

Chemical Analysis Report

CEN-DIST-2020-07-02-02

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

Event Description: **Reedy Creek 1685B + HA**
Request ID: **RQ-2020-03-16-24**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 22-JUL-2020 08:41

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: 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: Livingston Creek @ Rucks Dairy Rd

Collection Date/Time: 07/01/2020 12:28

Field ID: G4CE0194

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180501	EPA 180.1 Rev. 2.0	Turbidity	7.4		NTU	P384012	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P384558	
		Sulfate	39		mg SO4/L	P384560	
	SM 2120 B-2011	Color (true)	48		PCU	P384018	
	SM 2320 B-2011	Total Alkalinity	34		mg CaCO3/L	P384611	
	SM 2540 C-2011	TDS	154		mg/L	P384665	
	SM 2540 D-2011	TSS	12		mg/L	P384167	
	SM 4500 F-C-2011	Fluoride	0.096	I	mg F/L	P384389	
2180502	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P384040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P384278	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P384117	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P384402	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P384264	
2180503	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P384087	
2180516	EPA 8321B	Aldicarb	0.020	U	ug/L	P383924	
		Aldicarb Sulfone	0.0020	U	ug/L	P383924	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P383924	
		Carbaryl	0.0020	U	ug/L	P383924	
		Carbofuran	0.0020	U	ug/L	P383924	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P383924	
		Methiocarb	0.0020	U	ug/L	P383924	
		Methomyl	0.0020	U	ug/L	P383924	
		Oxamyl	0.0020	U	ug/L	P383924	
		Propoxur	0.0020	U	ug/L	P383924	
2180517		2,4-D	0.0066	I	ug/L	P384009	
		Acesulfame K**	0.10	U	ug/L	P384059	
		AMPA**	0.10	U	ug/L	P384059	
		Sucralose**	0.10		ug/L	P384059	
		Acetaminophen**	0.0080	U	ug/L	P384009	
		Acetamiprid**	0.0020	U	ug/L	P384009	
		Endothall**	0.25	U	ug/L	P384059	
		Glufosinate**	0.10	U	ug/L	P384059	
		Glyphosate**	0.10	U	ug/L	P384059	
		Afidopyrophen**	0.0020	U	ug/L	P384009	
		Bentazon	8.0E-04	U	ug/L	P384009	
		Benzovindiflupyr**	0.0020	U	ug/L	P384009	
		Carbamazepine**	8.0E-04	U	ug/L	P384009	
		Clothianidin**	0.0020	U	ug/L	P384009	
		Dinotefuran**	0.0020	U	ug/L	P384009	
		Diuron	0.0020	U	ug/L	P384009	
		Fenuron	0.016	U	ug/L	P384009	
		Fluridone**	8.0E-04	U	ug/L	P384009	
		Imazapyr**	0.0040	U	ug/L	P384009	

Field ID: G4CE0194

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180517	EPA 8321B	Hydrocodone**	0.0020	U	ug/L	P384009	
		Ibuprofen**	0.020	U	ug/L	P384009	
		Imidacloprid	0.055		ug/L	P384009	
		Linuron	0.0040	U	ug/L	P384009	
		Mandestrobin**	0.0020	U	ug/L	P384009	
		MCP	0.0020	U	ug/L	P384009	
		Naproxen**	0.0080	U	ug/L	P384009	
		Primidone**	0.0040	U	ug/L	P384009	
		Pyraclostrobin**	0.0020	U	ug/L	P384009	
		Thiamethoxam**	0.0020	U	ug/L	P384009	
		Tolfenpyrad**	0.0020	U	ug/L	P384009	
		Triclopyr**	0.0040	U	ug/L	P384009	
2180519	EPA 8270E	Aldrin	4.6	U	ng/L	P384207	
		Alpha-BHC	2.3	U	ng/L	P384207	
		Alpha-Chlordane	1.2	U	ng/L	P384207	
		Beta-BHC	9.3	U	ng/L	P384207	
		Beta-Cyfluthrin**	17	U	ng/L	P384207	
		Bifenthrin**	4.6	U	ng/L	P384207	
		Delta-BHC	9.3	U	ng/L	P384207	
		Gamma-BHC	9.3	U	ng/L	P384207	
		Chlorothalonil	2.3	U	ng/L	P384207	
		Cis-Nonachlor**	1.2	U	ng/L	P384207	
		Cypermethrin	23	U	ng/L	P384207	
		Dacthal**	1.2	U	ng/L	P384207	
		DDD-p,p'	5.8	U	ng/L	P384207	
		DDE-p,p'	5.8	U	ng/L	P384207	
		DDT-p,p'	6.9	U	ng/L	P384207	
		Dicofol	35	UJ	ng/L	P384207	CCV
		Dieldrin	4.6	U	ng/L	P384207	
		Endosulfan I	4.6	U	ng/L	P384207	
		Endosulfan II	4.6	U	ng/L	P384207	
		Endosulfan Sulfate	2.3	U	ng/L	P384207	
		Endrin	2.3	U	ng/L	P384207	
		Endrin Aldehyde	2.3	U	ng/L	P384207	
		Endrin Ketone	2.3	U	ng/L	P384207	
		Ethalfuralin**	3.5	U	ng/L	P384207	
		Gamma-Chlordane	1.2	U	ng/L	P384207	
		Heptachlor	1.7	U	ng/L	P384207	
		Heptachlor Epoxide	2.3	U	ng/L	P384207	
		Hexachlorobenzene	2.3	U	ng/L	P384207	
		Lambda-Cyhalothrin**	17	U	ng/L	P384207	
		Methoxychlor	4.6	U	ng/L	P384207	
		Mirex	2.3	U	ng/L	P384207	
		Permethrin	12	U	ng/L	P384207	
		Phenothrin**	35	U	ng/L	P384207	

Field ID: G4CE0194

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180519	EPA 8270E	Prallethrin**	29	U	ng/L	P384207	
		Trans-Nonachlor**	1.2	U	ng/L	P384207	
		Trifluralin	2.9	U	ng/L	P384207	
		Chlordane	5.8	U	ng/L	P384207	
		Toxaphene	35	U	ng/L	P384207	
2180520	EPA 8270E	Acetochlor	0.25	U	ng/L	P384079	
		Alachlor	0.25	U	ng/L	P384079	
		Ametryn	0.59	U	ng/L	P384079	
		Atrazine	4.1		ng/L	P384079	
		Atrazine Desethyl	1.7	I	ng/L	P384079	
		Azinphos Methyl	2.0	U	ng/L	P384079	
		Bromacil	390		ng/L	P384079	
		Butylate	0.39	U	ng/L	P384079	RPD
		Carbophenothion	0.49	U	ng/L	P384079	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P384079	
		Chlorpyrifos Methyl	0.049	U	ng/L	P384079	
		Cyanazine	3.2	U	ng/L	P384079	
		Demeton	1.5	U	ng/L	P384079	
		Diazinon	0.12	U	ng/L	P384079	
		Dimethenamid**	0.099	U	ng/L	P384079	
		Disulfoton	0.49	U	ng/L	P384079	
		Dithiopyr**	0.099	U	ng/L	P384079	
		EPTC	1.2	U	ng/L	P384079	RPD
		Ethion	0.15	U	ng/L	P384079	
		Ethoprop	0.099	U	ng/L	P384079	
		Fenamiphos	0.49	U	ng/L	P384079	
		Fipronil	0.25	U	ng/L	P384079	
		Fipronil Desulfinyl**	0.12	U	ng/L	P384079	
		Fipronil Sulfide	0.15	U	ng/L	P384079	
		Fipronil Sulfone	0.15	U	ng/L	P384079	
		Flumioxazin**	1.7	U	ng/L	P384079	
		Fonofos	0.20	U	ng/L	P384079	
		Hexazinone	1.1	I	ng/L	P384079	
		Imazalil**	0.74	U	ng/L	P384079	
		Malathion	0.35	U	ng/L	P384079	
		Metalaxyl	13		ng/L	P384079	
		Metolachlor	0.49	U	ng/L	P384079	
		Metribuzin	3.2	U	ng/L	P384079	
		Mevinphos	0.49	U	ng/L	P384079	
		Molinate	0.30	U	ng/L	P384079	RPD
		Naled**	1.5	U	ng/L	P384079	
		Norflurazon	110		ng/L	P384079	
		Oxadiazon**	0.099	U	ng/L	P384079	
		Parathion Ethyl	0.25	U	ng/L	P384079	
		Parathion Methyl	0.54	U	ng/L	P384079	

Field ID: G4CE0194

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180520	EPA 8270E	Pendimethalin	0.99	U	ng/L	P384079	
		Phorate	0.25	UJ	ng/L	P384079	LCS
		Prodiamine**	0.17	UJ	ng/L	P384079	RPD
		Prometon	0.89	U	ng/L	P384079	
		Prometryn	0.20	U	ng/L	P384079	
		Pronamide**	0.15	U	ng/L	P384079	
		Propiconazole**	0.49	U	ng/L	P384079	
		Simazine	4.2		ng/L	P384079	
		Sulfentrazone**	0.49	U	ng/L	P384079	
		Tebuconazole**	0.49	U	ng/L	P384079	
		Terbufos	0.099	U	ng/L	P384079	
		Terbutylazine	0.42	U	ng/L	P384079	

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: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8270E: MS accuracy for atrazine not assessed due to high content of this parameter in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384012

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384558

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384278

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384117

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

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

Reference Method: EPA 8270E
Batch ID: P384079

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P384079

Component	Result	Code	Units
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Carbophenothion	0.50	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Flumioxazin	1.8	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
 Batch ID: P384207

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	8.0	U	ng/L
Beta-Cyfluthrin	15	U	ng/L
Bifenthrin	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
Dacthal	1.0	U	ng/L
DDD-p,p'	5.0	U	ng/L
DDE-p,p'	5.0	U	ng/L
DDT-p,p'	6.0	U	ng/L
Delta-BHC	8.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Ethalfuralin	3.0	U	ng/L
Gamma-BHC	8.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Hexachlorobenzene	2.0	U	ng/L
Lambda-Cyhalothrin	15	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Phenothrin	30	U	ng/L
Prallethrin	25	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Reference Method: EPA 8276
 Batch ID: P384207

Component	Result	Code	Units
Chlordane	5.0	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
 Batch ID: P383924

Component	Result	Code	Units
3-Hydroxycarbofuran	0.0020	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P383924

Component	Result	Code	Units
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Propoxur	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P384009

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P384059

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 2120 B-2011
Batch ID: P384018

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P384018

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P384611

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P384665

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P384167

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P384264

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P384558

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P384560

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P384040

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P384278

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: P384117

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: P384402

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384087

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

Reference Method: EPA 8270E
 Batch ID: P384079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	83.5	96.5	P/P	71 - 122
Alachlor	86.4	98.9	P/P	70 - 121
Ametryn	98.6	109	P/P	49 - 137
Atrazine	91.3	104	P/P	76 - 125
Atrazine Desethyl	75.9	83.7	P/P	31 - 144
Azinphos Methyl	106	118	P/P	67 - 150
Bromacil	78.6	88.6	P/P	36 - 121
Butylate	49.8	53.3	P/P	33 - 88.0
Carbophenothion	91.0	109	P/P	50 - 150
Chlorpyrifos Ethyl	90.6	106	P/P	73 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P384079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Methyl	89.9	104	P/P	68 - 121
Cyanazine	95.9	109	P/P	20 - 250
Demeton	63.5	83.8	P/P	30 - 123
Diazinon	82.8	96.1	P/P	70 - 128
Dimethenamid	85.4	97.2	P/P	66 - 122
Disulfoton	64.4	87.1	P/P	46 - 124
Dithiopyr	81.7	95.7	P/P	69 - 122
EPTC	38.4	40.2	P/P	31 - 90.0
Ethion	90.8	109	P/P	45 - 135
Ethoprop	79.2	92.5	P/P	59 - 118
Fenamiphos	91.4	121	P/P	30 - 136
Fipronil	89.6	102	P/P	57 - 127
Fipronil Desulfinyl	96.0	107	P/P	51 - 122
Fipronil Sulfide	90.0	106	P/P	57 - 119
Fipronil Sulfone	92.0	107	P/P	51 - 119
Flumioxazin	152	151	P/P	70 - 200
Fonofos	80.7	102	P/P	60 - 120
Hexazinone	87.5	96.8	P/P	57 - 142
Imazalil	65.2	76.6	P/P	50 - 150
Malathion	101	115	P/P	67 - 128
Metalaxyl	88.6	103	P/P	21 - 148
Metolachlor	81.8	97.1	P/P	70 - 120
Metribuzin	107	122	P/P	20 - 253
Mevinphos	70.2	83.4	P/P	47 - 116
Molinate	50.2	56.3	P/P	41 - 99.0
Naled	60.1	69.9	P/P	40 - 130
Norflurazon	93.0	106	P/P	54 - 127
Oxadiazon	83.6	96.9	P/P	65 - 122
Parathion Ethyl	82.4	96.2	P/P	71 - 113
Parathion Methyl	84.2	101	P/P	73 - 129
Pendimethalin	85.6	106	P/P	63 - 130
Phorate	107	134	P/F	48 - 118
Prodiamine	55.8	33.2	P/P	20 - 144
Prometon	78.9	91.3	P/P	53 - 120
Prometryn	84.1	95.6	P/P	63 - 119
Pronamide	88.6	101	P/P	50 - 150
Propiconazole	84.0	95.8	P/P	50 - 150
Simazine	93.7	104	P/P	77 - 129
Sulfentrazone	50.6	54.1	P/P	50 - 150
Tebuconazole	46.4	57.0	P/P	20 - 118
Terbufos	81.5	104	P/P	61 - 119
Terbutylazine	86.8	98.7	P/P	75 - 119

Reference Method: EPA 8270E

Batch ID: P384207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	63.5	60.7	P/P	20 - 87.0
Alpha-BHC	96.0	94.3	P/P	65 - 142
Alpha-Chlordane	91.4	89.8	P/P	58 - 106
Beta-BHC	112	109	P/P	65 - 179
Beta-Cyfluthrin	106	108	P/P	39 - 153

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P384207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bifenthrin	85.9	87.2	P/P	38 - 128
Chlorothalonil	109	94.6	P/P	20 - 214
Cis-Nonachlor	90.8	88.8	P/P	56 - 113
Cypermethrin	101	102	P/P	37 - 130
Dacthal	99.8	97.3	P/P	75 - 109
DDD-p,p'	96.1	94.9	P/P	66 - 119
DDE-p,p'	91.5	89.0	P/P	53 - 108
DDT-p,p'	89.6	88.9	P/P	57 - 133
Delta-BHC	114	109	P/P	68 - 187
Dicofol	88.5	98.5	P/P	66 - 123
Dieldrin	97.9	95.2	P/P	65 - 111
Endosulfan I	94.6	96.1	P/P	65 - 115
Endosulfan II	101	101	P/P	68 - 133
Endosulfan Sulfate	101	103	P/P	62 - 127
Endrin	106	98.7	P/P	64 - 122
Endrin Aldehyde	97.0	96.3	P/P	61 - 132
Endrin Ketone	102	101	P/P	66 - 120
Ethalfuralin	76.9	74.6	P/P	57 - 127
Gamma-BHC	112	109	P/P	71 - 158
Gamma-Chlordane	85.3	83.1	P/P	53 - 106
Heptachlor	80.0	77.8	P/P	45 - 96.0
Heptachlor Epoxide	97.0	94.0	P/P	64 - 109
Hexachlorobenzene	73.5	74.0	P/P	46 - 103
Lambda-Cyhalothrin	102	104	P/P	38 - 145
Methoxychlor	100	98.6	P/P	69 - 149
Mirex	67.3	67.4	P/P	31 - 90.0
Permethrin	80.2	81.2	P/P	41 - 108
Phenothrin	66.2	67.1	P/P	22 - 91.0
Prallethrin	76.7	78.0	P/P	32 - 92.0
Trans-Nonachlor	87.8	85.6	P/P	50 - 107
Trifluralin	77.3	77.0	P/P	58 - 119

Reference Method: EPA 8276

Batch ID: P384207

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	102	102	P/P	47 - 119
Toxaphene	87.7	85.6	P/P	41 - 112

Reference Method: EPA 8321B

Batch ID: P383924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
3-Hydroxycarbofuran	80.9		P	30 - 160
Aldicarb	67.2		P	30 - 160
Aldicarb Sulfone	77.7		P	30 - 160
Aldicarb Sulfoxide	91.9		P	30 - 160
Carbaryl	56.4		P	30 - 160
Carbofuran	60.1		P	30 - 160
Methiocarb	59.9		P	30 - 160
Methomyl	85.2		P	30 - 160
Oxamyl	91.7		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P383924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Propoxur	57.7		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P384009

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.8		P	30 - 160
Acetaminophen	71.6		P	30 - 160
Acetamiprid	72.0		P	30 - 160
Afidopyropen	74.5		P	30 - 160
Bentazon	66.7		P	30 - 160
Benzovindiflupyr	70.1		P	30 - 160
Carbamazepine	65.7		P	30 - 160
Clothianidin	76.4		P	30 - 160
Dinotefuran	72.1		P	30 - 160
Diuron	62.5		P	30 - 160
Fenuron	80.8		P	30 - 160
Fluridone	95.8		P	30 - 160
Hydrocodone	82.2		P	30 - 160
Ibuprofen	82.4		P	30 - 160
Imazapyr	77.6		P	30 - 160
Imidacloprid	87.3		P	30 - 160
Linuron	64.6		P	30 - 160
Mandestrobin	76.1		P	30 - 160
MCPP	95.6		P	30 - 160
Naproxen	70.7		P	30 - 160
Primidone	70.9		P	30 - 160
Pyraclostrobin	67.8		P	30 - 160
Thiamethoxam	79.8		P	30 - 160
Tolfenpyrad	57.3		P	30 - 160
Triclopyr	82.9		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P384059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.9		P	40 - 150
AMPA	76.9		P	40 - 150
Endothall	89.0		P	40 - 150
Glufosinate	86.9		P	40 - 150
Glyphosate	97.2		P	40 - 140
Sucralose	75.5		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P384018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P384611

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.5		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P384264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180449	Chloride	103		P	90 - 110
2180537	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180449	Sulfate	102		P	90 - 110
2180537	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180452	Ammonia-N	98.5	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180451	NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180472	Total-P	107	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180435	O-Phosphate-P	98.0	99.2	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P384079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180545	Acetochlor	99.1	85.1	P/P	68 - 126
2180545	Alachlor	101	94.0	P/P	66 - 125
2180545	Ametryn	112	103	P/P	31 - 182
2180545	Atrazine Desethyl	77.6	68.2	P/P	13 - 161
2180545	Azinphos Methyl	115	99.0	P/P	54 - 162
2180545	Bromacil	104	87.4	P/P	34 - 144
2180545	Butylate	60.2	41.8	P/P	16 - 92.0
2180545	Carbophenothion	101	96.6	P/P	50 - 150
2180545	Chlorpyrifos Ethyl	97.2	95.2	P/P	63 - 124
2180545	Chlorpyrifos Methyl	99.9	91.9	P/P	64 - 125
2180545	Cyanazine	116	99.2	P/P	13 - 245
2180545	Demeton	92.8	77.5	P/P	20 - 154
2180545	Diazinon	98.9	88.1	P/P	66 - 141
2180545	Dimethenamid	103	91.4	P/P	50 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P384079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180545	Disulfoton	90.6	78.3	P/P	55 - 130
2180545	Dithiopyr	96.7	88.0	P/P	66 - 122
2180545	EPTC	44.4	28.8	P/P	15 - 93.0
2180545	Ethion	114	107	P/P	15 - 148
2180545	Ethoprop	96.2	80.2	P/P	59 - 126
2180545	Fenamiphos	111	105	P/P	39 - 137
2180545	Fipronil	110	96.8	P/P	47 - 131
2180545	Fipronil Desulfinyl	110	100	P/P	43 - 121
2180545	Fipronil Sulfide	105	98.0	P/P	29 - 134
2180545	Fipronil Sulfone	109	99.8	P/P	19 - 131
2180545	Flumioxazin	198	179	P/P	70 - 200
2180545	Fonofos	93.9	87.0	P/P	62 - 128
2180545	Hexazinone	99.2	99.4	P/P	58 - 154
2180545	Imazalil	85.1	79.5	P/P	50 - 150
2180545	Malathion	114	107	P/P	54 - 135
2180545	Metalaxyl	103	94.6	P/P	46 - 136
2180545	Metolachlor	93.4	80.0	P/P	62 - 126
2180545	Metribuzin	126	113	P/P	44 - 277
2180545	Mevinphos	86.1	68.8	P/P	44 - 135
2180545	Molinate	60.3	43.6	P/P	31 - 104
2180545	Naled	77.3	71.3	P/P	40 - 130
2180545	Norflurazon	107	96.2	P/P	32 - 134
2180545	Oxadiazon	90.3	91.2	P/P	55 - 123
2180545	Parathion Ethyl	90.8	87.0	P/P	67 - 120
2180545	Parathion Methyl	106	93.8	P/P	70 - 140
2180545	Pendimethalin	100	100	P/P	59 - 145
2180545	Phorate	120	107	P/P	52 - 127
2180545	Prodiamine	43.3	40.1	P/P	11 - 157
2180545	Prometon	94.8	87.3	P/P	55 - 130
2180545	Prometryn	100	92.4	P/P	55 - 127
2180545	Pronamide	112	97.7	P/P	50 - 150
2180545	Propiconazole	95.8	92.3	P/P	50 - 150
2180545	Simazine	106	97.9	P/P	58 - 159
2180545	Sulfentrazone	101	88.9	P/P	50 - 150
2180545	Tebuconazole	61.3	62.5	P/P	10 - 122
2180545	Terbufos	103	91.5	P/P	65 - 131
2180545	Terbuthylazine	102	92.6	P/P	63 - 131

Reference Method: EPA 8270E

Batch ID: P384207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180585	Aldrin	73.8	72.7	P/P	32 - 82.0
2180585	Alpha-BHC	93.3	97.9	P/P	68 - 157
2180585	Alpha-Chlordane	91.3	91.8	P/P	54 - 108
2180585	Beta-BHC	114	112	P/P	54 - 200
2180585	Beta-Cyfluthrin	121	121	P/P	50 - 154
2180585	Bifenthrin	92.3	92.0	P/P	49 - 124
2180585	Chlorothalonil	22.7	20.7	P/P	10 - 289
2180585	Cis-Nonachlor	90.5	90.8	P/P	53 - 112
2180585	Cypermethrin	111	115	P/P	43 - 141
2180585	Dacthal	97.6	98.3	P/P	75 - 112

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P384207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180585	DDD-p,p'	92.9	94.1	P/P	58 - 125
2180585	DDE-p,p'	89.9	89.6	P/P	50 - 108
2180585	DDT-p,p'	89.4	87.7	P/P	52 - 140
2180585	Delta-BHC	131	132	P/P	61 - 228
2180585	Dicofol	83.3	86.6	P/P	59 - 130
2180585	Dieldrin	97.7	97.5	P/P	57 - 121
2180585	Endosulfan I	101	102	P/P	62 - 123
2180585	Endosulfan II	113	111	P/P	48 - 163
2180585	Endosulfan Sulfate	104	102	P/P	63 - 132
2180585	Endrin	104	103	P/P	58 - 128
2180585	Endrin Aldehyde	98.2	102	P/P	44 - 126
2180585	Endrin Ketone	105	108	P/P	68 - 127
2180585	Ethalfuralin	80.6	81.1	P/P	55 - 131
2180585	Gamma-BHC	119	127	P/P	54 - 206
2180585	Gamma-Chlordane	85.5	85.3	P/P	52 - 105
2180585	Heptachlor	79.5	79.4	P/P	47 - 94.0
2180585	Heptachlor Epoxide	100	99.5	P/P	61 - 113
2180585	Hexachlorobenzene	73.5	74.0	P/P	45 - 100
2180585	Lambda-Cyhalothrin	122	127	P/P	37 - 165
2180585	Methoxychlor	97.6	96.1	P/P	63 - 153
2180585	Mirex	74.8	75.1	P/P	38 - 90.0
2180585	Permethrin	84.1	83.9	P/P	45 - 112
2180585	Phenothrin	85.1	84.8	P/P	22 - 118
2180585	Prallethrin	92.2	98.6	P/P	21 - 114
2180585	Trans-Nonachlor	88.4	87.6	P/P	50 - 103
2180585	Trifluralin	79.3	78.6	P/P	57 - 122

Reference Method: EPA 8276

Batch ID: P384207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180519	Chlordane	68.4	67.1	P/P	34 - 129
2180519	Toxaphene	62.8	62.7	P/P	26 - 123

Reference Method: EPA 8321B

Batch ID: P383924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2179181	3-Hydroxycarbofuran	64.3	68.5	P/P	30 - 160
2179181	Aldicarb	43.4	52.2	P/P	30 - 160
2179181	Aldicarb Sulfone	73.4	71.9	P/P	30 - 160
2179181	Aldicarb Sulfoxide	43.6	42.9	P/P	30 - 160
2179181	Carbaryl	44.5	46.9	P/P	30 - 160
2179181	Carbofuran	47.0	47.1	P/P	30 - 160
2179181	Methiocarb	55.3	53.8	P/P	30 - 160
2179181	Methomyl	72.1	71.7	P/P	30 - 160
2179181	Oxamyl	75.7	77.7	P/P	30 - 160
2179181	Propoxur	45.3	43.9	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180218	Acetaminophen	77.1	85.4	P/P	30 - 160
2180218	Acetamiprid	63.9	69.3	P/P	30 - 160
2180218	Afidopyropen	64.1	71.0	P/P	30 - 160
2180218	Benzovindiflupyr	69.1	73.2	P/P	30 - 160
2180218	Carbamazepine	51.8	56.2	P/P	30 - 160
2180218	Clothianidin	67.3	72.9	P/P	30 - 160
2180218	Dinotefuran	76.1	77.5	P/P	30 - 160
2180218	Diuron	46.1	50.1	P/P	30 - 160
2180218	Fenuron	66.9	72.0	P/P	30 - 160
2180218	Fluridone	46.0	54.1	P/P	30 - 160
2180218	Hydrocodone	68.1	74.1	P/P	30 - 160
2180218	Ibuprofen	66.5	76.1	P/P	30 - 160
2180218	Imidacloprid	100	110	P/P	30 - 160
2180218	Linuron	52.5	58.9	P/P	30 - 160
2180218	Mandestrobin	71.3	77.9	P/P	30 - 160
2180218	MCCP	91.7	95.9	P/P	30 - 160
2180218	Naproxen	70.3	68.6	P/P	30 - 160
2180218	Primidone	78.7	85.9	P/P	30 - 160
2180218	Pyraclostrobin	69.6	75.9	P/P	30 - 160
2180218	Thiamethoxam	78.7	85.9	P/P	30 - 160
2180218	Tolfenpyrad	46.9	50.4	P/P	30 - 160
2180218	Triclopyr	76.7	83.0	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180490	Acesulfame K	92.9	93.3	P/P	40 - 150
2180490	AMPA	101	111	P/P	40 - 150
2180490	Endothall	101	105	P/P	40 - 150
2180490	Glufosinate	83.5	85.9	P/P	40 - 150
2180490	Glyphosate	74.9	79.4	P/P	40 - 140
2180490	Sucralose	77.3	77.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180449	Fluoride	98.7	98.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P384264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180452	Organic Carbon	101	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180481	Turbidity	3.05	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Chloride	0.0178	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Sulfate	0.270	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180452	Ammonia-N	0.296	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180505	Kjeldahl Nitrogen	1.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180451	NO2NO3-N	0.504	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180472	Total-P	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180435	O-Phosphate-P	1.22	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P384079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180545	Acetochlor	11.8	Spike	P	0 - 30
2180545	Alachlor	7.46	Spike	P	0 - 30
2180545	Ametryn	8.57	Spike	P	0 - 30
2180545	Atrazine	12.5	Spike	P	0 - 30
2180545	Atrazine Desethyl	11.3	Spike	P	0 - 30
2180545	Azinphos Methyl	14.9	Spike	P	0 - 30
2180545	Bromacil	17.0	Spike	P	0 - 30
2180545	Butylate	36.2	Spike	F	0 - 30
2180545	Carbophenothion	4.15	Spike	P	0 - 30
2180545	Chlorpyrifos Ethyl	2.09	Spike	P	0 - 30
2180545	Chlorpyrifos Methyl	8.28	Spike	P	0 - 30
2180545	Cyanazine	15.3	Spike	P	0 - 30
2180545	Demeton	17.9	Spike	P	0 - 30
2180545	Diazinon	11.5	Spike	P	0 - 30
2180545	Dimethenamid	11.7	Spike	P	0 - 30
2180545	Disulfoton	14.6	Spike	P	0 - 30
2180545	Dithiopyr	9.48	Spike	P	0 - 30
2180545	EPTC	42.8	Spike	F	0 - 30
2180545	Ethion	6.37	Spike	P	0 - 30
2180545	Ethoprop	18.1	Spike	P	0 - 30
2180545	Fenamiphos	6.24	Spike	P	0 - 30
2180545	Fipronil	12.4	Spike	P	0 - 30
2180545	Fipronil Desulfinyl	9.43	Spike	P	0 - 30
2180545	Fipronil Sulfide	7.25	Spike	P	0 - 30
2180545	Fipronil Sulfone	8.61	Spike	P	0 - 30
2180545	Flumioxazin	10.3	Spike	P	0 - 30
2180545	Fonofos	7.57	Spike	P	0 - 30
2180545	Hexazinone	0.158	Spike	P	0 - 30
2180545	Imazalil	6.72	Spike	P	0 - 30
2180545	Malathion	6.70	Spike	P	0 - 30
2180545	Metalaxyl	8.32	Spike	P	0 - 30
2180545	Metolachlor	10.1	Spike	P	0 - 30
2180545	Metribuzin	10.3	Spike	P	0 - 30
2180545	Mevinphos	22.3	Spike	P	0 - 30
2180545	Molinate	32.2	Spike	F	0 - 30
2180545	Naled	7.96	Spike	P	0 - 30
2180545	Norflurazon	10.3	Spike	P	0 - 30
2180545	Oxadiazon	0.928	Spike	P	0 - 30
2180545	Parathion Ethyl	4.33	Spike	P	0 - 30
2180545	Parathion Methyl	11.7	Spike	P	0 - 30
2180545	Pendimethalin	0.438	Spike	P	0 - 30
2180545	Phorate	11.6	Spike	P	0 - 30
2180545	Prodiamine	7.56	Spike	P	0 - 30
2180545	Prometon	8.24	Spike	P	0 - 30
2180545	Prometryn	8.08	Spike	P	0 - 30
2180545	Pronamide	13.5	Spike	P	0 - 30
2180545	Propiconazole	3.67	Spike	P	0 - 30
2180545	Simazine	7.54	Spike	P	0 - 30
2180545	Sulfentrazone	12.8	Spike	P	0 - 30
2180545	Tebuconazole	2.01	Spike	P	0 - 30
2180545	Terbufos	12.0	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P384079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180545	Terbutylazine	9.61	Spike	P	0 - 30
LFB	Acetochlor	14.4	LCS	P	0 - 30
LFB	Alachlor	13.6	LCS	P	0 - 30
LFB	Ametryn	10.4	LCS	P	0 - 30
LFB	Atrazine	12.6	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.78	LCS	P	0 - 30
LFB	Azinphos Methyl	11.0	LCS	P	0 - 30
LFB	Bromacil	11.9	LCS	P	0 - 30
LFB	Butylate	6.87	LCS	P	0 - 30
LFB	Carbophenothion	17.8	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	15.8	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	14.6	LCS	P	0 - 30
LFB	Cyanazine	12.9	LCS	P	0 - 30
LFB	Demeton	27.6	LCS	P	0 - 30
LFB	Diazinon	14.8	LCS	P	0 - 30
LFB	Dimethenamid	12.9	LCS	P	0 - 30
LFB	Disulfoton	30.0	LCS	P	0 - 30
LFB	Dithiopyr	15.8	LCS	P	0 - 30
LFB	EPTC	4.59	LCS	P	0 - 30
LFB	Ethion	18.2	LCS	P	0 - 30
LFB	Ethoprop	15.5	LCS	P	0 - 30
LFB	Fenamiphos	27.7	LCS	P	0 - 30
LFB	Fipronil	12.6	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	10.6	LCS	P	0 - 30
LFB	Fipronil Sulfide	16.3	LCS	P	0 - 30
LFB	Fipronil Sulfone	14.6	LCS	P	0 - 30
LFB	Flumioxazin	1.28	LCS	P	0 - 30
LFB	Fonofos	23.4	LCS	P	0 - 30
LFB	Hexazinone	10.2	LCS	P	0 - 30
LFB	Imazalil	16.2	LCS	P	0 - 30
LFB	Malathion	13.2	LCS	P	0 - 30
LFB	Metalaxyl	14.8	LCS	P	0 - 30
LFB	Metolachlor	17.0	LCS	P	0 - 30
LFB	Metribuzin	12.8	LCS	P	0 - 30
LFB	Mevinphos	17.2	LCS	P	0 - 30
LFB	Molinate	11.5	LCS	P	0 - 30
LFB	Naled	15.1	LCS	P	0 - 30
LFB	Norflurazon	13.2	LCS	P	0 - 30
LFB	Oxadiazon	14.7	LCS	P	0 - 30
LFB	Parathion Ethyl	15.5	LCS	P	0 - 30
LFB	Parathion Methyl	18.4	LCS	P	0 - 30
LFB	Pendimethalin	21.1	LCS	P	0 - 30
LFB	Phorate	22.7	LCS	P	0 - 30
LFB	Prodiamine	50.7	LCS	F	0 - 30
LFB	Prometon	14.6	LCS	P	0 - 30
LFB	Prometryn	12.8	LCS	P	0 - 30
LFB	Pronamide	13.2	LCS	P	0 - 30
LFB	Propiconazole	13.1	LCS	P	0 - 30
LFB	Simazine	10.2	LCS	P	0 - 30
LFB	Sulfentrazone	6.76	LCS	P	0 - 30
LFB	Tebuconazole	20.4	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P384079

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Terbufos	23.9	LCS	P	0 - 30
LFB	Terbutylazine	12.8	LCS	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P384207

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180585	Aldrin	1.44	Spike	P	0 - 30
2180585	Alpha-BHC	4.81	Spike	P	0 - 30
2180585	Alpha-Chlordane	0.584	Spike	P	0 - 30
2180585	Beta-BHC	1.49	Spike	P	0 - 30
2180585	Beta-Cyfluthrin	0.0589	Spike	P	0 - 30
2180585	Bifenthrin	0.347	Spike	P	0 - 30
2180585	Chlorothalonil	9.31	Spike	P	0 - 30
2180585	Cis-Nonachlor	0.365	Spike	P	0 - 30
2180585	Cypermethrin	3.45	Spike	P	0 - 30
2180585	Dacthal	0.643	Spike	P	0 - 30
2180585	DDD-p,p'	1.29	Spike	P	0 - 30
2180585	DDE-p,p'	0.244	Spike	P	0 - 30
2180585	DDT-p,p'	1.96	Spike	P	0 - 30
2180585	Delta-BHC	0.218	Spike	P	0 - 30
2180585	Dicofol	3.85	Spike	P	0 - 30
2180585	Dieldrin	0.293	Spike	P	0 - 30
2180585	Endosulfan I	0.929	Spike	P	0 - 30
2180585	Endosulfan II	1.83	Spike	P	0 - 30
2180585	Endosulfan Sulfate	2.11	Spike	P	0 - 30
2180585	Endrin	0.669	Spike	P	0 - 30
2180585	Endrin Aldehyde	3.89	Spike	P	0 - 30
2180585	Endrin Ketone	3.60	Spike	P	0 - 30
2180585	Ethalfuralin	0.681	Spike	P	0 - 30
2180585	Gamma-BHC	6.54	Spike	P	0 - 30
2180585	Gamma-Chlordane	0.160	Spike	P	0 - 30
2180585	Heptachlor	0.111	Spike	P	0 - 30
2180585	Heptachlor Epoxide	0.679	Spike	P	0 - 30
2180585	Hexachlorobenzene	0.762	Spike	P	0 - 30
2180585	Lambda-Cyhalothrin	4.19	Spike	P	0 - 30
2180585	Methoxychlor	1.55	Spike	P	0 - 30
2180585	Mirex	0.411	Spike	P	0 - 30
2180585	Permethrin	0.258	Spike	P	0 - 30
2180585	Phenothrin	0.284	Spike	P	0 - 30
2180585	Prallethrin	6.63	Spike	P	0 - 30
2180585	Trans-Nonachlor	0.988	Spike	P	0 - 30
2180585	Trifluralin	0.883	Spike	P	0 - 30
LFB	Aldrin	4.45	LCS	P	0 - 30
LFB	Alpha-BHC	1.82	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.81	LCS	P	0 - 30
LFB	Beta-BHC	2.84	LCS	P	0 - 30
LFB	Beta-Cyfluthrin	2.39	LCS	P	0 - 30
LFB	Bifenthrin	1.55	LCS	P	0 - 30
LFB	Chlorothalonil	13.9	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P384207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Cis-Nonachlor	2.14	LCS	P	0 - 30
LFB	Cypermethrin	1.67	LCS	P	0 - 30
LFB	Dacthal	2.51	LCS	P	0 - 30
LFB	DDD-p,p'	1.31	LCS	P	0 - 30
LFB	DDE-p,p'	2.71	LCS	P	0 - 30
LFB	DDT-p,p'	0.864	LCS	P	0 - 30
LFB	Delta-BHC	4.14	LCS	P	0 - 30
LFB	Dicofol	10.6	LCS	P	0 - 30
LFB	Dieldrin	2.80	LCS	P	0 - 30
LFB	Endosulfan I	1.60	LCS	P	0 - 30
LFB	Endosulfan II	0.0745	LCS	P	0 - 30
LFB	Endosulfan Sulfate	2.20	LCS	P	0 - 30
LFB	Endrin	7.20	LCS	P	0 - 30
LFB	Endrin Aldehyde	0.727	LCS	P	0 - 30
LFB	Endrin Ketone	0.385	LCS	P	0 - 30
LFB	Ethalfuralin	3.04	LCS	P	0 - 30
LFB	Gamma-BHC	2.59	LCS	P	0 - 30
LFB	Gamma-Chlordane	2.62	LCS	P	0 - 30
LFB	Heptachlor	2.72	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.18	LCS	P	0 - 30
LFB	Hexachlorobenzene	0.642	LCS	P	0 - 30
LFB	Lambda-Cyhalothrin	1.98	LCS	P	0 - 30
LFB	Methoxychlor	1.52	LCS	P	0 - 30
LFB	Mirex	0.0915	LCS	P	0 - 30
LFB	Permethrin	1.29	LCS	P	0 - 30
LFB	Phenothrin	1.30	LCS	P	0 - 30
LFB	Prallethrin	1.76	LCS	P	0 - 30
LFB	Trans-Nonachlor	2.58	LCS	P	0 - 30
LFB	Trifluralin	0.310	LCS	P	0 - 30

Reference Method: EPA 8276

Batch ID: P384207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180519	Chlordane	1.87	Spike	P	0 - 30
2180519	Toxaphene	0.0689	Spike	P	0 - 30
LFB	Chlordane	0.0155	LCS	P	0 - 30
LFB	Toxaphene	2.39	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P383924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2179181	3-Hydroxycarbofuran	6.33	Spike	P	0 - 30
2179181	Aldicarb	18.4	Spike	P	0 - 30
2179181	Aldicarb Sulfone	2.18	Spike	P	0 - 30
2179181	Aldicarb Sulfoxide	1.78	Spike	P	0 - 30
2179181	Carbaryl	5.24	Spike	P	0 - 30
2179181	Carbofuran	0.140	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P383924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2179181	Methiocarb	2.82	Spike	P	0 - 30
2179181	Methomyl	0.507	Spike	P	0 - 30
2179181	Oxamyl	2.68	Spike	P	0 - 30
2179181	Propoxur	3.06	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P384009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180218	2,4-D	2.20	Spike	P	0 - 30
2180218	Acetaminophen	10.2	Spike	P	0 - 30
2180218	Acetamiprid	8.13	Spike	P	0 - 30
2180218	Afidopyropen	10.2	Spike	P	0 - 30
2180218	Bentazon	3.67	Spike	P	0 - 30
2180218	Benzovindiflupyr	5.86	Spike	P	0 - 30
2180218	Carbamazepine	6.90	Spike	P	0 - 30
2180218	Clothianidin	7.03	Spike	P	0 - 30
2180218	Dinotefuran	1.71	Spike	P	0 - 30
2180218	Diuron	2.59	Spike	P	0 - 30
2180218	Fenuron	7.37	Spike	P	0 - 30
2180218	Fluridone	2.37	Spike	P	0 - 30
2180218	Hydrocodone	8.46	Spike	P	0 - 30
2180218	Ibuprofen	13.5	Spike	P	0 - 30
2180218	Imazapyr	6.95	Spike	P	0 - 30
2180218	Imidacloprid	5.48	Spike	P	0 - 30
2180218	Linuron	11.4	Spike	P	0 - 30
2180218	Mandestrobin	8.79	Spike	P	0 - 30
2180218	MCP	4.32	Spike	P	0 - 30
2180218	Naproxen	2.39	Spike	P	0 - 30
2180218	Primidone	7.96	Spike	P	0 - 30
2180218	Pyraclostrobin	8.65	Spike	P	0 - 30
2180218	Thiamethoxam	8.23	Spike	P	0 - 30
2180218	Tolfenpyrad	7.37	Spike	P	0 - 30
2180218	Triclopyr	7.88	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P384059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180490	Acesulfame K	0.411	Spike	P	0 - 30
2180490	AMPA	9.19	Spike	P	0 - 30
2180490	Endothall	3.69	Spike	P	0 - 30
2180490	Glufosinate	2.89	Spike	P	0 - 30
2180490	Glyphosate	5.93	Spike	P	0 - 30
2180490	Sucralose	0.154	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
Batch ID: P384018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180507	Color (true)	0.126	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P384611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Total Alkalinity	0.158	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P384665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	TDS	3.23	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Fluoride	0.462	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P384264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180452	Organic Carbon	1.09	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2180516
Field Sample ID: G4CE0194

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	38.0	P	30 - 160

Lab Sample ID: 2180517
Field Sample ID: G4CE0194

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	47.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	46.4	P	30 - 160
EPA 8321B	Diuron-d6	48.9	P	30 - 160
EPA 8321B	Endothall-d6	94.4	P	30 - 160
EPA 8321B	Endothall-d6	94.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	57.8	P	30 - 160
EPA 8321B	Primidone-d5	64.3	P	30 - 160
EPA 8321B	Sucralose-d6	75.5	P	30 - 160
EPA 8321B	Sucralose-d6	75.5	P	30 - 160

Lab Sample ID: 2180519
Field Sample ID: G4CE0194

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	72.5	P	44 - 112
EPA 8270E	Tetrachloro-m-xylene	54.0	P	34 - 106
EPA 8276	Decachlorobiphenyl	58.2	P	26 - 97.0
EPA 8276	PCNB	68.5	P	38 - 141

Lab Sample ID: 2180520
Field Sample ID: G4CE0194

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	106	P	72 - 135
EPA 8270E	Terbufos-d10	97.8	P	57 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99661

Included Lab Sample IDs: 2180501

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A99662

Included Lab Sample IDs: 2180501

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99668

Included Lab Sample IDs: 2180502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99676

Included Lab Sample IDs: 2180516

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	111	109	P/P	60 - 150
Aldicarb	105	97.8	P/P	60 - 150
Aldicarb Sulfone	100	96.5	P/P	50 - 150
Aldicarb Sulfoxide	103	99.3	P/P	50 - 150
Carbaryl	107	96.3	P/P	60 - 150
Carbofuran	110	100	P/P	50 - 150
Methiocarb	103	105	P/P	50 - 150
Methomyl	102	98.8	P/P	50 - 150
Oxamyl	109	104	P/P	50 - 150
Propoxur	107	107	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99692

Included Lab Sample IDs: 2180503

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99705

Included Lab Sample IDs: 2180502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99707

Included Lab Sample IDs: 2180517

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

Reference Method: EPA 8321B
Run ID: A99707
Included Lab Sample IDs: 2180517

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	73.0	72.7	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A99729
Included Lab Sample IDs: 2180517

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.0	103	P/P	60 - 160
Endothall	94.2	97.2	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A99742
Included Lab Sample IDs: 2180517

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.5	82.4	P/P	60 - 160
Glufosinate	98.7	99.1	P/P	60 - 160
Glyphosate	100	108	P/P	60 - 160

Reference Method: EPA 8276
Run ID: A99753
Included Lab Sample IDs: 2180519

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.7		P	80 - 120
Toxaphene	98.4		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A99754
Included Lab Sample IDs: 2180502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A99792
Included Lab Sample IDs: 2180501

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A99805
Included Lab Sample IDs: 2180502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	105	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E

Run ID: A99816

Included Lab Sample IDs: 2180519

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.6		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	95.6		P	80 - 120
Beta-BHC	102		P	80 - 120
Beta-Cyfluthrin	103		P	80 - 120
Bifenthrin	90.9		P	80 - 120
Chlorothalonil	94.4		P	80 - 120
Cis-Nonachlor	93.1		P	80 - 120
Cypermethrin	93.2		P	80 - 120
Dacthal	101		P	80 - 120
DDD-p,p'	100		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	94.3		P	80 - 120
Dicofol	68.0*		F	80 - 120
Dieldrin	97.2		P	80 - 120
Endosulfan I	96.7		P	80 - 120
Endosulfan II	90.1		P	80 - 120
Endosulfan Sulfate	87.4		P	80 - 120
Endrin	93.8		P	80 - 120
Endrin Aldehyde	98.4		P	80 - 120
Endrin Ketone	88.3		P	80 - 120
Ethalfuralin	92.9		P	80 - 120
Gamma-BHC	104		P	80 - 120
Gamma-Chlordane	94.0		P	80 - 120
Heptachlor	91.4		P	80 - 120
Heptachlor Epoxide	98.2		P	80 - 120
Hexachlorobenzene	103		P	80 - 120
Lambda-Cyhalothrin	90.3		P	80 - 120
Methoxychlor	98.5		P	80 - 120
Mirex	88.7		P	80 - 120
Permethrin	85.0		P	80 - 120
Phenothrin	87.2		P	80 - 120
Prallethrin	87.8		P	80 - 120
Trans-Nonachlor	95.6		P	80 - 120
Trifluralin	93.1		P	80 - 120

Reference Method: EPA 8321B

Run ID: A99828

Included Lab Sample IDs: 2180517

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	93.6	P/P	50 - 150
Acetaminophen	111	109	P/P	60 - 160
Acetamiprid	112	110	P/P	50 - 150
Afidopyropen	103	104	P/P	50 - 150
Bentazon	109	118	P/P	50 - 160
Benzovindiflupyr	99.1	92.7	P/P	50 - 150
Carbamazepine	108	109	P/P	60 - 150
Clothianidin	96.5	102	P/P	60 - 150
Dinotefuran	101	103	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A99828
 Included Lab Sample IDs: 2180517

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Diuron	110	112	P/P	60 - 160
Fenuron	91.6	83.7	P/P	60 - 150
Fluridone	122	124	P/P	60 - 160
Hydrocodone	117	119	P/P	60 - 150
Ibuprofen	110	90.1	P/P	50 - 160
Imazapyr	84.2	81.6	P/P	50 - 150
Imidacloprid	103	99.9	P/P	60 - 150
Linuron	94.3	102	P/P	60 - 150
Mandestrobin	100	105	P/P	50 - 150
MCPP	95.0	107	P/P	50 - 150
Naproxen	105	113	P/P	50 - 160
Primidone	102	97.4	P/P	60 - 150
Pyraclostrobin	99.8	98.7	P/P	60 - 150
Thiamethoxam	111	116	P/P	50 - 150
Tolfenpyrad	105	108	P/P	60 - 150
Triclopyr	91.4	97.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
 Run ID: A99844
 Included Lab Sample IDs: 2180502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	97.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Run ID: A99856
 Included Lab Sample IDs: 2180501

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	98.9	P/P	90 - 110
Sulfate	98.8	99.1	P/P	90 - 110

Reference Method: EPA 8270E
 Run ID: A99873
 Included Lab Sample IDs: 2180520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.8		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	99.5		P	80 - 120
Atrazine Desethyl	102		P	80 - 120
Azinphos Methyl	102		P	80 - 120
Butylate	96.1		P	80 - 120
Carbophenothion	102		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	101		P	80 - 120
Cyanazine	104		P	80 - 120
Demeton	97.2		P	80 - 120
Diazinon	98.5		P	80 - 120
Dimethenamid	98.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A99873
Included Lab Sample IDs: 2180520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Disulfoton	98.1		P	80 - 120
Dithiopyr	100		P	80 - 120
EPTC	102		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	99.3		P	80 - 120
Fenamiphos	103		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	104		P	80 - 120
Fipronil Sulfide	102		P	80 - 120
Fipronil Sulfone	101		P	80 - 120
Flumioxazin	88.3		P	80 - 120
Fonofos	97.3		P	80 - 120
Hexazinone	100		P	80 - 120
Imazalil	108		P	80 - 120
Malathion	99.6		P	80 - 120
Metalaxyl	106		P	80 - 120
Metolachlor	99.0		P	80 - 120
Metribuzin	99.7		P	80 - 120
Mevinphos	95.9		P	80 - 120
Molinate	99.5		P	80 - 120
Naled	109		P	80 - 120
Norflurazon	103		P	80 - 120
Oxadiazon	102		P	80 - 120
Parathion Ethyl	95.7		P	80 - 120
Parathion Methyl	98.6		P	80 - 120
Pendimethalin	96.9		P	80 - 120
Phorate	99.3		P	80 - 120
Prodiamine	92.9		P	80 - 120
Prometon	101		P	80 - 120
Prometryn	100		P	80 - 120
Pronamide	98.9		P	80 - 120
Propiconazole	101		P	80 - 120
Simazine	96.8		P	80 - 120
Sulfentrazone	99.8		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	97.0		P	80 - 120
Terbuthylazine	99.6		P	80 - 120

Reference Method: SM 2320 B-2011
Run ID: A99877
Included Lab Sample IDs: 2180501

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.6	99.6	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A99961
Included Lab Sample IDs: 2180520

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromacil	94.6		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	MS
							SMP	
EPA 180.1 Rev. 2.0	Turbidity						3.05	
EPA 300.0 Rev. 2.1	Chloride	101		103	102		0.0178	
	Sulfate	100		102	102		0.270	
EPA 350.1 Rev. 2.0	Ammonia-N	101		98.5	98.8			0.296
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102						1.17
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0		99.5	99.0			0.504
EPA 365.1 Rev. 2.0	Total-P	103		107	109			1.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0		98.0	99.2			1.22
EPA 8270E	Acetochlor	83.5	96.5	99.1	85.1	14.4		11.8
	Alachlor	86.4	98.9	101	94.0	13.6		7.46
	Aldrin	63.5	60.7	73.8	72.7	4.45		1.44
	Alpha-BHC	96.0	94.3	93.3	97.9	1.82		4.81
	Alpha-Chlordane	91.4	89.8	91.3	91.8	1.81		0.584
	Ametryn	98.6	109	112	103	10.4		8.57
	Atrazine	91.3	104			12.6		12.5
	Atrazine Desethyl	75.9	83.7	77.6	68.2	9.78		11.3
	Azinphos Methyl	106	118	115	99.0	11.0		14.9
	Beta-BHC	112	109	114	112	2.84		1.49
	Beta-Cyfluthrin	106	108	121	121	2.39		0.0589
	Bifenthrin	85.9	87.2	92.3	92.0	1.55		0.347
	Bromacil	78.6	88.6	104	87.4	11.9		17.0
	Butylate	49.8	53.3	60.2	41.8	6.87		36.2
	Carbophenothion	91.0	109	101	96.6	17.8		4.15
	Chlorothalonil	109	94.6	22.7	20.7	13.9		9.31
	Chlorpyrifos Ethyl	90.6	106	97.2	95.2	15.8		2.09
	Chlorpyrifos Methyl	89.9	104	99.9	91.9	14.6		8.28
	Cis-Nonachlor	90.8	88.8	90.5	90.8	2.14		0.365
	Cyanazine	95.9	109	116	99.2	12.9		15.3
	Cypermethrin	101	102	111	115	1.67		3.45
	Dacthal	99.8	97.3	97.6	98.3	2.51		0.643
	DDD-p,p'	96.1	94.9	92.9	94.1	1.31		1.29
	DDE-p,p'	91.5	89.0	89.9	89.6	2.71		0.244
	DDT-p,p'	89.6	88.9	89.4	87.7	0.864		1.96
	Delta-BHC	114	109	131	132	4.14		0.218
	Demeton	63.5	83.8	92.8	77.5	27.6		17.9
	Diazinon	82.8	96.1	98.9	88.1	14.8		11.5
	Dicofol	88.5	98.5	83.3	86.6	10.6		3.85
	Dieldrin	97.9	95.2	97.7	97.5	2.80		0.293
	Dimethenamid	85.4	97.2	103	91.4	12.9		11.7
	Disulfoton	64.4	87.1	90.6	78.3	30.0		14.6
	Dithiopyr	81.7	95.7	96.7	88.0	15.8		9.48
	Endosulfan I	94.6	96.1	101	102	1.60		0.929
	Endosulfan II	101	101	113	111	0.0745		1.83
	Endosulfan Sulfate	101	103	104	102	2.20		2.11
	Endrin	106	98.7	104	103	7.20		0.669
	Endrin Aldehyde	97.0	96.3	98.2	102	0.727		3.89
	Endrin Ketone	102	101	105	108	0.385		3.60
	EPTC	38.4	40.2	44.4	28.8	4.59		42.8
	Ethalfuralin	76.9	74.6	80.6	81.1	3.04		0.681
	Ethion	90.8	109	114	107	18.2		6.37
	Ethoprop	79.2	92.5	96.2	80.2	15.5		18.1
	Fenamiphos	91.4	121	111	105	27.7		6.24
	Fipronil	89.6	102	110	96.8	12.6		12.4
	Fipronil Desulfinyl	96.0	107	110	100	10.6		9.43

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Fipronil Sulfide	90.0	106	105	98.0	16.3		7.25
	Fipronil Sulfone	92.0	107	109	99.8	14.6		8.61
	Flumioxazin	152	151	198	179	1.28		10.3
	Fonofos	80.7	102	93.9	87.0	23.4		7.57
	Gamma-BHC	112	109	119	127	2.59		6.54
	Gamma-Chlordane	85.3	83.1	85.5	85.3	2.62		0.160
	Heptachlor	80.0	77.8	79.5	79.4	2.72		0.111
	Heptachlor Epoxide	97.0	94.0	100	99.5	3.18		0.679
	Hexachlorobenzene	73.5	74.0	73.5	74.0	0.642		0.762
	Hexazinone	87.5	96.8	99.2	99.4	10.2		0.158
	Imazalil	65.2	76.6	85.1	79.5	16.2		6.72
	Lambda-Cyhalothrin	102	104	122	127	1.98		4.19
	Malathion	101	115	114	107	13.2		6.70
	Metalaxyl	88.6	103	103	94.6	14.8		8.32
	Methoxychlor	100	98.6	97.6	96.1	1.52		1.55
	Metolachlor	81.8	97.1	93.4	80.0	17.0		10.1
	Metribuzin	107	122	126	113	12.8		10.3
	Mevinphos	70.2	83.4	86.1	68.8	17.2		22.3
	Mirex	67.3	67.4	74.8	75.1	0.0915		0.411
	Molinate	50.2	56.3	60.3	43.6	11.5		32.2
	Naled	60.1	69.9	77.3	71.3	15.1		7.96
	Norflurazon	93.0	106	107	96.2	13.2		10.3
	Oxadiazon	83.6	96.9	90.3	91.2	14.7		0.928
	Parathion Ethyl	82.4	96.2	90.8	87.0	15.5		4.33
	Parathion Methyl	84.2	101	106	93.8	18.4		11.7
	Pendimethalin	85.6	106	100	100	21.1		0.438
	Permethrin	80.2	81.2	84.1	83.9	1.29		0.258
	Phenothrin	66.2	67.1	85.1	84.8	1.30		0.284
	Phorate	107	134	120	107	22.7		11.6
	Prallethrin	76.7	78.0	92.2	98.6	1.76		6.63
	Prodiamine	55.8	33.2	43.3	40.1	50.7		7.56
	Prometon	78.9	91.3	94.8	87.3	14.6		8.24
	Prometryn	84.1	95.6	100	92.4	12.8		8.08
	Pronamide	88.6	101	112	97.7	13.2		13.5
	Propiconazole	84.0	95.8	95.8	92.3	13.1		3.67
	Simazine	93.7	104	106	97.9	10.2		7.54
	Sulfentrazone	50.6	54.1	101	88.9	6.76		12.8
	Tebuconazole	46.4	57.0	61.3	62.5	20.4		2.01
	Terbufos	81.5	104	103	91.5	23.9		12.0
	Terbutylazine	86.8	98.7	102	92.6	12.8		9.61
	Trans-Nonachlor	87.8	85.6	88.4	87.6	2.58		0.988
	Trifluralin	77.3	77.0	79.3	78.6	0.310		0.883
EPA 8276	Chlordane	102	102	68.4	67.1	0.0155		1.87
	Toxaphene	87.7	85.6	62.8	62.7	2.39		0.0689
EPA 8321B	2,4-D	99.8						2.20
	3-Hydroxycarbofuran	80.9		64.3	68.5			6.33
	Acesulfame K	97.9		92.9	93.3			0.411
	Acetaminophen	71.6		77.1	85.4			10.2
	Acetamiprid	72.0		63.9	69.3			8.13
	Afidopyrophen	74.5		64.1	71.0			10.2
	Aldicarb	67.2		43.4	52.2			18.4
	Aldicarb Sulfone	77.7		73.4	71.9			2.18
	Aldicarb Sulfoxide	91.9		43.6	42.9			1.78
	AMPA	76.9		101	111			9.19

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Bentazon	66.7				3.67
	Benzovindiflupyr	70.1	69.1	73.2		5.86
	Carbamazepine	65.7	51.8	56.2		6.90
	Carbaryl	56.4	44.5	46.9		5.24
	Carbofuran	60.1	47.0	47.1		0.140
	Clothianidin	76.4	67.3	72.9		7.03
	Dinotefuran	72.1	76.1	77.5		1.71
	Diuron	62.5	46.1	50.1		2.59
	Endothall	89.0	101	105		3.69
	Fenuron	80.8	66.9	72.0		7.37
	Fluridone	95.8	46.0	54.1		2.37
	Glufosinate	86.9	83.5	85.9		2.89
	Glyphosate	97.2	74.9	79.4		5.93
	Hydrocodone	82.2	68.1	74.1		8.46
	Ibuprofen	82.4	66.5	76.1		13.5
	Imazapyr	77.6				6.95
	Imidacloprid	87.3	100	110		5.48
	Linuron	64.6	52.5	58.9		11.4
	Mandestrobin	76.1	71.3	77.9		8.79
	MCPP	95.6	91.7	95.9		4.32
	Methiocarb	59.9	55.3	53.8		2.82
	Methomyl	85.2	72.1	71.7		0.507
	Naproxen	70.7	70.3	68.6		2.39
	Oxamyl	91.7	75.7	77.7		2.68
	Primidone	70.9	78.7	85.9		7.96
	Propoxur	57.7	45.3	43.9		3.06
	Pyraclostrobin	67.8	69.6	75.9		8.65
	Sucralose	75.5	77.3	77.2		0.154
	Thiamethoxam	79.8	78.7	85.9		8.23
	Tolfenpyrad	57.3	46.9	50.4		7.37
	Triclopyr	82.9	76.7	83.0		7.88
SM 2120 B-2011	Color (true)	99.6			0.126	
SM 2320 B-2011	Total Alkalinity	99.5			0.158	
SM 2540 C-2011	TDS				3.23	
SM 4500 F-C-2011	Fluoride	100	98.7	98.2		0.462
SM 5310 B-2011	Organic Carbon	100	101	103		1.09

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2180501
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2180501
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2180501
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2180502
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2180502
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2180502
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2180502
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2180503
EPA 8270E	Organochlorine pesticides in water matrices by GC/MS-SIM	2180519
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2180520
EPA 8276	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2180519

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Carbamates in water matrices by HPLC/MS/MS	2180516
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2180517
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2180517
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2180501
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2180501
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2180501
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2180501
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2180501
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2180502

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	07/02/2020			07/02/2020 14:42	Yen Ta	2180501
EPA 300.0 Rev. 2.1	07/02/2020			07/09/2020 02:22	Elliott Rodriguez	2180501
EPA 350.1 Rev. 2.0	07/02/2020			07/05/2020 21:23	Ping Hua	2180502
EPA 351.2 Rev. 2.0	07/02/2020	07/09/2020 09:20	Sima Feizi	07/10/2020 14:40	Jhamieka S. Greenwood	2180502
EPA 353.2 Rev. 2.0	07/02/2020			07/07/2020 09:21	Beverly Y. Sanders	2180502
EPA 365.1 Rev. 2.0	07/02/2020	07/10/2020 13:26	Yen Ta	07/14/2020 08:11	Lipi Saha	2180502
EPA 365.1 Rev. 2.0 dissolved	07/02/2020			07/02/2020 17:25	Carlos Miranda	2180503
EPA 8270E	07/02/2020	07/07/2020 08:30	Rasheda Ghaffari	07/09/2020 20:40	Michael Poppell	2180519
	07/02/2020	07/08/2020 08:00	Fe-Val Siddell	07/10/2020 17:04	Vandana T. Nagar	2180520
	07/02/2020	07/08/2020 08:00	Fe-Val Siddell	07/16/2020 00:14	Vandana T. Nagar	2180520
EPA 8276	07/02/2020	07/07/2020 08:30	Rasheda Ghaffari	07/09/2020 05:33	Arthur Maknenko	2180519
EPA 8321B	07/02/2020	07/02/2020 13:30	Hoor Shaik	07/03/2020 04:26	Juyoung Kim	2180516
	07/02/2020	07/06/2020 10:45	Rebecca Ware	07/06/2020 17:20	Rebecca Ware	2180517
	07/02/2020	07/06/2020 10:45	Rebecca Ware	07/07/2020 16:51	Rebecca Ware	2180517
	07/02/2020	07/06/2020 10:45	Rebecca Ware	07/08/2020 11:32	Rebecca Ware	2180517
	07/02/2020	07/07/2020 09:00	Hoor Shaik	07/11/2020 06:20	Juyoung Kim	2180517
SM 2120 B-2011	07/02/2020			07/02/2020 16:10	Madeline Gruver	2180501
SM 2320 B-2011	07/02/2020			07/13/2020 23:53	Dale L. Simmons	2180501
SM 2540 C-2011	07/02/2020			07/06/2020 19:14	Madeline Gruver	2180501
SM 2540 D-2011	07/02/2020			07/06/2020 19:14	Madeline Gruver	2180501
SM 4500 F-C-2011	07/02/2020			07/09/2020 04:53	Dale L. Simmons	2180501
SM 5310 B-2011	07/02/2020			07/08/2020 18:53	David Boose	2180502