2339795	Parathion Methyl	1.80	Spike	P	0 - 27
2339795	PBDE-47	4.12	Spike	P	0 - 30
2339795	PBDE-99	10.1	Spike	P	0 - 30
2339795	Pendimethalin	1.69	Spike	P	0 - 31
2339795	Phenytoin	7.96	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P416296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339795	Phorate	9.46	Spike	P	0 - 27
2339795	Prodiamine	2.80	Spike	P	0 - 52
2339795	Prometon	19.5	Spike	P	0 - 31
2339795	Prometryn	5.43	Spike	P	0 - 28
2339795	Pronamide	15.0	Spike	P	0 - 26
2339795	Propanil	15.5	Spike	P	0 - 30
2339795	Propargite	29.7	Spike	P	0 - 30
2339795	Propiconazole	12.7	Spike	P	0 - 31
2339795	Pyraflufen Ethyl	14.6	Spike	P	0 - 30
2339795	Pyridaben	0.438	Spike	P	0 - 30
2339795	Pyriproxyfen	3.65	Spike	P	0 - 50
2339795	Simazine	8.37	Spike	P	0 - 29
2339795	Stirophos	13.6	Spike	P	0 - 30
2339795	Sulfentrazone	14.9	Spike	P	0 - 33
2339795	Tebuconazole	24.7	Spike	P	0 - 44
2339795	Terbufos	2.44	Spike	P	0 - 29
2339795	Terbutylazine	0.974	Spike	P	0 - 27
2339795	Thiobencarb	0.479	Spike	P	0 - 30
2339795	Tri-o-cresyl Phosphate	7.62	Spike	P	0 - 30
2339795	Triadimefon	3.31	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P416352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339492	2,4-D	7.75	Spike	P	0 - 30
2339492	2,4,5-T	18.1	Spike	P	0 - 30
2339492	Acetaminophen	6.53	Spike	P	0 - 30
2339492	Acetamiprid	21.5	Spike	P	0 - 30
2339492	Afidopyropen	15.5	Spike	P	0 - 30
2339492	Bentazon	6.92	Spike	P	0 - 30
2339492	Benzovindiflupyr	7.54	Spike	P	0 - 30
2339492	Carbamazepine	2.16	Spike	P	0 - 30
2339492	Clothianidin	6.59	Spike	P	0 - 30
2339492	Dinotefuran	2.99	Spike	P	0 - 30
2339492	Diuron	5.58	Spike	P	0 - 30
2339492	Fenuron	0.0265	Spike	P	0 - 30
2339492	Fluridone	3.83	Spike	P	0 - 30
2339492	Hydrocodone	3.28	Spike	P	0 - 30
2339492	Ibuprofen	8.19	Spike	P	0 - 30
2339492	Imazapyr	1.02	Spike	P	0 - 30
2339492	Imidacloprid	9.31	Spike	P	0 - 30
2339492	Linuron	15.8	Spike	P	0 - 30
2339492	Mandestrobin	4.57	Spike	P	0 - 30
2339492	MCCP	3.20	Spike	P	0 - 30
2339492	Naproxen	1.85	Spike	P	0 - 30
2339492	Primidone	2.01	Spike	P	0 - 30
2339492	Pyraclostrobin	3.87	Spike	P	0 - 30
2339492	Silvex	1.80	Spike	P	0 - 30
2339492	Thiamethoxam	9.03	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P416352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339492	Tolfenpyrad	11.8	Spike	P	0 - 30
2339492	Triclopyr	3.24	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P416535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338847	Acesulfame K	3.24	Spike	P	0 - 30
2338847	AMPA	1.64	Spike	P	0 - 30
2338847	Endothall	2.65	Spike	P	0 - 30
2338847	Glufosinate	5.62	Spike	P	0 - 30
2338847	Glyphosate	0.887	Spike	P	0 - 30
2338847	Sucralose	0.148	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P417019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341057	Total Alkalinity	1.39	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P416901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339743	TDS	3.81	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341057	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339926	Organic Carbon	0.977	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2339793

Field Sample ID: G3TLHR0053

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	73.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.3	P	30 - 160
EPA 8321B	Diuron-d6	63.5	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	83.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.0	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	97.5	P	30 - 160

Lab Sample ID: 2339795

Field Sample ID: G3TLHR0053

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	55.9	P	20 - 200
EPA 8270E	Simazine-d10	80.6	P	71 - 140
EPA 8270E	Terbufos-d10	85.8	P	62 - 131
EPA 8270E	Terphenyl-d14	74.9	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113388

Included Lab Sample IDs: 2339790

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113417

Included Lab Sample IDs: 2339791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	98.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113424

Included Lab Sample IDs: 2339794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.3	101	P/P	90 - 110
Antimony	98.1	98.6	P/P	90 - 110
Arsenic	101	100	P/P	90 - 110
Barium	99.0	99.3	P/P	90 - 110
Beryllium	96.2	95.8	P/P	90 - 110
Boron	100	102	P/P	90 - 110
Cadmium	97.1	98.4	P/P	90 - 110
Chromium	98.1	99.0	P/P	90 - 110
Cobalt	100	100	P/P	90 - 110
Lead	99.4	98.4	P/P	90 - 110
Manganese	98.3	98.6	P/P	90 - 110
Molybdenum	98.6	99.4	P/P	90 - 110
Selenium	97.6	97.5	P/P	90 - 110
Silver	98.4	99.4	P/P	90 - 110
Thallium	97.5	94.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113427

Included Lab Sample IDs: 2339794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	98.9	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	101	100	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	104	101	P/P	90 - 110
Strontium	102	99.0	P/P	90 - 110
Tin	98.2	96.7	P/P	90 - 110
Titanium	101	99.2	P/P	90 - 110
Vanadium	99.7	98.2	P/P	90 - 110
Zinc	94.9	94.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113430

Included Lab Sample IDs: 2339791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011
Run ID: A113430
Included Lab Sample IDs: 2339791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.7	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A113460
Included Lab Sample IDs: 2339793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	115	119	P/P	60 - 160
Endothall	94.4	88.8	P/P	60 - 160
Glufosinate	113	109	P/P	60 - 160
Glyphosate	108	109	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A113462
Included Lab Sample IDs: 2339790

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	96.2	98.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A113464
Included Lab Sample IDs: 2339793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	115	P/P	50 - 150
2,4,5-T	117	113	P/P	50 - 150
Acetaminophen	108	109	P/P	60 - 160
Acetamiprid	113	110	P/P	50 - 150
Afidopyropen	107	101	P/P	50 - 150
Bentazon	92.9	105	P/P	50 - 160
Benzovindiflupyr	117	111	P/P	50 - 150
Carbamazepine	114	113	P/P	60 - 150
Clothianidin	97.1	114	P/P	60 - 150
Dinotefuran	106	105	P/P	50 - 150
Diuron	100	115	P/P	60 - 160
Fenuron	101	102	P/P	60 - 150
Fluridone	103	104	P/P	60 - 160
Hydrocodone	104	107	P/P	60 - 150
Ibuprofen	125	86.2	P/P	50 - 160
Imazapyr	108	104	P/P	50 - 150
Imidacloprid	111	99.7	P/P	60 - 150
Linuron	104	94.4	P/P	60 - 150
Mandestrobin	109	104	P/P	50 - 150
MCPP	116	110	P/P	50 - 150
Naproxen	131	89.2	P/P	50 - 160
Primidone	97.7	90.7	P/P	60 - 150
Pyraclostrobin	109	108	P/P	60 - 150
Silvex	119	102	P/P	50 - 150
Thiamethoxam	102	103	P/P	50 - 150
Tolfenpyrad	97.3	99.2	P/P	60 - 150
Triclopyr	112	112	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113494
Included Lab Sample IDs: 2339793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.2	96.0	P/P	60 - 160
Sucralose	97.8	97.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A113503
Included Lab Sample IDs: 2339791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.0	97.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A113519
Included Lab Sample IDs: 2339794

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	92.4	91.8	P/P	90 - 110
Nickel	92.6	92.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113532
Included Lab Sample IDs: 2339791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A113582
Included Lab Sample IDs: 2339791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.6	98.4	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A113598
Included Lab Sample IDs: 2339795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	105		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	104		P	80 - 120
Atrazine	106		P	80 - 120
Atrazine Desethyl	89.9		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Azoxystrobin	97.8		P	80 - 120
Bromacil	96.2		P	80 - 120
Butylate	99.6		P	80 - 120
Caffeine	91.6		P	80 - 120
Carbophenothion	101		P	80 - 120
Carfentrazone Ethyl	95.7		P	80 - 120
Chlorfenapyr	104		P	80 - 120
Chlorpyrifos Ethyl	106		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E
Run ID: A113598
Included Lab Sample IDs: 2339795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Methyl	104		P	80 - 120
Coumaphos	99.0		P	80 - 120
Cyanazine	87.5		P	80 - 120
Cyprodinil	94.9		P	80 - 120
Demeton	96.9		P	80 - 120
Diazinon	105		P	80 - 120
Difenoconazole	100		P	80 - 120
Dimethenamid	103		P	80 - 120
Dimethomorph	91.8		P	80 - 120
Disulfoton	102		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	99.6		P	80 - 120
Ethion	103		P	80 - 120
Ethoprop	106		P	80 - 120
Etridiazole	99.5		P	80 - 120
Fenamiphos	98.4		P	80 - 120
Fenbuconazole	99.6		P	80 - 120
Fipronil	97.6		P	80 - 120
Fipronil Desulfinyl	99.4		P	80 - 120
Fipronil Sulfide	93.9		P	80 - 120
Fipronil Sulfone	116		P	80 - 120
Fluazifop-P-butyl	106		P	80 - 120
Fludioxonil	102		P	80 - 120
Flutolanil	95.6		P	80 - 120
Fluxapyroxad	98.4		P	80 - 120
Fonofos	101		P	80 - 120
Hexazinone	100		P	80 - 120
Imazalil	100		P	80 - 120
Iprodione	97.2		P	80 - 120
Loratadine	96.2		P	80 - 120
Malathion	99.2		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	97.5		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	95.8		P	80 - 120
Molinate	98.9		P	80 - 120
Myclobutanil	103		P	80 - 120
Naled	104		P	80 - 120
Napropamide	102		P	80 - 120
Norflurazon	94.3		P	80 - 120
Oxadiazon	96.9		P	80 - 120
Oxyfluorfen	98.1		P	80 - 120
Parathion Ethyl	92.4		P	80 - 120
Parathion Methyl	99.1		P	80 - 120
Pendimethalin	95.3		P	80 - 120
Phorate	107		P	80 - 120
Prodiamine	103		P	80 - 120
Prometon	103		P	80 - 120
Prometryn	101		P	80 - 120
Pronamide	99.5		P	80 - 120
Propanil	91.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113598
Included Lab Sample IDs: 2339795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Propargite	103		P	80 - 120
Propiconazole	102		P	80 - 120
Pyraflufen Ethyl	103		P	80 - 120
Pyridaben	102		P	80 - 120
Pyriproxyfen	99.8		P	80 - 120
Simazine	95.6		P	80 - 120
Stirophos	102		P	80 - 120
Sulfentrazone	93.7		P	80 - 120
Tebuconazole	102		P	80 - 120
Terbufos	106		P	80 - 120
Terbuthylazine	104		P	80 - 120
Thiobencarb	98.3		P	80 - 120
Triadimefon	97.2		P	80 - 120

Reference Method: EPA 8270E
Run ID: A113604
Included Lab Sample IDs: 2339795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Flumioxazin	107		P	80 - 120
Phenytoin	99.3		P	80 - 120

Reference Method: SM 2320 B-2011
Run ID: A113658
Included Lab Sample IDs: 2339790

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.6	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113658
Included Lab Sample IDs: 2339790

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

Reference Method: EPA 8270E
Run ID: A113686
Included Lab Sample IDs: 2339795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	99.9		P	80 - 120
Avobenzone	102		P	80 - 120
Octinoxate	95.3		P	80 - 120
Oxybenzone	90.5		P	80 - 120
PBDE-47	98.6		P	80 - 120
PBDE-99	103		P	80 - 120
Tri-o-cresyl Phosphate	99.5		P	80 - 120

Quality Assurance Report

Calibration Verification

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity	94.9					3.98	
EPA 200.7 Rev. 4.4	Calcium	104	105	105	105			0.135
	Iron	102	98.8	104	105			5.50
	Magnesium	101	100	103	104			2.46
	Potassium	103	106	105	105			0.980
	Sodium	103	101	105	106			2.79
	Strontium	101	101	102	104			0.826
	Tin	101	102	101	100			1.10
	Titanium	101	102	102	104			0.371
	Vanadium	100	103	101	100			0.343
	Zinc	97.5	97.0	96.7	97.0			0.330
EPA 200.8 Rev. 5.4	Aluminum	102	100	99.8	99.6			0.500
	Antimony	100	98.6	99.3	101			0.754
	Arsenic	101	97.4	99.5	102			2.07
	Barium	104	102	103	103			0.873
	Beryllium	93.8	94.2	94.3	96.2			0.146
	Boron	107	105	104	105			0.344
	Cadmium	96.1	94.7	95.3	95.4			0.588
	Chromium	98.4	96.9	97.9	93.7			0.967
	Cobalt	101	98.3	99.4	99.6			1.15
	Copper	99.5	91.4	96.9	98.2			5.79
	Lead	102	101	101	102			0.531
	Manganese	98.6	96.2	96.4	96.1			0.202
	Molybdenum	99.3	98.8	98.9	101			0.114
	Nickel	102	91.6	97.4	97.6			6.08
	Selenium	99.0	95.8	98.1	97.8			2.31
	Silver	98.9	97.0	97.4	96.3			0.413
	Thallium	98.6	97.3	99.0	97.3			1.72
EPA 300.0 Rev. 2.1	Sulfate	97.6	92.2	94.7			0.455	
EPA 350.1 Rev. 2.0	Ammonia-N	95.6	102	101				0.789
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102					1.58	
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	95.5	97.5				2.07
EPA 365.1 Rev. 2.0	Total-P	100	107	106				0.954
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	71.9	75.9	85.3				11.7
	Acetochlor	94.4	94.0	99.2				5.33
	Alachlor	85.2	80.4	80.4				0.0007
	Ametryn	91.2	106	114				7.64
	Atrazine	86.9						1.58
	Atrazine Desethyl	64.0	40.3	39.2				1.77
	Avobenzone	90.3	86.9	89.6				3.13
	Azinphos Methyl	101	106	134				22.9
	Azoxystrobin	66.8	108	106				2.42
	Bromacil	76.0	75.4	80.9				7.11
	Butylate	64.1	57.5	51.3				11.4
	Caffeine	69.7	69.8	75.0				6.86
	Carbophenothion	76.2	70.6	77.9				9.81
	Carfentrazone Ethyl	101	96.8	99.9				3.21
	Chlorfenapyr	70.3	74.7	72.2				3.39
	Chlorpyrifos Ethyl	78.5	67.1	67.7				0.809
	Chlorpyrifos Methyl	81.6	74.6	76.5				2.49
	Coumaphos	60.1	72.8	74.1				1.86
	Cyanazine	138	129	130				1.42

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Cyprodinil	102		99.2	82.6			18.2
	Demeton	82.1		84.4	77.8			8.13
	Diazinon	110		97.4	99.8			2.40
	Difenoconazole	59.4		103	119			14.9
	Dimethenamid	58.3		64.4	73.2			11.2
	Dimethomorph	84.8		140	142			1.70
	Disulfoton	87.0		69.6	73.8			5.86
	Dithiopyr	102		71.6	81.0			9.69
	EPTC	59.1		51.0	48.9			4.38
	Ethion	24.7		41.9	53.5			24.3
	Ethoprop	91.6		86.1	83.7			2.74
	Etridiazole	73.3		68.8	59.9			13.8
	Fenamiphos	69.6		89.4	72.2			21.2
	Fenbuconazole	62.5		78.7	83.4			5.77
	Fipronil	96.0		97.5	107			9.65
	Fipronil Desulfinyl	95.0		90.4	97.2			6.71
	Fipronil Sulfide	80.0		75.4	89.4			14.3
	Fipronil Sulfone	73.4		71.1	78.4			5.51
	Fluazifop-P-butyl	98.4		97.7	97.9			0.192
	Fludioxonil	79.1		90.6	95.7			5.49
	Flumioxazin	41.0		62.2	93.2			39.9
	Flutolanil	86.8		87.1	91.6			4.95
	Fluxapyroxad	52.4		69.3	80.4			14.8
	Fonofos	86.7		72.9	72.1			1.12
	Hexazinone	76.8		73.3	73.6			0.377
	Imazalil	108		90.4	82.6			9.02
	Iprodione	68.6		82.7	89.1			7.40
	Loratadine	99.8		134	137			2.41
	Malathion	99.7		92.8	103			10.3
	Metalaxyl	83.2		80.2	82.0			2.22
	Metolachlor	82.1		84.2	86.7			2.95
	Metribuzin	108		86.6	89.8			3.69
	Mevinphos	73.2		66.5	61.8			7.29
	Molinate	71.9		63.6	61.2			3.85
	Myclobutanil	88.7		102	95.5			6.29
	Naled	69.0		71.3	74.5			4.48
	Napropamide	45.0		65.9	72.7			9.79
	Norflurazon	79.1		78.9	81.9			3.68
	Octinoxate	77.5		73.3	76.2			3.94
	Oxadiazon	73.5		63.7	68.0			4.92
	Oxybenzone	70.3		74.4	74.5			0.156
	Oxyfluorfen	93.5		106	113			5.66
	Parathion Ethyl	85.2		77.2	81.1			4.97
	Parathion Methyl	111		102	99.9			1.80
	PBDE-47	65.1		70.3	73.2			4.12
	PBDE-99	60.6		66.2	73.2			10.1
	Pendimethalin	102		90.7	89.2			1.69
	Phenytoin	3.03		9.74	10.5			7.96
	Phorate	74.6		72.8	66.3			9.46
	Prodiamine	51.8		60.6	59.0			2.80
	Prometon	60.4		51.6	78.6			19.5
	Prometryn	105		98.8	104			5.43
	Pronamide	90.5		88.5	76.1			15.0
	Propanil	79.0		88.8	76.1			15.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Propargite	37.5	52.1	70.2			29.7
	Propiconazole	84.6	78.5	90.9			12.7
	Pyraflufen Ethyl	86.2	84.0	97.3			14.6
	Pyridaben	78.8	90.4	89.9			0.438
	Pyriproxyfen	37.6	80.4	77.5			3.65
	Simazine	74.1	63.5	69.1			8.37
	Stirophos	31.4	43.6	50.0			13.6
	Sulfentrazone	48.4	63.6	73.9			14.9
	Tebuconazole	28.7	49.7	63.7			24.7
	Terbufos	112	98.8	96.5			2.44
	Terbuthylazine	90.7	82.3	83.1			0.974
	Thiobencarb	77.4	76.3	76.6			0.479
	Tri-o-cresyl Phosphate	76.5	71.1	76.8			7.62
	Triadimefon	66.8	66.1	68.4			3.31
EPA 8321B	2,4-D	71.2	82.4	76.3			7.75
	2,4,5-T	52.8	56.3	46.9			18.1
	Acesulfame K	78.7	74.7	77.2			3.24
	Acetaminophen	89.6	123	115			6.53
	Acetamiprid	68.2	90.4	112			21.5
	Afidopyropen	40.1	64.5	75.4			15.5
	AMPA	111	116	118			1.64
	Bentazon	53.8	43.2	46.3			6.92
	Benzovindiflupyr	76.8	82.8	89.3			7.54
	Carbamazepine	83.5	87.9	89.8			2.16
	Clothianidin	96.4	109	121			6.59
	Dinotefuran	94.1					2.99
	Diuron	76.0	69.9	73.9			5.58
	Endothall	103	100	97.4			2.65
	Fenuron	92.0	91.6	91.6			0.0265
	Fluridone	79.4	85.3	82.1			3.83
	Glufosinate	123	110	117			5.62
	Glyphosate	104	106	105			0.887
	Hydrocodone	87.9	110	107			3.28
	Ibuprofen	64.6	65.8	71.4			8.19
	Imazapyr	89.1	90.1	88.7			1.02
	Imidacloprid	97.8	132	151			9.31
	Linuron	63.1	68.2	79.8			15.8
	Mandestrobin	79.2	83.8	87.8			4.57
	MCPP	73.0	70.1	72.4			3.20
	Naproxen	43.8	68.2	66.9			1.85
	Primidone	81.3	113	111			2.01
	Pyraclostrobin	69.8	84.1	87.4			3.87
	Silvex	58.4	68.5	67.3			1.80
	Sucralose	97.1	96.6	96.7			0.148
	Thiamethoxam	87.1					9.03
	Tolfenpyrad	33.6	43.2	48.6			11.8
	Triclopyr	54.8	58.5	56.7			3.24
SM 2320 B-2011	Total Alkalinity	100				1.39	
SM 2540 C-2011	TDS					3.81	
SM 4500-F- C-2011	Fluoride	101	101	101			0.0
SM 5310 B-2011	Organic Carbon	97.2	96.6	98.2			0.977

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2339790
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2339794
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2339794
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2339790
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2339791
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2339791
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2339791
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2339791
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2339795
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2339795
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2339793
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2339790
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2339794
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2339790
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2339790
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2339790
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2339791

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/07/2022			07/08/2022 13:49	Khloe J Berg	2339790
EPA 200.7 Rev. 4.4	07/07/2022	07/11/2022 09:57	Mackenzie Hunt	07/11/2022 21:21	McKinley C Carter	2339794
EPA 200.8 Rev. 5.4	07/07/2022	07/11/2022 09:57	Mackenzie Hunt	07/11/2022 18:38	Alexander Thompson	2339794
	07/07/2022	07/14/2022 09:21	Mackenzie Hunt	07/15/2022 01:44	Emily M Philpot	2339794
EPA 300.0 Rev. 2.1	07/07/2022			07/14/2022 23:31	Anna M. Plaviak	2339790
EPA 350.1 Rev. 2.0	07/07/2022			07/11/2022 12:33	Ping Hua	2339791
EPA 351.2 Rev. 2.0	07/07/2022	07/18/2022 16:27	Samantha L Bates	07/19/2022 11:08	Alexandra J Mattheus	2339791
EPA 353.2 Rev. 2.0	07/07/2022			07/14/2022 11:09	Judith K. Clark	2339791
EPA 365.1 Rev. 2.0	07/07/2022	07/14/2022 13:10	Simonne.V. Calhoun	07/15/2022 13:24	Simonne.V. Calhoun	2339791
EPA 8270E	07/07/2022	07/11/2022 08:00	Fe-Val Siddell	07/14/2022 20:05	Michael Poppell	2339795
	07/07/2022	07/11/2022 08:00	Fe-Val Siddell	07/15/2022 15:31	Arthur Maknenko	2339795
	07/07/2022	07/11/2022 08:00	Fe-Val Siddell	07/17/2022 01:18	Michael Poppell	2339795
EPA 8321B	07/07/2022	07/11/2022 10:00	Umesh Chiluwal	07/11/2022 16:10	Umesh Chiluwal	2339793
	07/07/2022	07/11/2022 10:00	Umesh Chiluwal	07/12/2022 02:06	Umesh Chiluwal	2339793
	07/07/2022	07/12/2022 09:00	June Rhew	07/13/2022 00:43	Juyoung Kim	2339793
SM 2320 B-2011	07/07/2022			07/20/2022 23:37	Dale L. Simmons	2339790
SM 2340 B-2011	07/07/2022			07/11/2022 21:21	McKinley C Carter	2339794
SM 2540 C-2011	07/07/2022			07/13/2022 16:09	Yijie Li	2339790
SM 2540 D-2011	07/07/2022			07/13/2022 16:09	Yijie Li	2339790
SM 4500-F- C-2011	07/07/2022			07/20/2022 23:37	Dale L. Simmons	2339790
SM 5310 B-2011	07/07/2022			07/11/2022 16:55	Khloe J Berg	2339791