

Chemical Analysis Report

SE-DIST-2018-10-19-01

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

Event Description: **SMP- Blank**
Request ID: **RQ-2018-10-15-46**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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Certified by: Colin Wright, Program Administrator

Date Certified: 16-NOV-2018 12:44

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: 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 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: C-24 Canal @ PSL

Collection Date/Time: 10/18/2018 10:25

Field ID: Blank - 18102018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034571	EPA 180.1 Rev. 2.0	Turbidity	0.10	I	NTU	P353465	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P353878	
		Sulfate	0.20	U	mg SO4/L	P353880	
	SM 2120 B	Color (true)	2.5	U	PCU	P353390	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P353813	
	SM 2540 C-97	TDS	15	U	mg/L	P353887	
	SM 2540 D-97	TSS	2	U	mg/L	P353841	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P353817	
2034572	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P353854	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P353909	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P353770	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P353469	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P353943	
2034573	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P353399	
2034574	EPA 8321B	Aldicarb	0.020	U	ug/L	P353357	
		Aldicarb Sulfone	0.0020	U	ug/L	P353357	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P353357	MS
		Carbaryl	0.0020	U	ug/L	P353357	
		Carbofuran	0.0020	U	ug/L	P353357	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P353357	
		Methiocarb	0.0020	U	ug/L	P353357	
		Methomyl	0.0020	U	ug/L	P353357	
		Oxamyl	0.0020	U	ug/L	P353357	
		Propoxur	0.0020	U	ug/L	P353357	
		2,4-D	0.0020	U	ug/L	P353357	
		Bentazon	8.0E-04	U	ug/L	P353357	
		MCP	0.0020	U	ug/L	P353357	
		Triclopyr**	0.0040	U	ug/L	P353357	
2034575		Imidacloprid	0.0020	U	ug/L	P353357	MS
		Diuron	0.0020	U	ug/L	P353357	
		Pyraclostrobin**	0.0020	U	ug/L	P353357	
		Primidone**	0.0040	U	ug/L	P353357	
		Linuron	0.0040	U	ug/L	P353357	
		Acetaminophen**	0.0080	U	ug/L	P353357	
		Fenuron	0.016	U	ug/L	P353357	
		Imazapyr**	0.0040	U	ug/L	P353357	
		Carbamazepine**	8.0E-04	U	ug/L	P353357	
		Fluridone**	4.0E-04	U	ug/L	P353357	
		Hydrocodone**	8.0E-04	U	ug/L	P353357	
		Naproxen**	0.0080	U	ug/L	P353357	
		Ibuprofen**	0.020	U	ug/L	P353357	MS
		Sucralose**	0.010	U	ug/L	P353322	
		Glyphosate**	0.10	U	ug/L	P353322	

Field ID: Blank - 18102018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034575	EPA 8321B	AMPA**	0.10	U	ug/L	P353322	
		Endothall**	0.25	U	ug/L	P353322	
		Glufosinate**	0.10	U	ug/L	P353322	
		Acesulfame K**	0.10	U	ug/L	P353322	
2034576	EPA 8270D	Aldrin	4.1	U	ng/L	P353277	
		Alpha-BHC	2.0	U	ng/L	P353277	
		Beta-BHC	4.1	U	ng/L	P353277	
		Delta-BHC	4.1	U	ng/L	P353277	
		Gamma-BHC	4.1	U	ng/L	P353277	
		Carbophenothion	4.1	U	ng/L	P353277	
		Chlorothalonil	2.0	U	ng/L	P353277	
		Cypermethrin	20	U	ng/L	P353277	
		DDD-p,p'	3.1	U	ng/L	P353277	
		DDE-p,p'	3.1	U	ng/L	P353277	
		DDT-p,p'	3.1	U	ng/L	P353277	
		Dieldrin	4.1	U	ng/L	P353277	
		Endosulfan I	4.1	U	ng/L	P353277	
		Endosulfan II	4.1	U	ng/L	P353277	
		Endosulfan Sulfate	2.0	U	ng/L	P353277	
		Endrin	2.0	U	ng/L	P353277	
		Endrin Aldehyde	2.0	U	ng/L	P353277	
		Heptachlor	1.5	U	ng/L	P353277	
		Heptachlor Epoxide	2.0	U	ng/L	P353277	
		Methoxychlor	4.1	U	ng/L	P353277	
		Mirex	2.0	U	ng/L	P353277	
		Permethrin	10	U	ng/L	P353277	
		Trifluralin	1.0	U	ng/L	P353277	
		Alpha-Chlordane	1.0	U	ng/L	P353277	
		Gamma-Chlordane	1.0	U	ng/L	P353277	
		Endrin Ketone	2.0	U	ng/L	P353277	
		Dicofol	31	U	ng/L	P353277	
		Chlordane	2.6	U	ng/L	P353277	
		Toxaphene	31	U	ng/L	P353277	
2034577	EPA 8270D	Alachlor	0.24	U	ng/L	P353242	
		Ametryn	0.32	U	ng/L	P353242	
		Atrazine	0.24	U	ng/L	P353242	
		Atrazine Desethyl	1.5	U	ng/L	P353242	
		Azinphos Methyl	2.2	U	ng/L	P353242	
		Bromacil	0.49	U	ng/L	P353242	
		Butylate	0.39	U	ng/L	P353242	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P353242	
		Chlorpyrifos Methyl	0.097	U	ng/L	P353242	
		Demeton	1.9	U	ng/L	P353242	RPD
		Diazinon	0.12	U	ng/L	P353242	
		Disulfoton	0.49	U	ng/L	P353242	
	EPA 8276	Chlordane	2.6	U	ng/L	P353277	
		Toxaphene	31	U	ng/L	P353277	
		Alachlor	0.24	U	ng/L	P353242	

Field ID: Blank - 18102018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034577	EPA 8270D	EPTC	1.2	U	ng/L	P353242	
		Ethion	0.15	U	ng/L	P353242	
		Ethoprop	0.097	U	ng/L	P353242	
		Fenamiphos	0.24	U	ng/L	P353242	
		Fipronil	0.24	U	ng/L	P353242	
		Fipronil Sulfide	0.15	U	ng/L	P353242	
		Fipronil Sulfone	0.15	U	ng/L	P353242	
		Hexazinone	0.49	U	ng/L	P353242	
		Malathion	0.34	U	ng/L	P353242	
		Metribuzin	0.19	UJ	ng/L	P353242	RPD
		Mevinphos	0.49	U	ng/L	P353242	
		Molinate	0.29	U	ng/L	P353242	
		Norflurazon	0.49	U	ng/L	P353242	
		Pendimethalin	0.97	U	ng/L	P353242	
		Phorate	0.24	U	ng/L	P353242	
		Prometon	0.88	U	ng/L	P353242	
		Prometryn	0.19	U	ng/L	P353242	
		Simazine	0.49	U	ng/L	P353242	
		Terbufos	0.097	U	ng/L	P353242	
		Terbuthylazine	0.41	U	ng/L	P353242	
		Fonofos	0.19	U	ng/L	P353242	
		Metalaxyl	0.24	U	ng/L	P353242	
		Metolachlor	0.24	U	ng/L	P353242	
		Acetochlor	0.24	U	ng/L	P353242	
		Cyanazine	0.49	U	ng/L	P353242	
		Parathion Ethyl	0.24	U	ng/L	P353242	
		Parathion Methyl	0.24	UJ	ng/L	P353242	LCS, RPD
		Dimethenamid**	0.097	U	ng/L	P353242	
		Fipronil Desulfinyl**	0.12	U	ng/L	P353242	
		Dithiopyr**	0.097	U	ng/L	P353242	
		Prodiamine**	0.17	U	ng/L	P353242	
		Oxadiazon**	0.097	U	ng/L	P353242	
		Tebuconazole**	0.49	U	ng/L	P353242	
2034578	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P353517	
		Iron	30	U	ug/L	P353517	
		Magnesium	0.040	U	mg/L	P353517	
		Potassium	0.30	U	mg/L	P353517	
		Sodium	0.50	U	mg/L	P353517	
		Zinc	5.0	U	ug/L	P353517	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P353517	
		Cadmium	0.020	U	ug/L	P353517	
		Chromium	0.40	U	ug/L	P353517	
		Copper	0.20	U	ug/L	P353517	
		Lead	0.050	U	ug/L	P353517	
		Nickel	0.20	U	ug/L	P353517	

Field ID: Blank - 18102018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034578	EPA 200.8 Rev. 5.4	Silver	0.010	U	ug/L	P353517	

Ref. Method and Comment:
EPA 180.1 Rev. 2.0: The result was confirmed on 10/19/2018.
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353465

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353517

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
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353854

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353770

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

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

Reference Method: EPA 8270D
Batch ID: P353242

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	2.0	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	0.25	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
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P353242

Component	Result	Code	Units
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	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
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P353277

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	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	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
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276
Batch ID: P353277

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	30	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P353322

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

Reference Method: EPA 8321B
Batch ID: P353357

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P353390

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P353813

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P353887

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P353841

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P353943

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	105		P	85 - 115
Magnesium	98.7		P	85 - 115
Potassium	92.6		P	85 - 115
Sodium	95.5		P	85 - 115
Zinc	90.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	96.9		P	85 - 115
Copper	98.5		P	85 - 115
Lead	96.8		P	85 - 115
Nickel	98.1		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353770

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P353469

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P353399

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

Reference Method: EPA 8270D
 Batch ID: P353242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	110	86.6	P/P	74 - 119
Alachlor	102	80.9	P/P	75 - 118
Ametryn	85.4	79.9	P/P	59 - 137
Atrazine	104	89.6	P/P	73 - 120
Atrazine Desethyl	74.6	57.4	P/P	19 - 129
Azinphos Methyl	115	97.0	P/P	65 - 181
Bromacil	83.1	71.7	P/P	43 - 123
Butylate	54.2	58.3	P/P	28 - 85.0
Chlorpyrifos Ethyl	105	92.2	P/P	55 - 112
Chlorpyrifos Methyl	96.4	79.8	P/P	35 - 124
Cyanazine	107	88.5	P/P	26 - 262
Demeton	74.6	71.1	P/P	43 - 122
Diazinon	100	80.0	P/P	72 - 120
Dimethenamid	108	86.5	P/P	60 - 130
Disulfoton	87.0	76.4	P/P	45 - 137
Dithiopyr	107	88.5	P/P	60 - 130
EPTC	53.1	56.2	P/P	28 - 95.0
Ethion	87.5	85.5	P/P	63 - 127
Ethoprop	79.1	69.6	P/P	63 - 109
Fenamiphos	83.3	74.6	P/P	66 - 136
Fipronil	91.6	80.6	P/P	63 - 126
Fipronil Sulfide	80.6	83.3	P/P	59 - 123
Fipronil Sulfone	79.8	80.3	P/P	56 - 122
Fonofos	84.1	81.3	P/P	64 - 114
Hexazinone	106	91.5	P/P	49 - 144
Malathion	93.6	93.8	P/P	68 - 131
Metaxalyl	98.1	77.7	P/P	57 - 126
Metolachlor	95.3	86.8	P/P	75 - 118
Metribuzin	101	72.4	P/P	46 - 169
Mevinphos	94.8	79.0	P/P	34 - 126
Molinate	65.1	63.8	P/P	37 - 101
Norflurazon	88.4	78.4	P/P	63 - 127
Oxadiazon	97.6	87.9	P/P	60 - 130
Parathion Ethyl	89.4	87.4	P/P	78 - 109
Parathion Methyl	102	72.4	P/F	74 - 123
Pendimethalin	87.3	78.1	P/P	51 - 130
Phorate	83.1	85.2	P/P	53 - 116
Prodiamine	78.5	101	P/P	60 - 130
Prometon	85.1	80.8	P/P	66 - 124
Prometryn	89.3	81.4	P/P	66 - 124

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P353242

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Simazine	99.1	86.4	P/P	62 - 134
Tebuconazole	70.3	84.2	P/P	30 - 100
Terbufos	86.6	75.5	P/P	59 - 115
Terbutylazine	93.0	92.2	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P353277

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	66.8	65.7	P/P	24 - 89.0
Alpha-BHC	106	93.2	P/P	58 - 117
Alpha-Chlordane	90.5	83.0	P/P	56 - 115
Beta-BHC	124	109	P/P	55 - 137
Carbophenothion	100	95.5	P/P	37 - 145
Chlorothalonil	75.9	68.6	P/P	26 - 163
Cypermethrin	73.2	64.7	P/P	42 - 156
DDD-p,p'	101	92.8	P/P	59 - 129
DDE-p,p'	96.5	87.8	P/P	52 - 117
DDT-p,p'	108	100	P/P	48 - 128
Delta-BHC	125	124	P/P	59 - 158
Dicofol	102	106	P/P	19 - 124
Dieldrin	93.6	92.0	P/P	57 - 126
Endosulfan I	86.1	86.7	P/P	59 - 133
Endosulfan II	98.0	95.3	P/P	58 - 148
Endosulfan Sulfate	88.2	85.1	P/P	56 - 135
Endrin	95.3	89.3	P/P	50 - 140
Endrin Aldehyde	104	100	P/P	47 - 141
Endrin Ketone	89.7	86.1	P/P	63 - 123
Gamma-BHC	129	114	P/P	59 - 132
Gamma-Chlordane	88.6	80.9	P/P	55 - 112
Heptachlor	69.5	67.5	P/P	45 - 102
Heptachlor Epoxide	89.9	84.5	P/P	61 - 116
Methoxychlor	111	94.2	P/P	60 - 133
Mirex	70.1	56.9	P/P	40 - 98.0
Permethrin	76.2	72.2	P/P	45 - 131
Trifluralin	99.3	87.9	P/P	38 - 179

Reference Method: EPA 8276
Batch ID: P353277

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	75.6	73.2	P/P	41 - 134
Toxaphene	69.9	64.8	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P353322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	70.3		P	40 - 150
AMPA	96.3		P	40 - 150
Endothall	76.9		P	40 - 150
Glufosinate	78.4		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P353322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	71.2		P	40 - 140
Sucralose	73.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
3-Hydroxycarbofuran	72.2		P	40 - 150
Acetaminophen	121		P	30 - 150
Aldicarb	93.9		P	30 - 150
Aldicarb Sulfone	72.6		P	40 - 150
Aldicarb Sulfoxide	87.7		P	40 - 150
Bentazon	100		P	30 - 150
Carbamazepine	81.7		P	40 - 150
Carbaryl	59.2		P	40 - 150
Carbofuran	69.3		P	40 - 150
Diuron	86.2		P	40 - 150
Fenuron	117		P	40 - 150
Fluridone	102		P	40 - 150
Hydrocodone	116		P	40 - 150
Ibuprofen	44.1		P	40 - 150
Imazapyr	99.9		P	40 - 150
Imidacloprid	109		P	40 - 160
Linuron	80.4		P	40 - 150
MCPP	121		P	40 - 150
Methiocarb	59.7		P	40 - 150
Methomyl	95.7		P	40 - 150
Naproxen	113		P	40 - 150
Oxamyl	104		P	40 - 150
Primidone	131		P	40 - 150
Propoxur	66.9		P	40 - 150
Pyraclostrobin	76.4		P	40 - 150
Triclopyr	116		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P353390

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P353813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	91 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P353943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034391	Calcium	99.2		P	80 - 120
2034391	Iron	103		P	80 - 120
2034391	Magnesium	103		P	80 - 120
2034391	Potassium	92.2		P	80 - 120
2034391	Sodium	94.7		P	80 - 120
2034391	Zinc	92.2		P	80 - 120
2034419	Calcium	99.3		P	80 - 120
2034419	Iron	107	103	P/P	80 - 120
2034419	Magnesium	99.4		P	80 - 120
2034419	Potassium	89.2		P	80 - 120
2034419	Sodium	99.8		P	80 - 120
2034419	Zinc	92.7	88.9	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034391	Arsenic	101		P	80 - 120
2034391	Cadmium	99.9		P	80 - 120
2034391	Chromium	93.8		P	80 - 120
2034391	Copper	93.1		P	80 - 120
2034391	Lead	95.5		P	80 - 120
2034391	Nickel	93.7		P	80 - 120
2034391	Silver	102		P	80 - 120
2034419	Arsenic	103	100	P/P	80 - 120
2034419	Cadmium	104	99.4	P/P	80 - 120
2034419	Chromium	101	97.2	P/P	80 - 120
2034419	Copper	96.8	94.4	P/P	80 - 120
2034419	Lead	98.0	95.2	P/P	80 - 120
2034419	Nickel	97.9	94.1	P/P	80 - 120
2034419	Silver	102	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034415	Chloride	97.8		P	90 - 110
2034688	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034415	Sulfate	97.2		P	90 - 110
2034688	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034690	Ammonia-N	96.2	95.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035190	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034470	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034471	Total-P	99.8	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034433	O-Phosphate-P	96.8	97.5	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P353242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033212	Acetochlor	105	102	P/P	67 - 125
2033212	Alachlor	94.5	97.0	P/P	69 - 123
2033212	Ametryn	92.0	90.4	P/P	52 - 151
2033212	Atrazine	99.3	91.5	P/P	71 - 125
2033212	Atrazine Desethyl	48.5	65.4	P/P	10 - 129
2033212	Azinphos Methyl	108	94.3	P/P	48 - 200
2033212	Bromacil	81.0	82.9	P/P	46 - 130
2033212	Butylate	50.8	63.4	P/P	10 - 85.0
2033212	Chlorpyrifos Ethyl	91.7	88.4	P/P	54 - 115
2033212	Chlorpyrifos Methyl	79.3	80.1	P/P	44 - 117
2033212	Cyanazine	97.1	84.1	P/P	10 - 262
2033212	Demeton	53.3	73.0	P/P	24 - 145
2033212	Diazinon	86.5	90.6	P/P	66 - 129
2033212	Dimethenamid	103	98.1	P/P	60 - 130
2033212	Disulfoton	67.6	75.0	P/P	45 - 139
2033212	Dithiopyr	99.3	98.0	P/P	60 - 130
2033212	EPTC	51.2	60.8	P/P	10 - 86.0
2033212	Ethion	106	85.2	P/P	59 - 133
2033212	Ethoprop	71.1	67.0	P/P	54 - 116
2033212	Fenamiphos	89.4	71.7	P/P	55 - 140
2033212	Fipronil	105	77.4	P/P	37 - 142
2033212	Fipronil Sulfide	87.2	67.1	P/P	37 - 130
2033212	Fipronil Sulfone	95.9	77.8	P/P	18 - 143
2033212	Fonofos	77.1	78.6	P/P	55 - 118
2033212	Hexazinone	109	107	P/P	62 - 140
2033212	Malathion	107	97.7	P/P	64 - 132
2033212	Metalaxyl	86.9	75.0	P/P	55 - 129
2033212	Metolachlor	102	93.6	P/P	56 - 137

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P353242

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033212	Metribuzin	96.8	91.8	P/P	16 - 218
2033212	Mevinphos	68.9	71.3	P/P	34 - 129
2033212	Molinate	60.0	69.6	P/P	16 - 99.0
2033212	Norflurazon	97.0	82.1	P/P	43 - 135
2033212	Oxadiazon	91.4	92.3	P/P	60 - 130
2033212	Parathion Ethyl	90.2	80.6	P/P	71 - 112
2033212	Parathion Methyl	90.5	88.6	P/P	65 - 127
2033212	Pendimethalin	81.8	81.5	P/P	35 - 159
2033212	Phorate	73.8	78.1	P/P	41 - 129
2033212	Prodiamine	114	96.2	P/P	60 - 130
2033212	Prometon	92.7	84.0	P/P	56 - 140
2033212	Prometryn	98.6	82.9	P/P	65 - 130
2033212	Simazine	101	94.8	P/P	54 - 148
2033212	Tebuconazole	95.8	77.0	P/P	30 - 100
2033212	Terbufos	77.0	79.3	P/P	53 - 126
2033212	Terbutylazine	100	95.1	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P353277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2032704	Aldrin	76.5	69.7	P/P	26 - 96.0
2032704	Alpha-BHC	113	111	P/P	51 - 123
2032704	Alpha-Chlordane	90.3	81.7	P/P	45 - 120
2032704	Beta-BHC	80.3	106	P/P	43 - 146
2032704	Carbophenothion	99.8	102	P/P	26 - 179
2032704	Chlorothalonil	15.1	14.5	P/P	10 - 215
2032704	Cypermethrin	69.1	78.4	P/P	35 - 169
2032704	DDD-p,p'	88.8	83.1	P/P	49 - 131
2032704	DDE-p,p'	92.4	87.2	P/P	39 - 127
2032704	DDT-p,p'	107	99.1	P/P	49 - 120
2032704	Delta-BHC	114	136	P/P	49 - 187
2032704	Dicofol	107	107	P/P	10 - 129
2032704	Dieldrin	94.8	82.3	P/P	46 - 132
2032704	Endosulfan I	94.8	83.5	P/P	57 - 130
2032704	Endosulfan II	82.9	67.6	P/P	52 - 148
2032704	Endosulfan Sulfate	85.2	87.4	P/P	55 - 129
2032704	Endrin	95.8	86.0	P/P	45 - 133
2032704	Endrin Aldehyde	69.7	72.1	P/P	26 - 140
2032704	Endrin Ketone	87.9	88.3	P/P	60 - 125
2032704	Gamma-BHC	134	127	P/P	50 - 145
2032704	Gamma-Chlordane	87.6	79.8	P/P	44 - 118
2032704	Heptachlor	89.7	76.0	P/P	35 - 106
2032704	Heptachlor Epoxide	91.1	81.7	P/P	52 - 123
2032704	Methoxychlor	103	101	P/P	54 - 132
2032704	Mirex	70.7	74.2	P/P	36 - 107
2032704	Permethrin	78.5	84.1	P/P	47 - 135
2032704	Trifluralin	102	97.5	P/P	32 - 228

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8276
Batch ID: P353277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034006	Chlordane	73.2	85.6	P/P	41 - 134
2034006	Toxaphene	63.3	69.5	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P353322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034382	Acesulfame K	105	102	P/P	40 - 150
2034382	AMPA	77.2	78.8	P/P	40 - 150
2034382	Endothall	77.8	77.9	P/P	40 - 150
2034382	Glufosinate	82.2	77.0	P/P	40 - 150
2034382	Glyphosate	65.7	61.3	P/P	40 - 140
2034382	Sucralose	98.6	84.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034643	3-Hydroxycarbofuran	51.9	57.9	P/P	40 - 150
2034643	Aldicarb	46.2	42.9	P/P	30 - 150
2034643	Aldicarb Sulfone	62.3	67.4	P/P	40 - 150
2034643	Aldicarb Sulfoxide	28.4	32.2	F/F	40 - 150
2034643	Carbaryl	49.6	46.7	P/P	40 - 150
2034643	Carbofuran	40.5	45.7	P/P	40 - 150
2034643	Methiocarb	40.6	43.9	P/P	40 - 150
2034643	Methomyl	70.6	75.8	P/P	40 - 150
2034643	Oxamyl	65.1	74.1	P/P	40 - 150
2034643	Propoxur	41.4	42.5	P/P	40 - 150
2034644	2,4-D	124	127	P/P	40 - 150
2034644	Acetaminophen	127	134	P/P	30 - 150
2034644	Bentazon	38.5	37.6	P/P	30 - 150
2034644	Carbamazepine	69.7	68.6	P/P	40 - 150
2034644	Diuron	65.2	64.3	P/P	40 - 150
2034644	Fenuron	97.5	98.9	P/P	40 - 150
2034644	Fluridone	99.4	105	P/P	40 - 150
2034644	Hydrocodone	106	109	P/P	40 - 150
2034644	Ibuprofen	37.7	38.5	F/F	40 - 150
2034644	Imazapyr	102	123	P/P	40 - 150
2034644	Imidacloprid	178	174	F/F	40 - 160
2034644	Linuron	68.2	73.0	P/P	40 - 150
2034644	MCPP	138	139	P/P	40 - 150
2034644	Naproxen	99.2	90.9	P/P	40 - 150
2034644	Primidone	106	112	P/P	40 - 150
2034644	Pyraclostrobin	84.5	88.0	P/P	40 - 150
2034644	Triclopyr	128	134	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034385	Fluoride	102	102	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P353943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034527	Organic Carbon	99.7		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034612	Turbidity	1.61	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034419	Calcium	0.900	Spike	P	0 - 20
2034419	Iron	4.22	Spike	P	0 - 20
2034419	Magnesium	4.73	Spike	P	0 - 20
2034419	Potassium	1.08	Spike	P	0 - 20
2034419	Sodium	3.90	Spike	P	0 - 20
2034419	Zinc	4.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034419	Arsenic	2.99	Spike	P	0 - 20
2034419	Cadmium	4.18	Spike	P	0 - 20
2034419	Chromium	3.55	Spike	P	0 - 20
2034419	Copper	2.46	Spike	P	0 - 20
2034419	Lead	2.89	Spike	P	0 - 20
2034419	Nickel	4.03	Spike	P	0 - 20
2034419	Silver	1.20	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034415	Chloride	2.21	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034415	Sulfate	2.76	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034690	Ammonia-N	0.822	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035190	Kjeldahl Nitrogen	2.38	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034470	NO2NO3-N	0.452	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034471	Total-P	0.380	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034433	O-Phosphate-P	0.721	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P353242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033212	Acetochlor	2.30	Spike	P	0 - 30
2033212	Alachlor	2.62	Spike	P	0 - 30
2033212	Ametryn	1.83	Spike	P	0 - 30
2033212	Atrazine	7.28	Spike	P	0 - 30
2033212	Atrazine Desethyl	29.7	Spike	P	0 - 30
2033212	Azinphos Methyl	13.9	Spike	P	0 - 30
2033212	Bromacil	2.40	Spike	P	0 - 30
2033212	Butylate	22.1	Spike	P	0 - 30
2033212	Chlorpyrifos Ethyl	3.74	Spike	P	0 - 30
2033212	Chlorpyrifos Methyl	0.990	Spike	P	0 - 30
2033212	Cyanazine	14.4	Spike	P	0 - 30
2033212	Demeton	31.1	Spike	F	0 - 30
2033212	Diazinon	4.70	Spike	P	0 - 30
2033212	Dimethenamid	4.41	Spike	P	0 - 30
2033212	Disulfoton	10.3	Spike	P	0 - 30
2033212	Dithiopyr	1.28	Spike	P	0 - 30
2033212	EPTC	17.1	Spike	P	0 - 30
2033212	Ethion	21.7	Spike	P	0 - 30
2033212	Ethoprop	5.99	Spike	P	0 - 30
2033212	Fenamiphos	21.9	Spike	P	0 - 30
2033212	Fipronil	29.8	Spike	P	0 - 30
2033212	Fipronil Sulfide	26.0	Spike	P	0 - 30
2033212	Fipronil Sulfone	20.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P353242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033212	Fonofos	2.02	Spike	P	0 - 30
2033212	Hexazinone	1.99	Spike	P	0 - 30
2033212	Malathion	8.91	Spike	P	0 - 30
2033212	Metalaxyl	14.7	Spike	P	0 - 30
2033212	Metolachlor	8.53	Spike	P	0 - 30
2033212	Metribuzin	5.36	Spike	P	0 - 30
2033212	Mevinphos	3.39	Spike	P	0 - 30
2033212	Molinate	14.8	Spike	P	0 - 30
2033212	Norflurazon	16.6	Spike	P	0 - 30
2033212	Oxadiazon	0.941	Spike	P	0 - 30
2033212	Parathion Ethyl	11.3	Spike	P	0 - 30
2033212	Parathion Methyl	2.18	Spike	P	0 - 30
2033212	Pendimethalin	0.294	Spike	P	0 - 30
2033212	Phorate	5.69	Spike	P	0 - 30
2033212	Prodiamine	16.7	Spike	P	0 - 30
2033212	Prometon	9.83	Spike	P	0 - 30
2033212	Prometryn	17.4	Spike	P	0 - 30
2033212	Simazine	5.91	Spike	P	0 - 30
2033212	Tebuconazole	21.7	Spike	P	0 - 30
2033212	Terbufos	2.92	Spike	P	0 - 30
2033212	Terbutylazine	5.40	Spike	P	0 - 30
LFB	Acetochlor	23.7	LCS	P	0 - 30
LFB	Alachlor	22.6	LCS	P	0 - 30
LFB	Ametryn	6.62	LCS	P	0 - 30
LFB	Atrazine	14.5	LCS	P	0 - 30
LFB	Atrazine Desethyl	26.1	LCS	P	0 - 30
LFB	Azinphos Methyl	16.7	LCS	P	0 - 30
LFB	Bromacil	14.7	LCS	P	0 - 30
LFB	Butylate	7.30	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	13.2	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	18.9	LCS	P	0 - 30
LFB	Cyanazine	18.8	LCS	P	0 - 30
LFB	Demeton	4.76	LCS	P	0 - 30
LFB	Diazinon	22.8	LCS	P	0 - 30
LFB	Dimethenamid	22.0	LCS	P	0 - 30
LFB	Disulfoton	13.0	LCS	P	0 - 30
LFB	Dithiopyr	18.8	LCS	P	0 - 30
LFB	EPTC	5.70	LCS	P	0 - 30
LFB	Ethion	2.35	LCS	P	0 - 30
LFB	Ethoprop	12.8	LCS	P	0 - 30
LFB	Fenamiphos	11.0	LCS	P	0 - 30
LFB	Fipronil	12.8	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.35	LCS	P	0 - 30
LFB	Fipronil Sulfone	0.607	LCS	P	0 - 30
LFB	Fonofos	3.37	LCS	P	0 - 30
LFB	Hexazinone	14.6	LCS	P	0 - 30
LFB	Malathion	0.213	LCS	P	0 - 30
LFB	Metalaxyl	23.2	LCS	P	0 - 30
LFB	Metolachlor	9.29	LCS	P	0 - 30
LFB	Metribuzin	33.3	LCS	F	0 - 30
LFB	Mevinphos	18.1	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P353242

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Molinate	2.03	LCS	P	0 - 30
LFB	Norflurazon	11.9	LCS	P	0 - 30
LFB	Oxadiazon	10.4	LCS	P	0 - 30
LFB	Parathion Ethyl	2.26	LCS	P	0 - 30
LFB	Parathion Methyl	33.9	LCS	F	0 - 30
LFB	Pendimethalin	11.2	LCS	P	0 - 30
LFB	Phorate	2.51	LCS	P	0 - 30
LFB	Prodiamine	25.5	LCS	P	0 - 30
LFB	Prometon	5.25	LCS	P	0 - 30
LFB	Prometryn	9.24	LCS	P	0 - 30
LFB	Simazine	13.7	LCS	P	0 - 30
LFB	Tebuconazole	18.0	LCS	P	0 - 30
LFB	Terbufos	13.7	LCS	P	0 - 30
LFB	Terbutylazine	0.839	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P353277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2032704	Aldrin	9.25	Spike	P	0 - 30
2032704	Alpha-BHC	2.23	Spike	P	0 - 30
2032704	Alpha-Chlordane	10.1	Spike	P	0 - 30
2032704	Beta-BHC	27.6	Spike	P	0 - 30
2032704	Carbophenothion	2.20	Spike	P	0 - 30
2032704	Chlorothalonil	3.93	Spike	P	0 - 30
2032704	Cypermethrin	12.7	Spike	P	0 - 30
2032704	DDD-p,p'	6.62	Spike	P	0 - 30
2032704	DDE-p,p'	5.79	Spike	P	0 - 30
2032704	DDT-p,p'	7.41	Spike	P	0 - 30
2032704	Delta-BHC	17.8	Spike	P	0 - 30
2032704	Dicofol	0.358	Spike	P	0 - 30
2032704	Dieldrin	14.1	Spike	P	0 - 30
2032704	Endosulfan I	12.7	Spike	P	0 - 30
2032704	Endosulfan II	20.3	Spike	P	0 - 30
2032704	Endosulfan Sulfate	2.59	Spike	P	0 - 30
2032704	Endrin	10.8	Spike	P	0 - 30
2032704	Endrin Aldehyde	3.48	Spike	P	0 - 30
2032704	Endrin Ketone	0.535	Spike	P	0 - 30
2032704	Gamma-BHC	5.87	Spike	P	0 - 30
2032704	Gamma-Chlordane	9.29	Spike	P	0 - 30
2032704	Heptachlor	16.6	Spike	P	0 - 30
2032704	Heptachlor Epoxide	10.9	Spike	P	0 - 30
2032704	Methoxychlor	2.47	Spike	P	0 - 30
2032704	Mirex	4.82	Spike	P	0 - 30
2032704	Permethrin	6.77	Spike	P	0 - 30
2032704	Trifluralin	4.08	Spike	P	0 - 30
LFB	Aldrin	1.64	LCS	P	0 - 30
LFB	Alpha-BHC	12.6	LCS	P	0 - 30
LFB	Alpha-Chlordane	8.65	LCS	P	0 - 30
LFB	Beta-BHC	12.5	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P353277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Carbophenothion	4.87	LCS	P	0 - 30
LFB	Chlorothalonil	10.0	LCS	P	0 - 30
LFB	Cypermethrin	12.4	LCS	P	0 - 30
LFB	DDD-p,p'	8.54	LCS	P	0 - 30
LFB	DDE-p,p'	9.38	LCS	P	0 - 30
LFB	DDT-p,p'	7.19	LCS	P	0 - 30
LFB	Delta-BHC	0.402	LCS	P	0 - 30
LFB	Dicofol	3.01	LCS	P	0 - 30
LFB	Dieldrin	1.76	LCS	P	0 - 30
LFB	Endosulfan I	0.736	LCS	P	0 - 30
LFB	Endosulfan II	2.80	LCS	P	0 - 30
LFB	Endosulfan Sulfate	3.61	LCS	P	0 - 30
LFB	Endrin	6.47	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.02	LCS	P	0 - 30
LFB	Endrin Ketone	4.07	LCS	P	0 - 30
LFB	Gamma-BHC	12.4	LCS	P	0 - 30
LFB	Gamma-Chlordane	9.08	LCS	P	0 - 30
LFB	Heptachlor	2.89	LCS	P	0 - 30
LFB	Heptachlor Epoxide	6.22	LCS	P	0 - 30
LFB	Methoxychlor	16.7	LCS	P	0 - 30
LFB	Mirex	20.8	LCS	P	0 - 30
LFB	Permethrin	5.41	LCS	P	0 - 30
LFB	Trifluralin	12.1	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P353277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034006	Chlordane	15.6	Spike	P	0 - 30
2034006	Toxaphene	9.36	Spike	P	0 - 30
LFB	Chlordane	3.22	LCS	P	0 - 30
LFB	Toxaphene	7.69	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P353322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034382	Acesulfame K	2.99	Spike	P	0 - 30
2034382	AMPA	2.05	Spike	P	0 - 30
2034382	Endothall	0.110	Spike	P	0 - 30
2034382	Glufosinate	6.51	Spike	P	0 - 30
2034382	Glyphosate	6.97	Spike	P	0 - 30
2034382	Sucralose	14.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P353357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P353357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034643	3-Hydroxycarbofuran	11.0	Spike	P	0 - 30
2034643	Aldicarb	7.21	Spike	P	0 - 30
2034643	Aldicarb Sulfone	7.86	Spike	P	0 - 30
2034643	Aldicarb Sulfoxide	12.6	Spike	P	0 - 30
2034643	Carbaryl	6.05	Spike	P	0 - 30
2034643	Carbofuran	12.2	Spike	P	0 - 30
2034643	Methiocarb	7.86	Spike	P	0 - 30
2034643	Methomyl	7.09	Spike	P	0 - 30
2034643	Oxamyl	13.0	Spike	P	0 - 30
2034643	Propoxur	2.65	Spike	P	0 - 30
2034644	2,4-D	1.86	Spike	P	0 - 30
2034644	Acetaminophen	5.94	Spike	P	0 - 30
2034644	Bentazon	2.20	Spike	P	0 - 30
2034644	Carbamazepine	1.61	Spike	P	0 - 30
2034644	Diuron	1.21	Spike	P	0 - 30
2034644	Fenuron	1.44	Spike	P	0 - 30
2034644	Fluridone	4.36	Spike	P	0 - 30
2034644	Hydrocodone	2.34	Spike	P	0 - 30
2034644	Ibuprofen	2.18	Spike	P	0 - 30
2034644	Imazapyr	4.09	Spike	P	0 - 30
2034644	Imidacloprid	2.08	Spike	P	0 - 30
2034644	Linuron	6.80	Spike	P	0 - 30
2034644	MCP	1.16	Spike	P	0 - 30
2034644	Naproxen	8.77	Spike	P	0 - 30
2034644	Primidone	5.51	Spike	P	0 - 30
2034644	Pyraclostrobin	4.05	Spike	P	0 - 30
2034644	Triclopyr	4.57	Spike	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P353390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034431	Color (true)	3.24	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P353813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034385	Total Alkalinity	0.195	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P353887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033910	TDS	6.71	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P353841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033910	TSS	6.90	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034385	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P353943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034527	Organic Carbon	0.917	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2034574
Field Sample ID: Blank - 18102018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	86.3	P	30 - 160

Lab Sample ID: 2034575
Field Sample ID: Blank - 18102018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	143	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.6	P	30 - 160
EPA 8321B	Diuron-d6	94.3	P	30 - 160
EPA 8321B	Endothall-d6	70.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	89.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	98.0	P	30 - 160
EPA 8321B	Primidone-d5	123	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	40 - 160

Lab Sample ID: 2034576
Field Sample ID: Blank - 18102018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	69.9	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	76.0	P	34 - 101
EPA 8276	Decachlorobiphenyl	64.8	P	31 - 108
EPA 8276	PCNB	104	P	62 - 142

Lab Sample ID: 2034577
Field Sample ID: Blank - 18102018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	86.5	P	71 - 126
EPA 8270D	Terbufos-d10	83.8	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A87166
Included Lab Sample IDs: 2034571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A87171
Included Lab Sample IDs: 2034573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	98.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A87174
Included Lab Sample IDs: 2034575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	83.4	85.1	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A87176
Included Lab Sample IDs: 2034575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	69.8	71.3	P/P	60 - 160
Endothall	69.2	79.4	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A87177
Included Lab Sample IDs: 2034575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	117	104	P/P	60 - 160
Glufosinate	97.3	102	P/P	60 - 160
Glyphosate	93.9	95.2	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A87201
Included Lab Sample IDs: 2034571

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A87220
Included Lab Sample IDs: 2034572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87269

Included Lab Sample IDs: 2034578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	102	P/P	90 - 110
Cadmium	97.1	96.6	P/P	90 - 110
Chromium	97.2	97.0	P/P	90 - 110
Copper	101	98.7	P/P	90 - 110
Lead	98.0	98.2	P/P	90 - 110
Nickel	100	98.8	P/P	90 - 110
Silver	97.6	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87323

Included Lab Sample IDs: 2034572

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A87337

Included Lab Sample IDs: 2034578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	90.9	90.6	P/P	90 - 110
Zinc	92.4	92.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A87344

Included Lab Sample IDs: 2034571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.8	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A87344

Included Lab Sample IDs: 2034571

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87363

Included Lab Sample IDs: 2034572

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A87365

Included Lab Sample IDs: 2034578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	101	P/P	90 - 110
Iron	101	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A87365

Included Lab Sample IDs: 2034578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Magnesium	98.5	99.9	P/P	90 - 110
Sodium	95.4	96.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87375

Included Lab Sample IDs: 2034571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	102	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A87403

Included Lab Sample IDs: 2034572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.7	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87414

Included Lab Sample IDs: 2034572

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

Reference Method: EPA 8270D

Run ID: A87416

Included Lab Sample IDs: 2034576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	95.4		P	80 - 120
Alpha-BHC	92.2		P	80 - 120
Alpha-Chlordane	94.1		P	80 - 120
Beta-BHC	96.6		P	80 - 120
Carbophenothion	95.8		P	80 - 120
Chlorothalonil	81.3		P	80 - 120
Cypermethrin	87.6		P	80 - 120
DDD-p,p'	96.1		P	80 - 120
DDE-p,p'	96.9		P	80 - 120
DDT-p,p'	99.7		P	80 - 120
Delta-BHC	89.3		P	80 - 120
Dicofol	99.1		P	80 - 120
Dieldrin	95.3		P	80 - 120
Endosulfan I	91.2		P	80 - 120
Endosulfan II	90.8		P	80 - 120
Endosulfan Sulfate	94.5		P	80 - 120
Endrin	95.4		P	80 - 120
Endrin Aldehyde	96.7		P	80 - 120
Endrin Ketone	93.6		P	80 - 120
Gamma-BHC	107		P	80 - 120
Gamma-Chlordane	93.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A87416

Included Lab Sample IDs: 2034576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Heptachlor	91.8		P	80 - 120
Heptachlor Epoxide	95.1		P	80 - 120
Methoxychlor	101		P	80 - 120
Mirex	95.7		P	80 - 120
Permethrin	89.1		P	80 - 120
Trifluralin	94.9		P	80 - 120

Reference Method: EPA 8276

Run ID: A87441

Included Lab Sample IDs: 2034576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	87.0		P	80 - 120
Toxaphene	111		P	80 - 120

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2034575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	134	136	P/P	50 - 150
Acetaminophen	130	118	P/P	60 - 160
Bentazon	113	97.6	P/P	50 - 160
Carbamazepine	139	123	P/P	60 - 160
Diuron	136	146	P/P	60 - 150
Fenuron	133	115	P/P	60 - 150
Fluridone	128	126	P/P	60 - 160
Hydrocodone	142	132	P/P	60 - 150
Ibuprofen	77.7	75.2	P/P	50 - 160
Imazapyr	121	114	P/P	50 - 150
Imidacloprid	121	121	P/P	60 - 160
Linuron	135	130	P/P	60 - 150
MCPP	107	95.6	P/P	50 - 150
Naproxen	124	119	P/P	50 - 160
Primidone	140	142	P/P	60 - 160
Pyraclostrobin	128	125	P/P	60 - 150
Triclopyr	113	101	P/P	50 - 160

Reference Method: EPA 8270D

Run ID: A87480

Included Lab Sample IDs: 2034577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.1		P	80 - 120
Alachlor	99.4		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	96.9		P	80 - 120
Atrazine Desethyl	95.8		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	103		P	80 - 120
Butylate	98.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A87480
Included Lab Sample IDs: 2034577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Ethyl	103		P	80 - 120
Chlorpyrifos Methyl	96.7		P	80 - 120
Cyanazine	106		P	80 - 120
Demeton	97.8		P	80 - 120
Diazinon	97.3		P	80 - 120
Dimethenamid	99.5		P	80 - 120
Disulfoton	95.1		P	80 - 120
Dithiopyr	98.9		P	80 - 120
EPTC	102		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	104		P	80 - 120
Fenamiphos	95.4		P	80 - 120
Fipronil	98.3		P	80 - 120
Fipronil Desulfinyl	102		P	80 - 120
Fipronil Sulfide	98.6		P	80 - 120
Fipronil Sulfone	95.2		P	80 - 120
Fonofos	99.8		P	80 - 120
Hexazinone	98.7		P	80 - 120
Malathion	99.8		P	80 - 120
Metalaxyl	99.7		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	86.4		P	80 - 120
Mevinphos	97.3		P	80 - 120
Molinate	98.3		P	80 - 120
Norflurazon	100		P	80 - 120
Oxadiazon	98.4		P	80 - 120
Parathion Ethyl	97.2		P	80 - 120
Parathion Methyl	90.5		P	80 - 120
Pendimethalin	87.2		P	80 - 120
Phorate	97.5		P	80 - 120
Prodiamine	90.6		P	80 - 120
Prometon	97.3		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	99.1		P	80 - 120
Tebuconazole	98.5		P	80 - 120
Terbufos	94.9		P	80 - 120
Terbutylazine	99.7		P	80 - 120

Reference Method: EPA 8321B
Run ID: A87533
Included Lab Sample IDs: 2034574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
3-Hydroxycarbofuran	103	84.1	P/P	50 - 150
Aldicarb	98.5	75.0	P/P	60 - 150
Aldicarb Sulfone	97.9	71.4	P/P	50 - 150
Aldicarb Sulfoxide	104	92.5	P/P	50 - 150
Carbaryl	106	100	P/P	60 - 150
Carbofuran	107	104	P/P	50 - 150
Methiocarb	99.8	93.8	P/P	50 - 150
Methomyl	107	99.4	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A87533

Included Lab Sample IDs: 2034574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Oxamyl	100	87.7	P/P	50 - 150
Propoxur	98.7	95.4	P/P	50 - 150

* 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							1.61	
EPA 200.7 Rev. 4.4	Calcium	102		99.3	99.2				0.900
	Iron	105		107	103	103			4.22
	Magnesium	98.7		99.4	103				4.73
	Potassium	92.6		92.2	89.2				1.08
	Sodium	95.5		99.8	94.7				3.90
	Zinc	90.9		92.2	92.7	88.9			4.27
EPA 200.8 Rev. 5.4	Arsenic	104		101	103	100			2.99
	Cadmium	100		99.9	104	99.4			4.18
	Chromium	96.9		93.8	101	97.2			3.55
	Copper	98.5		93.1	96.8	94.4			2.46
	Lead	96.8		95.5	98.0	95.2			2.89
	Nickel	98.1		93.7	97.9	94.1			4.03
	Silver	104		102	101	102			1.20
EPA 300.0 Rev. 2.1	Chloride	103		97.8	101			2.21	
	Sulfate	103		97.2	103			2.76	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6		96.2	95.2				0.822
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		105	101				2.38
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5		98.2					0.452
EPA 365.1 Rev. 2.0	Total-P	102		99.8	99.3				0.380
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4		96.8	97.5				0.721
EPA 8270D	Acetochlor	110	86.6	105	102		23.7		2.30
	Alachlor	102	80.9	94.5	97.0		22.6		2.62
	Aldrin	66.8	65.7	69.7	76.5		1.64		9.25
	Alpha-BHC	106	93.2	111	113		12.6		2.23
	Alpha-Chlordane	90.5	83.0	90.3	81.7		8.65		10.1
	Ametryn	85.4	79.9	92.0	90.4		6.62		1.83
	Atrazine	104	89.6	99.3	91.5		14.5		7.28
	Atrazine Desethyl	74.6	57.4	48.5	65.4		26.1		29.7
	Azinphos Methyl	115	97.0	108	94.3		16.7		13.9
	Beta-BHC	124	109	80.3	106		12.5		27.6
	Bromacil	83.1	71.7	81.0	82.9		14.7		2.40
	Butylate	54.2	58.3	50.8	63.4		7.30		22.1
	Carbophenothion	100	95.5	99.8	102		4.87		2.20
	Chlorothalonil	75.9	68.6	15.1	14.5		10.0		3.93
	Chlorpyrifos Ethyl	105	92.2	91.7	88.4		13.2		3.74
	Chlorpyrifos Methyl	96.4	79.8	79.3	80.1		18.9		0.990
	Cyanazine	107	88.5	97.1	84.1		18.8		14.4
	Cypermethrin	73.2	64.7	69.1	78.4		12.4		12.7
	DDD-p,p'	101	92.8	88.8	83.1		8.54		6.62
	DDE-p,p'	96.5	87.8	87.2	92.4		9.38		5.79
	DDT-p,p'	108	100	99.1	107		7.19		7.41
	Delta-BHC	125	124	114	136		0.402		17.8
	Demeton	74.6	71.1	53.3	73.0		4.76		31.1
	Diazinon	100	80.0	86.5	90.6		22.8		4.70
	Dicofol	102	106	107	107		3.01		0.358
	Dieldrin	93.6	92.0	82.3	94.8		1.76		14.1
	Dimethenamid	108	86.5	103	98.1		22.0		4.41
	Disulfoton	87.0	76.4	67.6	75.0		13.0		10.3
	Dithiopyr	107	88.5	99.3	98.0		18.8		1.28
	Endosulfan I	86.1	86.7	83.5	94.8		0.736		12.7
	Endosulfan II	98.0	95.3	67.6	82.9		2.80		20.3
	Endosulfan Sulfate	88.2	85.1	87.4	85.2		3.61		2.59
	Endrin	95.3	89.3	86.0	95.8		6.47		10.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270D	Endrin Aldehyde	104	100	72.1	69.7	3.02		3.48
	Endrin Ketone	89.7	86.1	87.9	88.3	4.07		0.535
	EPTC	53.1	56.2	51.2	60.8	5.70		17.1
	Ethion	87.5	85.5	106	85.2	2.35		21.7
	Ethoprop	79.1	69.6	71.1	67.0	12.8		5.99
	Fenamiphos	83.3	74.6	89.4	71.7	11.0		21.9
	Fipronil	91.6	80.6	105	77.4	12.8		29.8
	Fipronil Sulfide	80.6	83.3	87.2	67.1	3.35		26.0
	Fipronil Sulfone	79.8	80.3	95.9	77.8	0.607		20.7
	Fonofos	84.1	81.3	77.1	78.6	3.37		2.02
	Gamma-BHC	129	114	134	127	12.4		5.87
	Gamma-Chlordane	88.6	80.9	87.6	79.8	9.08		9.29
	Heptachlor	69.5	67.5	76.0	89.7	2.89		16.6
	Heptachlor Epoxide	89.9	84.5	81.7	91.1	6.22		10.9
	Hexazinone	106	91.5	109	107	14.6		1.99
	Malathion	93.6	93.8	107	97.7	0.213		8.91
	Metalaxyl	98.1	77.7	86.9	75.0	23.2		14.7
	Methoxychlor	111	94.2	101	103	16.7		2.47
	Metolachlor	95.3	86.8	102	93.6	9.29		8.53
	Metribuzin	101	72.4	96.8	91.8	33.3		5.36
	Mevinphos	94.8	79.0	68.9	71.3	18.1		3.39
	Mirex	70.1	56.9	74.2	70.7	20.8		4.82
	Molinate	65.1	63.8	60.0	69.6	2.03		14.8
	Norflurazon	88.4	78.4	97.0	82.1	11.9		16.6
	Oxadiazon	97.6	87.9	91.4	92.3	10.4		0.941
	Parathion Ethyl	89.4	87.4	90.2	80.6	2.26		11.3
	Parathion Methyl	102	72.4	90.5	88.6	33.9		2.18
	Pendimethalin	87.3	78.1	81.8	81.5	11.2		0.294
	Permethrin	76.2	72.2	84.1	78.5	5.41		6.77
	Phorate	83.1	85.2	73.8	78.1	2.51		5.69
	Prodiamine	78.5	101	114	96.2	25.5		16.7
	Prometon	85.1	80.8	92.7	84.0	5.25		9.83
	Prometryn	89.3	81.4	98.6	82.9	9.24		17.4
	Simazine	99.1	86.4	101	94.8	13.7		5.91
	Tebuconazole	70.3	84.2	95.8	77.0	18.0		21.7
	Terbufos	86.6	75.5	77.0	79.3	13.7		2.92
	Terbutylazine	93.0	92.2	100	95.1	0.839		5.40
	Trifluralin	99.3	87.9	97.5	102	12.1		4.08
EPA 8276	Chlordane	75.6	73.2	73.2	85.6	3.22		15.6
	Toxaphene	69.9	64.8	63.3	69.5	7.69		9.36
EPA 8321B	2,4-D	109		124	127			1.86
	3-Hydroxycarbofuran	72.2		51.9	57.9			11.0
	Acesulfame K	70.3		105	102			2.99
	Acetaminophen	121		127	134			5.94
	Aldicarb	93.9		46.2	42.9			7.21
	Aldicarb Sulfone	72.6		62.3	67.4			7.86
	Aldicarb Sulfoxide	87.7		28.4	32.2			12.6
	AMPA	96.3		77.2	78.8			2.05
	Bentazon	100		38.5	37.6			2.20
	Carbamazepine	81.7		69.7	68.6			1.61
	Carbaryl	59.2		49.6	46.7			6.05
	Carbofuran	69.3		40.5	45.7			12.2
	Diuron	86.2		65.2	64.3			1.21
	Endothall	76.9		77.8	77.9			0.110

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Fenuron	117	97.5	98.9			1.44
	Fluridone	102	99.4	105			4.36
	Glufosinate	78.4	82.2	77.0			6.51
	Glyphosate	71.2	65.7	61.3			6.97
	Hydrocodone	116	106	109			2.34
	Ibuprofen	44.1	37.7	38.5			2.18
	Imazapyr	99.9	102	123			4.09
	Imidacloprid	109	178	174			2.08
	Linuron	80.4	68.2	73.0			6.80
	MCPP	121	138	139			1.16
	Methiocarb	59.7	40.6	43.9			7.86
	Methomyl	95.7	70.6	75.8			7.09
	Naproxen	113	99.2	90.9			8.77
	Oxamyl	104	65.1	74.1			13.0
	Primidone	131	106	112			5.51
	Propoxur	66.9	41.4	42.5			2.65
	Pyraclostrobin	76.4	84.5	88.0			4.05
	Sucralose	73.1	98.6	84.9			14.6
	Triclopyr	116	128	134			4.57
SM 2120 B	Color (true)	102				3.24	
SM 2320 B-97	Total Alkalinity	103				0.195	
SM 2540 C-97	TDS					6.71	
SM 2540 D-97	TSS					6.90	
SM 4500 F-C-97	Fluoride	96.8	102	102			0.0
SM 5310 B-00	Organic Carbon	93.0	99.7				0.917

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2034571
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2034578
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2034578
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2034571
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2034571
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2034572
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2034572
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2034572
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2034572
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2034573
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2034576
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2034577
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2034576
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2034574
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2034575

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2120 B / E31780	True Color measured at 450 nm	2034571
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2034571
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2034571
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2034571
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2034571
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2034572

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	10/19/2018			10/19/2018 15:13	Megan Treadwell	2034571
EPA 200.7 Rev. 4.4	10/19/2018	10/23/2018 15:20	Elliott D. Healy	10/27/2018 01:53	Betina Topolski	2034578
	10/19/2018	10/23/2018 15:20	Elliott D. Healy	10/30/2018 00:50	Betina Topolski	2034578
EPA 200.8 Rev. 5.4	10/19/2018	10/23/2018 15:20	Elliott D. Healy	10/25/2018 03:39	Robert K Palmer	2034578
EPA 300.0 Rev. 2.1	10/19/2018			10/27/2018 08:09	Lipi Saha	2034571
EPA 350.1 Rev. 2.0	10/19/2018			10/29/2018 16:04	Julia Storbeck	2034572
EPA 351.2 Rev. 2.0	10/19/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 10:22	Virginia P. Brown	2034572
EPA 353.2 Rev. 2.0	10/19/2018			10/26/2018 12:37	Lauren Bottorf	2034572
EPA 365.1 Rev. 2.0	10/19/2018	10/22/2018 13:00	Sima Feizi	10/23/2018 12:32	Beverly Y. Sanders	2034572
EPA 365.1 Rev. 2.0 dissolved	10/19/2018			10/19/2018 17:18	Julia Storbeck	2034573
EPA 8270D	10/19/2018	10/19/2018 14:40	Fe-Val Siddell	10/22/2018 23:32	Vandana T. Nagar	2034577
	10/19/2018	10/22/2018 08:00	Fe-Val Siddell	10/30/2018 05:28	Arthur Maknenko	2034576
EPA 8276	10/19/2018	10/22/2018 08:00	Fe-Val Siddell	10/31/2018 08:27	Dinesh Mishra	2034576
EPA 8321B	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 04:29	Mohammad Ghaffari	2034575
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 19:26	Mohammad Ghaffari	2034575
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/21/2018 05:36	Mohammad Ghaffari	2034575
	10/19/2018	10/24/2018 10:00	Hoor Shaik	10/26/2018 05:27	Juyoung Kim	2034575
	10/19/2018	10/24/2018 10:00	Hoor Shaik	10/26/2018 19:21	Juyoung Kim	2034575
	10/19/2018	10/24/2018 10:00	Hoor Shaik	11/01/2018 23:02	Juyoung Kim	2034574
SM 2120 B	10/19/2018			10/19/2018 15:53	Chelsea Hernandez	2034571
SM 2320 B-97	10/19/2018			10/26/2018 07:20	Dale L. Simmons	2034571
SM 2540 C-97	10/19/2018			10/23/2018 15:01	Yijie Li	2034571
SM 2540 D-97	10/19/2018			10/23/2018 15:01	Yijie Li	2034571
SM 4500 F-C-97	10/19/2018			10/26/2018 07:20	Dale L. Simmons	2034571
SM 5310 B-00	10/19/2018			10/30/2018 10:00	Megan Treadwell	2034572