

Chemical Analysis Report

TLH-ROC-2022-07-05-01

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**

Send Reports to:
FL Dept. of Environmental Protection
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 25-JUL-2022 15:56



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: COMPASS LAKE

Collection Date/Time: 07/05/2022 10:50

Field ID: G3TLHR0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338844	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P416234	
	EPA 300.0 Rev. 2.1	Sulfate	1.0		mg SO4/L	P416563	
	SM 2320 B-2011	Total Alkalinity	4.0		mg CaCO3/L	P416387	
	SM 2540 C-2011	TDS	19	I	mg/L	P416545	
	SM 2540 D-2011	TSS	2	U	mg/L	P416548	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P416404	
2338845	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P416347	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P416576	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416482	
	EPA 365.1 Rev. 2.0	Total-P	0.005		mg P/L	P416187	
	SM 5310 B-2011	Organic Carbon	4.2		mg C/L	P416317	
2338847	EPA 8321B	2,4-D	0.20		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	0.068		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	0.029		ug/L	P416352	
		Fenuron	0.032	U	ug/L	P416352	
		Fluridone	0.0075		ug/L	P416352	
		Imazapyr	0.0040	U	ug/L	P416352	
		Hydrocodone	0.0020	U	ug/L	P416352	
		Ibuprofen	0.080	U	ug/L	P416352	
		Imidacloprid	0.0020	U	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: G3TLHR0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338848	EPA 200.7 Rev. 4.4	Calcium	1.64		mg/L	P416378	
		Iron	42	I	ug/L	P416378	
		Magnesium	0.59		mg/L	P416378	
		Potassium	0.44	I	mg/L	P416378	
		Sodium	1.5	I	mg/L	P416378	
		Strontium	4.4	I	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	25		ug/L	P416378	
		Antimony	0.059	I	ug/L	P416378	
		Arsenic	1.38		ug/L	P416378	
		Barium	5.88		ug/L	P416378	
		Beryllium	0.010	U	ug/L	P416378	
		Boron	10.3		ug/L	P416378	
		Cadmium	0.020	U	ug/L	P416378	
		Chromium	0.40	U	ug/L	P416378	
		Cobalt	0.020	U	ug/L	P416378	
		Copper	1.51		ug/L	P416616	
		Lead	0.20	U	ug/L	P416378	
		Manganese	1.69		ug/L	P416378	
		Molybdenum	0.15	U	ug/L	P416378	
		Nickel	0.50	U	ug/L	P416616	
		Selenium	0.20	U	ug/L	P416378	
		Silver	0.010	U	ug/L	P416378	
2338849	EPA 8270E	Thallium	0.10	U	ug/L	P416378	
		Oxybenzone**	9.6	U	ng/L	P416303	
		Acetochlor	0.42	I	ng/L	P416303	
		Octinoxate**	19	U	ng/L	P416303	
		Alachlor	0.24	U	ng/L	P416303	
		Avobenzone**	96	U	ng/L	P416303	
		Ametryn	0.57	U	ng/L	P416303	
		Atrazine	6.8	J	ng/L	P416303	
		PBDE-47**	3.8	U	ng/L	P416303	
		Atrazine Desethyl	1.4	U	ng/L	P416303	
		PBDE-99**	4.8	U	ng/L	P416303	
		Azinphos Methyl	1.9	U	ng/L	P416303	
		Tri-o-cresyl Phosphate**	5.7	U	ng/L	P416303	
		Azoxystrobin	0.59	I	ng/L	P416303	
		Bromacil	0.48	U	ng/L	P416303	
		2-Ethylhexyl	11	U	ng/L	P416303	
		2,3,4,5-tetrabromobenzoate (EHTBB)**					
		Butylate	0.38	U	ng/L	P416303	
		Caffeine**	19	I	ng/L	P416303	

Field ID: G3TLHR0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338849	EPA 8270E	Carbophenothion	2.4	U	ng/L	P416303	
		Carfentrazone Ethyl	0.096	U	ng/L	P416303	
		Chlorfenapyr	0.17	U	ng/L	P416303	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P416303	
		Chlorpyrifos Methyl	0.048	U	ng/L	P416303	
		Coumaphos	0.48	U	ng/L	P416303	
		Cyanazine	3.1	U	ng/L	P416303	
		Cyprodinil	0.096	U	ng/L	P416303	
		Demeton	1.4	U	ng/L	P416303	
		Diazinon	0.12	U	ng/L	P416303	
		Difenoconazole	0.57	U	ng/L	P416303	
		Dimethenamid	0.31	I	ng/L	P416303	
		Dimethomorph	0.17	U	ng/L	P416303	RPD
		Disulfoton	0.48	U	ng/L	P416303	
		Dithiopyr	0.36	IV	ng/L	P416303	MS
		EPTC	1.2	U	ng/L	P416303	
		Ethion	0.14	U	ng/L	P416303	
		Ethoprop	0.096	U	ng/L	P416303	
		Etridiazole	0.14	U	ng/L	P416303	
		Fenamiphos	0.48	U	ng/L	P416303	
		Fenbuconazole	0.12	U	ng/L	P416303	
		Fipronil	0.24	U	ng/L	P416303	
		Fipronil Desulfinyl**	0.12	U	ng/L	P416303	
		Fipronil Sulfide	0.14	U	ng/L	P416303	
		Fipronil Sulfone	0.14	U	ng/L	P416303	
		Fluazifop-P-butyl	0.096	U	ng/L	P416303	
		Fludioxonil	0.12	U	ng/L	P416303	
		Flumioxazin	1.7	U	ng/L	P416303	
		Flutolanil	0.45		ng/L	P416303	
		Fluxapyroxad	0.37	I	ng/L	P416303	
		Fonofos	0.19	U	ng/L	P416303	
		Hexazinone	0.48	U	ng/L	P416303	
		Imazalil	0.72	U	ng/L	P416303	
		Iprodione	0.57	U	ng/L	P416303	
		Loratadine**	0.096	U	ng/L	P416303	
		Malathion	0.34	U	ng/L	P416303	
		Metalaxyl	0.72	U	ng/L	P416303	
		Metolachlor	3.4		ng/L	P416303	
		Metribuzin	2.4	U	ng/L	P416303	
		Mevinphos	1.0	U	ng/L	P416303	
		Molinate	0.29	U	ng/L	P416303	
		Myclobutanil	0.24	U	ng/L	P416303	
		Naled	1.4	U	ng/L	P416303	
		Napropamide	0.38	U	ng/L	P416303	
		Norflurazon	0.48	U	ng/L	P416303	

Field ID: G3TLHR0054

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338849	EPA 8270E	Oxadiazon	0.29	U	ng/L	P416303	
		Oxyfluorfen	0.14	U	ng/L	P416303	
		Parathion Ethyl	0.24	U	ng/L	P416303	
		Parathion Methyl	0.53	U	ng/L	P416303	
		Pendimethalin	0.96	U	ng/L	P416303	
		Phenytol**	3.4	U	ng/L	P416303	MS
		Phorate	0.50	U	ng/L	P416303	
		Prodiamine	0.29	U	ng/L	P416303	
		Prometon	0.86	U	ng/L	P416303	
		Prometryn	0.19	U	ng/L	P416303	
		Pronamide	0.14	U	ng/L	P416303	
		Propanil	0.12	U	ng/L	P416303	
		Propargite	1.4	U	ng/L	P416303	
		Propiconazole	3.2		ng/L	P416303	
		Pyraflufen Ethyl	0.24	U	ng/L	P416303	
		Pyridaben	0.43	U	ng/L	P416303	
		Pyriproxyfen	0.12	U	ng/L	P416303	
		Simazine	0.48	U	ng/L	P416303	
		Stirophos	0.12	U	ng/L	P416303	MS
		Sulfentrazone	0.48	U	ng/L	P416303	
		Tebuconazole	11		ng/L	P416303	
		Terbufos	0.096	U	ng/L	P416303	
		Terbutylazine	0.41	U	ng/L	P416303	
		Thiobencarb	0.57	U	ng/L	P416303	
		Triadimefon	0.24	U	ng/L	P416303	

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 multiple parameters not assessed due to high content of these parameters in the sample spiked. V - Due to the presence of dithiopyr in both the Method Blank and the sample. Estimated value for atrazine due to internal standard recovery exceeding control limits.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416234

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: P416563

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: P416347

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416576

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416482

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416187

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

Reference Method: EPA 8270E
Batch ID: P416303

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	2.5	U	ng/L
Carbophenothion	2.5	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: P416303

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	0.54	I	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P416303

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: P416303

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	0.30	U	ng/L
Prodiamine	0.30	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: P416387

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

Reference Method: SM 2540 C-2011

Batch ID: P416545

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P416548

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P416404

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416317

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: P416234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.6		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: P416563

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416347

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416576

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416187

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

Reference Method: EPA 8270E
Batch ID: P416303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	93.4		P	50 - 150
Acetochlor	92.9		P	70 - 121
Alachlor	81.1		P	68 - 119
Ametryn	84.2		P	64 - 139
Atrazine	91.7		P	76 - 120
Atrazine Desethyl	94.1		P	44 - 126
Avobenzone	95.5		P	76 - 212
Azinphos Methyl	129		P	43 - 192
Azoxystrobin	113		P	36 - 224
Bromacil	81.4		P	52 - 121
Butylate	49.0		P	28 - 91.0
Caffeine	78.7		P	50 - 134
Carbophenothion	82.4		P	56 - 129
Carfentrazone Ethyl	95.7		P	60 - 141
Chlorfenapyr	75.6		P	56 - 115
Chlorpyrifos Ethyl	77.5		P	60 - 118
Chlorpyrifos Methyl	93.7		P	68 - 119
Coumaphos	86.7		P	18 - 250
Cyanazine	97.3		P	61 - 250
Cyprodinil	90.7		P	55 - 145
Demeton	96.3		P	30 - 159
Diazinon	90.8		P	70 - 123
Difenoconazole	110		P	49 - 204
Dimethenamid	76.7		P	64 - 115
Dimethomorph	112		P	12 - 219
Disulfoton	79.3		P	44 - 125
Dithiopyr	84.9		P	64 - 115
EPTC	46.8		P	28 - 86.0

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P416303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethion	66.6		P	33 - 125
Ethoprop	88.2		P	64 - 116
Etridiazole	50.9		P	34 - 91.0
Fenamiphos	80.0		P	12 - 127
Fenbuconazole	83.1		P	59 - 151
Fipronil	88.3		P	67 - 129
Fipronil Desulfinyl	92.8		P	65 - 127
Fipronil Sulfide	84.9		P	61 - 116
Fipronil Sulfone	71.1		P	55 - 117
Fluazifop-P-butyl	97.8		P	62 - 127
Fludioxonil	87.4		P	62 - 128
Flumioxazin	112		P	33 - 250
Flutolanil	111		P	56 - 127
Fluxapyroxad	92.0		P	45 - 128
Fonofos	80.3		P	62 - 111
Hexazinone	89.6		P	46 - 139
Imazalil	64.8		P	38 - 142
Iprodione	88.6		P	47 - 135
Loratadine	115		P	10 - 244
Malathion	81.8		P	61 - 139
Metalaxyl	85.8		P	10 - 119
Metolachlor	93.0		P	65 - 118
Metribuzin	101		P	51 - 250
Mevinphos	93.4		P	53 - 121
Molinate	64.2		P	42 - 96.0
Myclobutanil	86.6		P	55 - 128
Naled	75.6		P	10 - 98.0
Napropamide	75.9		P	49 - 121
Norflurazon	99.4		P	61 - 126
Octinoxate	83.5		P	30 - 159
Oxadiazon	83.7		P	59 - 116
Oxybenzone	80.0		P	61 - 139
Oxyfluorfen	103		P	64 - 137
Parathion Ethyl	89.1		P	70 - 112
Parathion Methyl	129		P	76 - 133
PBDE-47	85.4		P	50 - 150
PBDE-99	85.8		P	50 - 150
Pendimethalin	90.1		P	52 - 117
Phenytol	40.8		P	10 - 199
Phorate	69.0		P	48 - 121
Prodiamine	33.7		P	26 - 142
Prometon	75.8		P	43 - 123
Prometryn	90.3		P	66 - 127
Pronamide	96.0		P	75 - 121
Propanil	126		P	45 - 150
Propargite	73.2		P	42 - 208
Propiconazole	103		P	60 - 125
Pyraflufen Ethyl	81.0		P	70 - 138
Pyridaben	79.6		P	35 - 245
Pyriproxyfen	88.6		P	30 - 149
Simazine	99.5		P	72 - 125
Stirophos	71.3		P	29 - 164

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P416303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfentrazone	101		P	21 - 139
Tebuconazole	73.0		P	10 - 115
Terbufos	98.0		P	60 - 123
Terbutylazine	85.5		P	72 - 115
Thiobencarb	81.6		P	31 - 139
Tri-o-cresyl Phosphate	89.2		P	50 - 150
Triadimefon	81.4		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: P416387

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

Reference Method: SM 4500-F- C-2011
Batch ID: P416404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.1		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: P416563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338500	Sulfate	95.4		P	90 - 110
2338854	Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P416347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338596	Ammonia-N	96.4	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P416482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338606	NO2NO3-N	98.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P416187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338756	Total-P	103	105	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P416303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338663	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	87.2	89.1	P/P	50 - 150
2338663	Acetochlor	89.5	86.8	P/P	65 - 124
2338663	Alachlor	76.6	71.2	P/P	61 - 121
2338663	Ametryn	63.6	70.1	P/P	52 - 216
2338663	Atrazine Desethyl	78.2	76.9	P/P	15 - 160
2338663	Avobenzone	91.7	100	P/P	59 - 206
2338663	Azinphos Methyl	111	113	P/P	40 - 292
2338663	Bromacil	80.9	75.5	P/P	54 - 167
2338663	Butylate	41.2	57.2	P/P	14 - 94.0
2338663	Caffeine	93.8	85.7	P/P	10 - 226

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P416303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338663	Carbophenothion	72.4	68.8	P/P	49 - 122
2338663	Carfentrazone Ethyl	82.0	73.4	P/P	53 - 138
2338663	Chlorfenapyr	62.7	66.9	P/P	50 - 150
2338663	Chlorpyrifos Ethyl	67.6	67.4	P/P	52 - 122
2338663	Chlorpyrifos Methyl	86.1	84.6	P/P	66 - 117
2338663	Coumaphos	69.0	66.6	P/P	50 - 220
2338663	Cyanazine	80.6	83.2	P/P	43 - 245
2338663	Cyprodinil	86.4	83.1	P/P	50 - 150
2338663	Demeton	98.7	99.4	P/P	43 - 188
2338663	Diazinon	92.5	93.6	P/P	69 - 131
2338663	Difenoconazole	117	106	P/P	34 - 231
2338663	Dimethomorph	97.8	137	P/P	50 - 150
2338663	Disulfoton	92.9	80.8	P/P	38 - 141
2338663	Dithiopyr	41.4	44.3	F/P	42 - 116
2338663	EPTC	68.0	84.1	P/P	18 - 85.0
2338663	Ethion	64.9	51.8	P/P	10 - 131
2338663	Ethoprop	102	99.9	P/P	65 - 129
2338663	Etridiazole	51.4	52.5	P/P	50 - 150
2338663	Fenamiphos	63.4	70.9	P/P	31 - 137
2338663	Fenbuconazole	73.2	71.0	P/P	57 - 160
2338663	Fipronil	84.0	83.9	P/P	62 - 132
2338663	Fipronil Desulfinyl	75.9	80.4	P/P	57 - 131
2338663	Fipronil Sulfide	87.9	88.6	P/P	15 - 138
2338663	Fipronil Sulfone	62.3	58.7	P/P	21 - 134
2338663	Fluazifop-P-butyl	84.0	88.8	P/P	54 - 133
2338663	Fludioxonil	78.0	77.0	P/P	58 - 127
2338663	Flumioxazin	121	112	P/P	33 - 300
2338663	Fonofos	91.3	86.0	P/P	58 - 119
2338663	Hexazinone	102	86.7	P/P	68 - 172
2338663	Imazalil	144	152	P/P	48 - 283
2338663	Iprodione	79.4	75.5	P/P	38 - 140
2338663	Loratadine	115	109	P/P	50 - 150
2338663	Malathion	74.7	73.9	P/P	40 - 137
2338663	Metalaxyl	65.9	67.5	P/P	21 - 129
2338663	Metribuzin	109	113	P/P	38 - 187
2338663	Mevinphos	103	106	P/P	54 - 134
2338663	Molinate	60.7	67.3	P/P	41 - 97.0
2338663	Myclobutanil	82.7	79.7	P/P	56 - 125
2338663	Naled	69.1	77.9	P/P	10 - 108
2338663	Napropamide	70.7	61.9	P/P	50 - 150
2338663	Norflurazon	83.3	86.9	P/P	32 - 122
2338663	Octinoxate	79.6	83.6	P/P	25 - 150
2338663	Oxybenzone	70.6	79.8	P/P	59 - 147
2338663	Oxyfluorfen	99.5	94.5	P/P	61 - 153
2338663	Parathion Ethyl	80.7	83.3	P/P	59 - 130
2338663	Parathion Methyl	136	125	P/P	65 - 155
2338663	PBDE-47	81.4	83.5	P/P	50 - 150
2338663	PBDE-99	77.3	79.2	P/P	50 - 150
2338663	Pendimethalin	113	110	P/P	49 - 138
2338663	Phenytoin	38.4	30.0	F/F	50 - 200
2338663	Phorate	79.8	74.7	P/P	54 - 161
2338663	Prodiamine	50.4	49.0	P/P	33 - 161

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P416303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338663	Prometon	74.4	73.7	P/P	48 - 140
2338663	Prometryn	55.4	58.7	P/P	55 - 134
2338663	Pronamide	85.8	83.6	P/P	66 - 137
2338663	Propanil	121	139	P/P	50 - 150
2338663	Propargite	72.9	63.9	P/P	50 - 200
2338663	Pyraflufen Ethyl	72.6	71.7	P/P	50 - 150
2338663	Pyridaben	92.2	71.9	P/P	50 - 200
2338663	Pyriproxyfen	85.3	66.6	P/P	10 - 165
2338663	Simazine	83.9	91.7	P/P	57 - 145
2338663	Stirophos	21.4	20.5	F/F	50 - 150
2338663	Sulfentrazone	89.6	76.7	P/P	34 - 140
2338663	Tebuconazole	70.9	57.6	P/P	10 - 127
2338663	Terbufos	102	104	P/P	59 - 138
2338663	Terbutylazine	80.4	82.8	P/P	68 - 119
2338663	Thiobencarb	66.5	68.9	P/P	50 - 150
2338663	Tri-o-cresyl Phosphate	76.5	80.2	P/P	50 - 150
2338663	Triadimefon	74.2	71.0	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	MCCP	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
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
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Quality Assurance Report Matrix Spike Accuracy

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: P416404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339553	Fluoride	104	103	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P416317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338564	Organic Carbon	97.6	98.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P416234

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338937	Turbidity	3.29	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: P416563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338500	Sulfate	0.291	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338596	Ammonia-N	0.399	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338857	Kjeldahl Nitrogen	1.55	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338606	NO2NO3-N	2.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338756	Total-P	2.39	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P416303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338663	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	2.15	Spike	P	0 - 30
2338663	Acetochlor	3.11	Spike	P	0 - 27
2338663	Alachlor	7.27	Spike	P	0 - 27
2338663	Ametryn	4.28	Spike	P	0 - 34
2338663	Atrazine	2.98	Spike	P	0 - 41
2338663	Atrazine Desethyl	0.941	Spike	P	0 - 38
2338663	Avobenzone	8.94	Spike	P	0 - 30
2338663	Azinphos Methyl	1.40	Spike	P	0 - 62
2338663	Azoxystrobin	9.77	Spike	P	0 - 32
2338663	Bromacil	6.96	Spike	P	0 - 30
2338663	Butylate	26.0	Spike	P	0 - 59
2338663	Caffeine	8.78	Spike	P	0 - 60
2338663	Carbophenothion	5.12	Spike	P	0 - 25
2338663	Carfentrazone Ethyl	11.1	Spike	P	0 - 26
2338663	Chlorfenapyr	6.45	Spike	P	0 - 30
2338663	Chlorpyrifos Ethyl	0.302	Spike	P	0 - 27

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P416303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338663	Chlorpyrifos Methyl	1.71	Spike	P	0 - 26
2338663	Coumaphos	3.50	Spike	P	0 - 30
2338663	Cyanazine	3.19	Spike	P	0 - 58
2338663	Cyprodinil	3.13	Spike	P	0 - 30
2338663	Demeton	0.768	Spike	P	0 - 25
2338663	Diazinon	1.17	Spike	P	0 - 29
2338663	Difenoconazole	10.2	Spike	P	0 - 25
2338663	Dimethenamid	7.59	Spike	P	0 - 30
2338663	Dimethomorph	31.8	Spike	F	0 - 30
2338663	Disulfoton	13.9	Spike	P	0 - 33
2338663	Dithiopyr	5.11	Spike	P	0 - 22
2338663	EPTC	21.2	Spike	P	0 - 38
2338663	Ethion	22.5	Spike	P	0 - 79
2338663	Ethoprop	2.31	Spike	P	0 - 23
2338663	Etridiazole	2.14	Spike	P	0 - 30
2338663	Fenamiphos	11.2	Spike	P	0 - 58
2338663	Fenbuconazole	3.15	Spike	P	0 - 37
2338663	Fipronil	0.0365	Spike	P	0 - 33
2338663	Fipronil Desulfanyl	5.07	Spike	P	0 - 26
2338663	Fipronil Sulfide	0.891	Spike	P	0 - 37
2338663	Fipronil Sulfone	4.38	Spike	P	0 - 50
2338663	Fluazifop-P-butyl	5.62	Spike	P	0 - 24
2338663	Fludioxonil	1.04	Spike	P	0 - 26
2338663	Flumioxazin	7.83	Spike	P	0 - 37
2338663	Flutolanil	1.43	Spike	P	0 - 26
2338663	Fluxapyroxad	4.99	Spike	P	0 - 34
2338663	Fonofos	5.91	Spike	P	0 - 27
2338663	Hexazinone	8.96	Spike	P	0 - 36
2338663	Imazalil	5.75	Spike	P	0 - 65
2338663	Iprodione	4.92	Spike	P	0 - 33
2338663	Loratadine	5.04	Spike	P	0 - 30
2338663	Malathion	1.15	Spike	P	0 - 44
2338663	Metalaxyl	2.08	Spike	P	0 - 38
2338663	Metolachlor	0.759	Spike	P	0 - 36
2338663	Metribuzin	3.37	Spike	P	0 - 63
2338663	Mevinphos	2.91	Spike	P	0 - 26
2338663	Molinate	10.3	Spike	P	0 - 40
2338663	Myclobutanil	2.99	Spike	P	0 - 21
2338663	Naled	12.0	Spike	P	0 - 26
2338663	Napropamide	11.1	Spike	P	0 - 30
2338663	Norflurazon	4.23	Spike	P	0 - 24
2338663	Octinoxate	4.85	Spike	P	0 - 30
2338663	Oxadiazon	0.201	Spike	P	0 - 27
2338663	Oxybenzone	12.1	Spike	P	0 - 30
2338663	Oxyfluorfen	5.20	Spike	P	0 - 24
2338663	Parathion Ethyl	3.26	Spike	P	0 - 28
2338663	Parathion Methyl	8.32	Spike	P	0 - 27
2338663	PBDE-47	2.59	Spike	P	0 - 30
2338663	PBDE-99	2.43	Spike	P	0 - 30
2338663	Pendimethalin	2.58	Spike	P	0 - 31
2338663	Phenytoin	24.5	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P416303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338663	Phorate	6.61	Spike	P	0 - 27
2338663	Prodiamine	2.81	Spike	P	0 - 52
2338663	Prometon	1.04	Spike	P	0 - 31
2338663	Prometryn	5.65	Spike	P	0 - 28
2338663	Pronamide	2.58	Spike	P	0 - 26
2338663	Propanil	14.4	Spike	P	0 - 30
2338663	Propargite	13.1	Spike	P	0 - 30
2338663	Propiconazole	1.56	Spike	P	0 - 31
2338663	Pyraflufen Ethyl	1.15	Spike	P	0 - 30
2338663	Pyridaben	24.7	Spike	P	0 - 30
2338663	Pyriproxyfen	24.6	Spike	P	0 - 50
2338663	Simazine	8.85	Spike	P	0 - 29
2338663	Stiropfos	4.21	Spike	P	0 - 30
2338663	Sulfentrazone	9.01	Spike	P	0 - 33
2338663	Tebuconazole	17.2	Spike	P	0 - 44
2338663	Terbufos	1.47	Spike	P	0 - 29
2338663	Terbutylazine	3.00	Spike	P	0 - 27
2338663	Thiobencarb	3.51	Spike	P	0 - 30
2338663	Tri-o-cresyl Phosphate	4.74	Spike	P	0 - 30
2338663	Triadimefon	4.49	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: P416387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339553	Total Alkalinity	0.0629	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P416545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338875	TDS	5.46	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P416404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339553	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338564	Organic Carbon	0.518	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2338847

Field Sample ID: G3TLHR0054

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.8	P	30 - 160
EPA 8321B	Diuron-d6	70.2	P	30 - 160
EPA 8321B	Endothall-d6	97.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.8	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	96.4	P	30 - 160

Lab Sample ID: 2338849

Field Sample ID: G3TLHR0054

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	51.1	P	20 - 200
EPA 8270E	Simazine-d10	76.3	P	71 - 140
EPA 8270E	Terbufos-d10	85.1	P	62 - 131
EPA 8270E	Terphenyl-d14	78.5	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113313

Included Lab Sample IDs: 2338844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A113363

Included Lab Sample IDs: 2338845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113377

Included Lab Sample IDs: 2338845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113381

Included Lab Sample IDs: 2338845

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

Reference Method: SM 2320 B-2011

Run ID: A113406

Included Lab Sample IDs: 2338844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.1	98.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113406

Included Lab Sample IDs: 2338844

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113424

Included Lab Sample IDs: 2338848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.8	99.3	P/P	90 - 110
Antimony	96.9	98.1	P/P	90 - 110
Arsenic	100	101	P/P	90 - 110
Barium	99.1	99.0	P/P	90 - 110
Beryllium	93.0	96.2	P/P	90 - 110
Boron	99.8	100	P/P	90 - 110
Cadmium	97.1	97.1	P/P	90 - 110
Chromium	97.5	98.1	P/P	90 - 110
Cobalt	101	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113424

Included Lab Sample IDs: 2338848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	99.1	99.4	P/P	90 - 110
Manganese	96.6	98.3	P/P	90 - 110
Molybdenum	98.4	98.6	P/P	90 - 110
Selenium	98.1	97.6	P/P	90 - 110
Silver	99.6	98.4	P/P	90 - 110
Thallium	96.6	97.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113427

Included Lab Sample IDs: 2338848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.7	102	P/P	90 - 110
Iron	98.1	103	P/P	90 - 110
Magnesium	97.5	101	P/P	90 - 110
Potassium	99.7	101	P/P	90 - 110
Sodium	98.7	104	P/P	90 - 110
Strontium	96.4	102	P/P	90 - 110
Tin	94.7	98.2	P/P	90 - 110
Titanium	95.4	101	P/P	90 - 110
Vanadium	95.3	99.7	P/P	90 - 110
Zinc	92.2	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113433

Included Lab Sample IDs: 2338845

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

Reference Method: EPA 8321B

Run ID: A113460

Included Lab Sample IDs: 2338847

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	114	120	P/P	60 - 160
Endothall	106	97.0	P/P	60 - 160
Glufosinate	106	106	P/P	60 - 160
Glyphosate	102	112	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113462

Included Lab Sample IDs: 2338844

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A113464
 Included Lab Sample IDs: 2338847

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

Reference Method: EPA 8270E
 Run ID: A113483
 Included Lab Sample IDs: 2338849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.5		P	80 - 120
Alachlor	88.7		P	80 - 120
Ametryn	99.8		P	80 - 120
Atrazine	104		P	80 - 120
Atrazine Desethyl	88.6		P	80 - 120
Azinphos Methyl	104		P	80 - 120
Bromacil	92.6		P	80 - 120
Butylate	94.4		P	80 - 120
Caffeine	112		P	80 - 120
Carbophenothion	103		P	80 - 120
Carfentrazone Ethyl	92.7		P	80 - 120
Chlorfenapyr	102		P	80 - 120
Chlorpyrifos Ethyl	106		P	80 - 120
Chlorpyrifos Methyl	109		P	80 - 120
Coumaphos	102		P	80 - 120
Cyanazine	89.3		P	80 - 120
Cyprodinil	94.6		P	80 - 120
Demeton	99.9		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113483
Included Lab Sample IDs: 2338849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diazinon	92.5		P	80 - 120
Difenoconazole	90.5		P	80 - 120
Dimethenamid	98.0		P	80 - 120
Disulfoton	101		P	80 - 120
Dithiopyr	94.8		P	80 - 120
EPTC	98.1		P	80 - 120
Ethion	106		P	80 - 120
Ethoprop	104		P	80 - 120
Etridiazole	89.6		P	80 - 120
Fenamiphos	105		P	80 - 120
Fenbuconazole	91.1		P	80 - 120
Fipronil	94.3		P	80 - 120
Fipronil Desulfinyl	91.0		P	80 - 120
Fipronil Sulfide	81.5		P	80 - 120
Fipronil Sulfone	93.9		P	80 - 120
Fluazifop-P-butyl	101		P	80 - 120
Fludioxonil	99.7		P	80 - 120
Flumioxazin	85.6		P	80 - 120
Flutolanil	103		P	80 - 120
Fluxapyroxad	96.6		P	80 - 120
Fonofos	105		P	80 - 120
Hexazinone	107		P	80 - 120
Imazalil	91.6		P	80 - 120
Iprodione	92.9		P	80 - 120
Loratadine	91.3		P	80 - 120
Malathion	104		P	80 - 120
Metalaxyl	96.3		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	106		P	80 - 120
Mevinphos	106		P	80 - 120
Molinate	97.6		P	80 - 120
Myclobutanil	99.0		P	80 - 120
Naled	99.6		P	80 - 120
Napropamide	95.2		P	80 - 120
Norflurazon	98.3		P	80 - 120
Oxadiazon	100		P	80 - 120
Oxyfluorfen	91.0		P	80 - 120
Parathion Ethyl	101		P	80 - 120
Parathion Methyl	107		P	80 - 120
Pendimethalin	105		P	80 - 120
Phenytoin	92.4		P	80 - 120
Phorate	106		P	80 - 120
Prodiamine	92.8		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	93.3		P	80 - 120
Pronamide	101		P	80 - 120
Propanil	111		P	80 - 120
Propargite	92.3		P	80 - 120
Propiconazole	101		P	80 - 120
Pyraflufen Ethyl	91.5		P	80 - 120
Pyridaben	98.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113483
Included Lab Sample IDs: 2338849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyriproxyfen	94.3		P	80 - 120
Simazine	105		P	80 - 120
Stirophos	106		P	80 - 120
Sulfentrazone	96.0		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	106		P	80 - 120
Terbuthylazine	100		P	80 - 120
Thiobencarb	95.0		P	80 - 120
Triadimefon	93.4		P	80 - 120

Reference Method: EPA 8321B
Run ID: A113494
Included Lab Sample IDs: 2338847

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	73.5	92.5	P/P	60 - 160
Sucralose	96.9	98.9	P/P	60 - 160

Reference Method: EPA 8270E
Run ID: A113506
Included Lab Sample IDs: 2338849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	96.2		P	80 - 120
Avobenzene	101		P	80 - 120
Octinoxate	96.6		P	80 - 120
Oxybenzone	101		P	80 - 120
PBDE-47	98.9		P	80 - 120
PBDE-99	101		P	80 - 120
Tri-o-cresyl Phosphate	99.7		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A113519
Included Lab Sample IDs: 2338848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	94.1	92.4	P/P	90 - 110
Nickel	94.3	92.6	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A113543
Included Lab Sample IDs: 2338849

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Azoxystrobin	100		P	80 - 120
Dimethomorph	95.9		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113548

Included Lab Sample IDs: 2338845

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	94.9	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity	95.6					3.29	
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	97.3	95.4	95.7			0.291	
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	96.4	96.0				0.399
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.3						1.55
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	98.0	100				2.02
EPA 365.1 Rev. 2.0	Total-P	101	103	105				2.39
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	93.4	89.1	87.2				2.15
	Acetochlor	92.9	89.5	86.8				3.11
	Alachlor	81.1	76.6	71.2				7.27
	Ametryn	84.2	63.6	70.1				4.28
	Atrazine	91.7						2.98
	Atrazine Desethyl	94.1	78.2	76.9				0.941
	Avobenzone	95.5	91.7	100				8.94
	Azinphos Methyl	129	111	113				1.40
	Azoxystrobin	113						9.77
	Bromacil	81.4	80.9	75.5				6.96
	Butylate	49.0	41.2	57.2				26.0
	Caffeine	78.7	93.8	85.7				8.78
	Carbophenothion	82.4	72.4	68.8				5.12
	Carfentrazone Ethyl	95.7	82.0	73.4				11.1
	Chlorfenapyr	75.6	62.7	66.9				6.45
	Chlorpyrifos Ethyl	77.5	67.6	67.4				0.302
	Chlorpyrifos Methyl	93.7	86.1	84.6				1.71
	Coumaphos	86.7	69.0	66.6				3.50
	Cyanazine	97.3	80.6	83.2				3.19

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Cyprodinil	90.7	86.4	83.1		3.13
	Demeton	96.3	98.7	99.4		0.768
	Diazinon	90.8	92.5	93.6		1.17
	Difenoconazole	110	117	106		10.2
	Dimethenamid	76.7				7.59
	Dimethomorph	112	97.8	137		31.8
	Disulfoton	79.3	92.9	80.8		13.9
	Dithiopyr	84.9	41.4	44.3		5.11
	EPTC	46.8	68.0	84.1		21.2
	Ethion	66.6	64.9	51.8		22.5
	Ethoprop	88.2	102	99.9		2.31
	Etridiazole	50.9	51.4	52.5		2.14
	Fenamiphos	80.0	63.4	70.9		11.2
	Fenbuconazole	83.1	73.2	71.0		3.15
	Fipronil	88.3	84.0	83.9		0.0365
	Fipronil Desulfinyl	92.8	75.9	80.4		5.07
	Fipronil Sulfide	84.9	87.9	88.6		0.891
	Fipronil Sulfone	71.1	62.3	58.7		4.38
	Fluazifop-P-butyl	97.8	84.0	88.8		5.62
	Fludioxonil	87.4	78.0	77.0		1.04
	Flumioxazin	112	121	112		7.83
	Flutolanil	111				1.43
	Fluxapyroxad	92.0				4.99
	Fonofos	80.3	91.3	86.0		5.91
	Hexazinone	89.6	102	86.7		8.96
	Imazalil	64.8	144	152		5.75
	Iprodione	88.6	79.4	75.5		4.92
	Loratadine	115	115	109		5.04
	Malathion	81.8	74.7	73.9		1.15
	Metalaxyl	85.8	65.9	67.5		2.08
	Metolachlor	93.0				0.759
	Metribuzin	101	109	113		3.37
	Mevinphos	93.4	103	106		2.91
	Molinate	64.2	60.7	67.3		10.3
	Myclobutanil	86.6	82.7	79.7		2.99
	Naled	75.6	69.1	77.9		12.0
	Napropamide	75.9	70.7	61.9		11.1
	Norflurazon	99.4	83.3	86.9		4.23
	Octinoxate	83.5	79.6	83.6		4.85
	Oxadiazon	83.7				0.201
	Oxybenzone	80.0	70.6	79.8		12.1
	Oxyfluorfen	103	99.5	94.5		5.20
	Parathion Ethyl	89.1	80.7	83.3		3.26
	Parathion Methyl	129	136	125		8.32
	PBDE-47	85.4	81.4	83.5		2.59
	PBDE-99	85.8	79.2	77.3		2.43
	Pendimethalin	90.1	113	110		2.58
	Phenytoin	40.8	38.4	30.0		24.5
	Phorate	69.0	79.8	74.7		6.61
	Prodiamine	33.7	50.4	49.0		2.81
	Prometon	75.8	74.4	73.7		1.04
	Prometryn	90.3	55.4	58.7		5.65
	Pronamide	96.0	85.8	83.6		2.58
	Propanil	126	121	139		14.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 8270E	Propargite	73.2	72.9 63.9			13.1
	Propiconazole	103				1.56
	Pyraflufen Ethyl	81.0	72.6 71.7			1.15
	Pyridaben	79.6	92.2 71.9			24.7
	Pyriproxyfen	88.6	85.3 66.6			24.6
	Simazine	99.5	83.9 91.7			8.85
	Stirophos	71.3	21.4 20.5			4.21
	Sulfentrazone	101	89.6 76.7			9.01
	Tebuconazole	73.0	70.9 57.6			17.2
	Terbufos	98.0	102 104			1.47
	Terbutylazine	85.5	80.4 82.8			3.00
	Thiobencarb	81.6	66.5 68.9			3.51
	Tri-o-cresyl Phosphate	89.2	80.2 76.5			4.74
	Triadimefon	81.4	74.2 71.0			4.49
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	101			0.0629	
SM 2540 C-2011	TDS				5.46	
SM 4500-F- C-2011	Fluoride	102	104 103			0.480
SM 5310 B-2011	Organic Carbon	95.1	97.6 98.4			0.518

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2338844
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2338848
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2338848
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2338844
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2338845
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2338845
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2338845
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2338845
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2338849
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2338849
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2338847
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2338844
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2338844
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2338844
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2338844
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2338845

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	07/05/2022			07/06/2022 14:21	Anna M. Plaviak	2338844
EPA 200.7 Rev. 4.4	07/05/2022	07/11/2022 09:57	Mackenzie Hunt	07/11/2022 18:53	McKinley C Carter	2338848
EPA 200.8 Rev. 5.4	07/05/2022	07/11/2022 09:57	Mackenzie Hunt	07/11/2022 16:52	Alexander Thompson	2338848
	07/05/2022	07/14/2022 09:21	Mackenzie Hunt	07/15/2022 00:24	Emily M Philpot	2338848
EPA 300.0 Rev. 2.1	07/05/2022			07/12/2022 05:11	Anna M. Plaviak	2338844
EPA 350.1 Rev. 2.0	07/05/2022			07/08/2022 11:17	Ping Hua	2338845
EPA 351.2 Rev. 2.0	07/05/2022	07/14/2022 13:55	Samantha L Bates	07/15/2022 18:34	Alexandra J Mattheus	2338845
EPA 353.2 Rev. 2.0	07/05/2022			07/12/2022 11:12	Judith K. Clark	2338845
EPA 365.1 Rev. 2.0	07/05/2022	07/07/2022 16:00	Simonne.V. Calhoun	07/08/2022 13:51	Simonne.V. Calhoun	2338845
EPA 8270E	07/05/2022	07/07/2022 08:00	Rasheda Ghaffari	07/09/2022 22:49	Michael Poppell	2338849
	07/05/2022	07/07/2022 08:00	Rasheda Ghaffari	07/12/2022 18:54	Lipi Saha	2338849
	07/05/2022	07/07/2022 08:00	Rasheda Ghaffari	07/15/2022 19:52	Michael Poppell	2338849
EPA 8321B	07/05/2022	07/11/2022 10:00	Umesh Chiluwal	07/11/2022 11:50	Umesh Chiluwal	2338847
	07/05/2022	07/11/2022 10:00	Umesh Chiluwal	07/11/2022 21:06	Umesh Chiluwal	2338847
	07/05/2022	07/12/2022 09:00	June Rhew	07/13/2022 01:25	Juyoung Kim	2338847
SM 2320 B-2011	07/05/2022			07/09/2022 08:42	Dale L. Simmons	2338844
SM 2540 C-2011	07/05/2022			07/08/2022 15:22	Yijie Li	2338844
SM 2540 D-2011	07/05/2022			07/08/2022 15:22	Yijie Li	2338844
SM 4500-F- C-2011	07/05/2022			07/09/2022 08:42	Dale L. Simmons	2338844
SM 5310 B-2011	07/05/2022			07/07/2022 20:36	Khloe J Berg	2338845