

Chemical Analysis Report

SW-DIST-2019-08-27-02

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

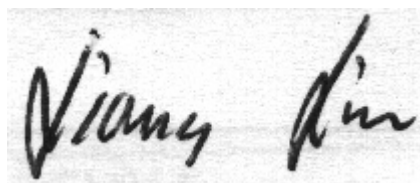
Event Description: **Mullet Tidal**
Request ID: **RQ-2019-08-26-05**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Pawater

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 19-SEP-2019 13:35

A handwritten signature in black ink, appearing to read "Liang Lin", 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: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: MULLET CREEK TIDAL AT PARK

Collection Date/Time: 08/26/2019 11:00

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2114910	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P369774	
	EPA 300.0	Bromide	1.3		mg Br/L	P370412	
	SM 2320 B-97	Total Alkalinity	99		mg CaCO3/L	P369891	
	SM 2540 D-97	TSS	4	I	mg/L	P370077	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P370203	
2114911	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P370097	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P369919	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.057		mg N/L	P370120	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P369873	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P370041	
2114912	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.089		mg P/L	P369799	
2114915	EPA 8321B	Aldicarb	0.020	U	ug/L	P369771	
		Aldicarb Sulfone	0.0020	U	ug/L	P369771	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P369771	
		Carbaryl	0.0020	U	ug/L	P369771	
		Carbofuran	0.0020	U	ug/L	P369771	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P369771	
		Methiocarb	0.0020	U	ug/L	P369771	
		Methomyl	0.0020	U	ug/L	P369771	
		Oxamyl	0.0020	U	ug/L	P369771	
		Propoxur	0.0020	U	ug/L	P369771	
		2,4-D	0.23		ug/L	P369771	
		Acesulfame K**	1.0	U	ug/L	P369883	
		AMPA**	0.34	I	ug/L	P369883	
2114916		Sucralose**	1.2		ug/L	P369883	
		Acetaminophen**	0.0080	U	ug/L	P369771	
		Endothall**	2.5	U	ug/L	P369883	
		Acetamiprid**	0.0032	I	ug/L	P369771	
		Glufosinate**	0.10	U	ug/L	P369883	
		Glyphosate**	4.3		ug/L	P369883	
		Afidopyropen**	0.0020	UJ	ug/L	P369771	
		Bentazon	0.11		ug/L	P369771	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369771	MS, RPD
		Carbamazepine**	0.0013	I	ug/L	P369771	
		Clothianidin**	0.040		ug/L	P369771	
		Dinotefuran**	0.0049	I	ug/L	P369771	
		Diuron	0.0069	I	ug/L	P369771	
		Fenuron	0.016	U	ug/L	P369771	
		Fluridone**	0.034		ug/L	P369771	
		Imazapyr**	0.24		ug/L	P369771	
		Hydrocodone**	0.0020	U	ug/L	P369771	
		Ibuprofen**	0.020	U	ug/L	P369771	
		Imidacloprid	0.54		ug/L	P369771	

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2114916	EPA 8321B	Linuron	0.0040	U	ug/L	P369771	
		Mandestrobin**	0.0020	UJ	ug/L	P369771	
		MCP	0.010		ug/L	P369771	MS
		Naproxen**	0.0080	U	ug/L	P369771	
		Primidone**	0.0040	U	ug/L	P369771	
		Pyraclostrobin**	0.0020	UJ	ug/L	P369771	LCS, MS, RPD
		Thiamethoxam**	0.0020	U	ug/L	P369771	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P369771	LCS, MS
		Triclopyr**	0.0040	U	ug/L	P369771	
2114917	EPA 8270E	Aldrin	4.3	U	ng/L	P369811	
		Alpha-BHC	2.1	U	ng/L	P369811	
		Alpha-Chlordane	1.1	U	ng/L	P369811	
		Beta-BHC	11	U	ng/L	P369811	
		Bifenthrin**	4.3	U	ng/L	P369811	
		Delta-BHC	8.6	U	ng/L	P369811	
		Gamma-BHC	8.6	U	ng/L	P369811	
		Carbophenothion	11	U	ng/L	P369811	
		Chlorothalonil	2.1	UJ	ng/L	P369811	LCS, MS
		Cis-Nonachlor**	1.1	U	ng/L	P369811	
		Cypermethrin	21	U	ng/L	P369811	
		DDD-p,p'	6.4	U	ng/L	P369811	
		DDE-p,p'	6.4	U	ng/L	P369811	
		DDT-p,p'	7.5	U	ng/L	P369811	
		Dicofol	32	U	ng/L	P369811	
		Dieldrin	4.3	U	ng/L	P369811	
		Endosulfan I	4.3	U	ng/L	P369811	
		Endosulfan II	4.3	U	ng/L	P369811	
		Endosulfan Sulfate	2.1	U	ng/L	P369811	
		Endrin	2.1	U	ng/L	P369811	
		Endrin Aldehyde	2.1	U	ng/L	P369811	
		Endrin Ketone	2.1	U	ng/L	P369811	
		Ethalfuralin**	3.2	U	ng/L	P369811	
		Gamma-Chlordane	1.1	U	ng/L	P369811	
		Heptachlor	1.6	U	ng/L	P369811	
		Heptachlor Epoxide	2.1	U	ng/L	P369811	
		Hexachlorobenzene	2.1	U	ng/L	P369811	
		Methoxychlor	4.3	U	ng/L	P369811	
		Mirex	2.1	U	ng/L	P369811	
		Permethrin	11	U	ng/L	P369811	
		Trans-Nonachlor**	1.1	U	ng/L	P369811	
		Trifluralin	2.7	U	ng/L	P369811	
		Chlordane	6.0	I	ng/L	P369811	
		Toxaphene	32	U	ng/L	P369811	
		Acetochlor	0.25	U	ng/L	P369752	

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2114918	EPA 8270E	Alachlor	0.25	U	ng/L	P369752	
		Ametryn	1.8	I	ng/L	P369752	
		Atrazine	16		ng/L	P369752	
		Atrazine Desethyl	7.3	J	ng/L	P369752	RPD
		Azinphos Methyl	5.1	U	ng/L	P369752	
		Bromacil	22		ng/L	P369752	
		Butylate	0.41	U	ng/L	P369752	
		Chlorpyrifos Ethyl	1.6		ng/L	P369752	
		Chlorpyrifos Methyl	0.10	U	ng/L	P369752	
		Cyanazine	3.3	UJ	ng/L	P369752	LCS, RPD
		Demeton	7.1	U	ng/L	P369752	
		Diazinon	0.13	U	ng/L	P369752	
		Dimethenamid**	0.10	U	ng/L	P369752	
		Disulfoton	0.51	U	ng/L	P369752	
		Dithiopyr**	0.25	I	ng/L	P369752	
		EPTC	1.3	U	ng/L	P369752	
		Ethion	0.15	U	ng/L	P369752	
		Ethoprop	0.10	U	ng/L	P369752	
		Fenamiphos	0.51	UJ	ng/L	P369752	MS, RPD
		Fipronil	1.5		ng/L	P369752	
		Fipronil Desulfinyl**	3.7		ng/L	P369752	
		Fipronil Sulfide	3.2		ng/L	P369752	
		Fipronil Sulfone	4.5		ng/L	P369752	
		Fonofos	0.20	U	ng/L	P369752	
		Hexazinone	1.5	I	ng/L	P369752	
		Malathion	0.35	UJ	ng/L	P369752	LCS, MS, RPD
		Metalaxyl	0.52	I	ng/L	P369752	
		Metolachlor	0.51	U	ng/L	P369752	
		Metribuzin	0.76	UJ	ng/L	P369752	MS, RPD
		Mevinphos	0.51	U	ng/L	P369752	
		Molinate	0.30	U	ng/L	P369752	
		Norflurazon	0.51	U	ng/L	P369752	
		Oxadiazon**	0.64		ng/L	P369752	
		Parathion Ethyl	0.25	U	ng/L	P369752	
		Parathion Methyl	0.56	U	ng/L	P369752	
		Pendimethalin	1.0	U	ng/L	P369752	
		Phorate	0.25	U	ng/L	P369752	
		Prodiamine**	0.28	I	ng/L	P369752	
		Prometon	300		ng/L	P369752	
		Prometryn	0.20	U	ng/L	P369752	
		Simazine	3.1		ng/L	P369752	
		Tebuconazole**	0.51	UJ	ng/L	P369752	RPD
		Terbufos	0.10	U	ng/L	P369752	
		Terbuthylazine	0.43	U	ng/L	P369752	

Field ID: G1SW0095

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2114919	EPA 200.7 Rev. 4.4	Barium	12		ug/L	P369941	
		Calcium	49.9		mg/L	P369941	
		Iron	360	I	ug/L	P369941	
		Manganese	14		ug/L	P369941	
		Potassium	10.2		mg/L	P369941	
		Sodium	211		mg/L	P369941	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P369941	
		Aluminum	138		ug/L	P369941	
		Antimony	0.22	I	ug/L	P369941	
		Arsenic	2.09		ug/L	P369941	
		Cadmium	0.080	U	ug/L	P369941	
		Chromium	4.0	U	ug/L	P369941	
		Copper	1.6	I	ug/L	P369941	
		Lead	0.80	U	ug/L	P369941	
		Nickel	2.0	U	ug/L	P369941	
		Selenium	0.80	U	ug/L	P369941	
		Silver	0.040	U	ug/L	P369941	
		Thallium	0.40	U	ug/L	P369941	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for several analytes could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample. MS precision for tolfenpyrad could not be assessed do to low recover in the spiked sample. Refer to the narrative for an explanation of QC Codes.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

EPA 8270E: Refer to the narrative for an explanation of QC Codes.

EPA 8270E: MS accuracy for atrazine and bromacil not assessed due to high content of these parameters in the sample spiked. Refer to the narrative for an explanation of QC Codes.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369774

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369941

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Manganese	1.0	U	ug/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: P369941

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.20	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P370412

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370097

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369919

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370120

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370120

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369873

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369799

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

Reference Method: EPA 8270E
Batch ID: P369752

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
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	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	3.2	U	ng/L
Demeton	7.0	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	0.50	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
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	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 8270E
Batch ID: P369752

Component	Result	Code	Units
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
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270E
Batch ID: P369811

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	10	U	ng/L
Bifenthrin	4.0	U	ng/L
Carbophenothion	10	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cis-Nonachlor	1.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	6.0	U	ng/L
DDE-p,p'	6.0	U	ng/L
DDT-p,p'	7.0	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
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trans-Nonachlor	1.0	U	ng/L
Trifluralin	2.5	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8276
 Batch ID: P369811

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

Reference Method: EPA 8321B
 Batch ID: P369771

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
Acetamiprid	0.0020	U	ug/L
Afidopyropen	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
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	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
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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
 Batch ID: P369883

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P369883

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P369891

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

Reference Method: SM 2540 D-97
Batch ID: P370077

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P370203

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P370041

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: P369941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	106		P	85 - 115
Calcium	105		P	85 - 115
Iron	107		P	85 - 115
Manganese	104		P	85 - 115
Potassium	108		P	85 - 115
Sodium	101		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	98.4		P	85 - 115
Arsenic	103		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	100		P	80 - 120
Copper	99.5		P	85 - 115
Lead	98.0		P	85 - 115
Nickel	101		P	85 - 115
Selenium	98.3		P	85 - 115
Silver	101		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P370412

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369919

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: P370120

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369799

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

Reference Method: EPA 8270E
 Batch ID: P369752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.7	87.4	P/P	69 - 122
Alachlor	95.0	84.0	P/P	71 - 120
Ametryn	98.8	91.2	P/P	47 - 138
Atrazine	104	106	P/P	74 - 124
Atrazine Desethyl	72.1	136	P/P	38 - 138
Azinphos Methyl	98.9	108	P/P	69 - 154
Bromacil	95.8	77.0	P/P	39 - 121
Butylate	60.1	57.6	P/P	27 - 87.0
Chlorpyrifos Ethyl	93.8	97.9	P/P	69 - 118
Chlorpyrifos Methyl	85.9	103	P/P	70 - 120
Cyanazine	86.8	298	P/F	20 - 250
Demeton	65.3	78.2	P/P	39 - 118
Diazinon	95.1	97.0	P/P	68 - 127
Dimethenamid	98.3	85.8	P/P	66 - 125
Disulfoton	73.4	87.8	P/P	52 - 126
Dithiopyr	98.4	87.5	P/P	67 - 127
EPTC	57.2	64.2	P/P	24 - 88.0
Ethion	100	97.7	P/P	51 - 132
Ethoprop	83.0	101	P/P	58 - 117
Fenamiphos	83.1	57.3	P/P	38 - 139
Fipronil	107	81.3	P/P	61 - 124
Fipronil Desulfinyl	102	85.3	P/P	47 - 120
Fipronil Sulfide	102	96.9	P/P	56 - 119
Fipronil Sulfone	100	90.6	P/P	50 - 117
Fonofos	76.6	102	P/P	60 - 121
Hexazinone	114	101	P/P	55 - 137
Malathion	106	46.8	P/F	66 - 126
Metaxyl	91.2	89.2	P/P	33 - 140
Metolachlor	99.9	86.0	P/P	69 - 119
Metribuzin	88.2	220	P/P	31 - 238
Mevinphos	71.0	84.8	P/P	42 - 113
Molinate	59.7	73.7	P/P	32 - 96.0
Norflurazon	107	94.2	P/P	54 - 123
Oxadiazon	103	85.7	P/P	63 - 128
Parathion Ethyl	95.3	97.0	P/P	72 - 111
Parathion Methyl	102	114	P/P	74 - 126
Pendimethalin	82.4	89.0	P/P	61 - 131
Phorate	80.7	99.4	P/P	51 - 115
Prodiamine	72.9	69.8	P/P	38 - 144
Prometon	94.8	85.1	P/P	54 - 119

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P369752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometryn	100	84.9	P/P	63 - 120
Simazine	102	114	P/P	75 - 126
Tebuconazole	74.7	22.5	P/P	20 - 119
Terbufos	79.4	97.7	P/P	64 - 116
Terbutylazine	100	98.2	P/P	73 - 117

Reference Method: EPA 8270E
Batch ID: P369811

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	72.8	68.7	P/P	20 - 93.0
Alpha-BHC	108	107	P/P	55 - 133
Alpha-Chlordane	98.4	95.0	P/P	58 - 112
Beta-BHC	146	148	P/P	54 - 168
Bifenthrin	109	102	P/P	30 - 134
Carbophenothion	82.5	66.4	P/P	26 - 147
Chlorothalonil	169	169	F/F	20 - 155
Cis-Nonachlor	100	96.7	P/P	54 - 115
Cypermethrin	135	127	P/P	40 - 137
DDD-p,p'	108	105	P/P	65 - 129
DDE-p,p'	96.8	95.5	P/P	57 - 116
DDT-p,p'	126	124	P/P	53 - 133
Delta-BHC	153	155	P/P	59 - 178
Dicofol	103	106	P/P	24 - 138
Dieldrin	102	96.6	P/P	60 - 120
Endosulfan I	107	103	P/P	64 - 118
Endosulfan II	116	110	P/P	58 - 142
Endosulfan Sulfate	102	97.2	P/P	60 - 127
Endrin	103	101	P/P	59 - 122
Endrin Aldehyde	111	102	P/P	49 - 132
Endrin Ketone	93.9	94.9	P/P	64 - 121
Ethalfuralin	117	116	P/P	60 - 126
Gamma-BHC	125	127	P/P	57 - 154
Gamma-Chlordane	96.6	93.5	P/P	56 - 110
Heptachlor	90.2	85.5	P/P	46 - 96.0
Heptachlor Epoxide	99.9	97.0	P/P	61 - 112
Hexachlorobenzene	91.7	90.9	P/P	44 - 98.0
Methoxychlor	97.2	92.4	P/P	63 - 134
Mirex	75.2	71.6	P/P	45 - 100
Permethrin	100	86.4	P/P	53 - 115
Trans-Nonachlor	95.5	92.6	P/P	47 - 110
Trifluralin	114	111	P/P	39 - 142

Reference Method: EPA 8276
Batch ID: P369811

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	102	96.7	P/P	43 - 128
Toxaphene	81.2	83.9	P/P	38 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P369771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.3		P	40 - 160
3-Hydroxycarbofuran	75.9		P	40 - 160
Acetaminophen	70.8		P	30 - 160
Acetamiprid	78.2		P	40 - 160
Afidopyropen	61.2		P	40 - 160
Aldicarb	66.4		P	30 - 160
Aldicarb Sulfone	92.7		P	40 - 160
Aldicarb Sulfoxide	69.7		P	40 - 160
Bentazon	94.9		P	30 - 160
Benzovindiflupyr	40.4		P	40 - 160
Carbamazepine	89.9		P	40 - 160
Carbaryl	67.8		P	40 - 160
Carbofuran	82.8		P	40 - 160
Clothianidin	94.2		P	40 - 160
Dinotefuran	99.0		P	40 - 160
Diuron	84.4		P	40 - 160
Fenuron	112		P	40 - 160
Fluridone	94.7		P	40 - 160
Hydrocodone	96.1		P	40 - 160
Ibuprofen	78.9		P	30 - 160
Imazapyr	93.0		P	40 - 160
Imidacloprid	93.5		P	40 - 160
Linuron	71.8		P	40 - 160
Mandestrobin	77.0		P	40 - 160
MCPP	88.2		P	40 - 160
Methiocarb	77.5		P	40 - 160
Methomyl	81.0		P	40 - 160
Naproxen	62.2		P	40 - 160
Oxamyl	96.2		P	40 - 160
Primidone	97.8		P	40 - 160
Propoxur	85.9		P	40 - 160
Pyraclostrobin	28.9		F	30 - 160
Thiamethoxam	104		P	40 - 160
Tolfenpyrad	0.807		F	40 - 160
Triclopyr	60.2		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P369883

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	137		P	40 - 150
AMPA	132		P	40 - 150
Endothall	95.6		P	40 - 150
Glufosinate	108		P	40 - 150
Glyphosate	110		P	40 - 140
Sucralose	93.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P369891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P370203

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P370041

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114477	Barium	100	100	P/P	70 - 130
2114477	Calcium	96.7		P	70 - 130
2114477	Iron	103	99.9	P/P	70 - 130
2114477	Manganese	98.1	97.3	P/P	70 - 130
2114477	Zinc	106	106	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114477	Aluminum	107	109	P/P	70 - 130
2114477	Antimony	103	103	P/P	70 - 130
2114477	Arsenic	112	111	P/P	70 - 130
2114477	Cadmium	97.2	98.9	P/P	70 - 130
2114477	Chromium	97.1	96.5	P/P	70 - 130
2114477	Copper	99.3	100	P/P	70 - 130
2114477	Lead	103	104	P/P	70 - 130
2114477	Nickel	100	100	P/P	70 - 130
2114477	Selenium	108	105	P/P	70 - 130
2114477	Silver	95.4	95.2	P/P	70 - 130
2114477	Thallium	107	108	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P370412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114910	Bromide	92.2	92.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114718	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114718	Kjeldahl Nitrogen	98.8	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115057	NO2NO3-N	99.4	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114548	Total-P	97.1	97.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114721	O-Phosphate-P	98.6	99.8	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P369752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115570	Acetochlor	75.6	75.6	P/P	63 - 129
2115570	Alachlor	79.4	96.0	P/P	65 - 127
2115570	Ametryn	108	110	P/P	40 - 164
2115570	Atrazine Desethyl	123	127	P/P	14 - 157
2115570	Azinphos Methyl	98.9	95.8	P/P	49 - 180
2115570	Butylate	53.6	49.4	P/P	10 - 94.0
2115570	Chlorpyrifos Ethyl	93.2	92.4	P/P	58 - 123
2115570	Chlorpyrifos Methyl	95.7	94.3	P/P	58 - 125
2115570	Cyanazine	144	148	P/P	24 - 253
2115570	Demeton	114	112	P/P	25 - 149
2115570	Diazinon	95.8	97.0	P/P	59 - 144
2115570	Dimethenamid	61.6	58.1	P/P	46 - 139
2115570	Disulfoton	105	108	P/P	54 - 132
2115570	Dithiopyr	76.0	75.3	P/P	64 - 130
2115570	EPTC	57.6	51.8	P/P	10 - 92.0
2115570	Ethion	89.3	95.6	P/P	30 - 148
2115570	Ethoprop	108	108	P/P	50 - 130
2115570	Fenamiphos	48.5	47.6	F/F	49 - 142
2115570	Fipronil	81.6	77.6	P/P	46 - 140
2115570	Fipronil Desulfinyl	80.9	80.5	P/P	30 - 121
2115570	Fipronil Sulfide	90.4	87.7	P/P	31 - 136
2115570	Fipronil Sulfone	80.6	65.3	P/P	16 - 136
2115570	Fonofos	110	104	P/P	55 - 129
2115570	Hexazinone	110	104	P/P	56 - 141
2115570	Malathion	61.6	53.5	P/F	56 - 135
2115570	Metalaxyl	82.4	76.4	P/P	54 - 135
2115570	Metolachlor	80.1	80.4	P/P	51 - 140
2115570	Metribuzin	307	322	F/F	45 - 254
2115570	Mevinphos	39.1	36.9	P/P	33 - 131
2115570	Molinate	68.6	62.3	P/P	14 - 98.0
2115570	Norflurazon	80.2	79.1	P/P	34 - 136
2115570	Oxadiazon	74.7	73.7	P/P	67 - 116
2115570	Parathion Ethyl	97.1	98.3	P/P	66 - 118
2115570	Parathion Methyl	114	114	P/P	64 - 136
2115570	Pendimethalin	96.5	96.5	P/P	59 - 144
2115570	Phorate	113	112	P/P	42 - 130
2115570	Prodiamine	75.5	74.7	P/P	42 - 148
2115570	Prometon	96.1	106	P/P	59 - 134
2115570	Prometryn	83.2	84.1	P/P	54 - 135
2115570	Simazine	102	110	P/P	53 - 156
2115570	Tebuconazole	24.9	20.0	P/P	10 - 131
2115570	Terbufos	113	115	P/P	57 - 131
2115570	Terbutylazine	94.8	97.9	P/P	68 - 125

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P369811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115386	Aldrin	72.4	76.2	P/P	25 - 92.0
2115386	Alpha-BHC	124	121	P/P	48 - 150
2115386	Alpha-Chlordane	96.6	98.4	P/P	50 - 115
2115386	Beta-BHC	146	142	P/P	39 - 184
2115386	Bifenthrin	106	109	P/P	46 - 116
2115386	Carbophenothion	123	125	P/P	27 - 180
2115386	Chlorothalonil	200	223	P/F	10 - 216
2115386	Cis-Nonachlor	99.5	99.9	P/P	55 - 112
2115386	Cypermethrin	134	138	P/P	40 - 153
2115386	DDD-p,p'	108	109	P/P	53 - 128
2115386	DDE-p,p'	99.4	100	P/P	48 - 116
2115386	DDT-p,p'	121	127	P/P	47 - 128
2115386	Delta-BHC	157	163	P/P	48 - 221
2115386	Dicofol	99.8	104	P/P	10 - 147
2115386	Dieldrin	102	102	P/P	48 - 128
2115386	Endosulfan I	107	108	P/P	58 - 126
2115386	Endosulfan II	117	114	P/P	50 - 150
2115386	Endosulfan Sulfate	101	100	P/P	56 - 130
2115386	Endrin	103	105	P/P	50 - 126
2115386	Endrin Aldehyde	106	106	P/P	12 - 145
2115386	Endrin Ketone	114	110	P/P	59 - 132
2115386	Ethalfuralin	116	121	P/P	65 - 122
2115386	Gamma-BHC	135	139	P/P	40 - 190
2115386	Gamma-Chlordane	95.9	96.3	P/P	50 - 112
2115386	Heptachlor	88.1	89.9	P/P	41 - 98.0
2115386	Heptachlor Epoxide	99.1	99.1	P/P	55 - 117
2115386	Hexachlorobenzene	87.2	90.2	P/P	47 - 91.0
2115386	Methoxychlor	97.0	91.0	P/P	55 - 133
2115386	Mirex	72.8	76.1	P/P	44 - 101
2115386	Permethrin	95.3	97.8	P/P	52 - 124
2115386	Trans-Nonachlor	93.5	94.7	P/P	53 - 99.0
2115386	Trifluralin	113	118	P/P	10 - 201

Reference Method: EPA 8276
Batch ID: P369811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115829	Chlordane	106	96.1	P/P	34 - 136
2115829	Toxaphene	88.1	82.8	P/P	22 - 152

Reference Method: EPA 8321B
Batch ID: P369771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114831	3-Hydroxycarbofuran	89.3	90.4	P/P	40 - 160
2114831	Aldicarb	45.6	43.5	P/P	30 - 160
2114831	Aldicarb Sulfone	101	92.7	P/P	40 - 160
2114831	Aldicarb Sulfoxide	48.3	47.0	P/P	40 - 160
2114831	Carbaryl	66.9	71.0	P/P	40 - 160
2114831	Carbofuran	75.0	75.6	P/P	40 - 160
2114831	Methiocarb	73.0	71.3	P/P	40 - 160
2114831	Methomyl	78.4	75.4	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P369771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114831	Oxamyl	90.7	88.2	P/P	40 - 160
2114831	Propoxur	75.3	74.5	P/P	40 - 160
2114832	Acetaminophen	83.1	80.6	P/P	30 - 160
2114832	Acetamiprid	103	92.7	P/P	40 - 160
2114832	Afidopyropen	120	102	P/P	40 - 160
2114832	Benzovindiflupyr	76.5	39.3	P/F	40 - 160
2114832	Carbamazepine	97.1	94.0	P/P	40 - 160
2114832	Clothianidin	123	110	P/P	40 - 160
2114832	Dinotefuran	129	126	P/P	40 - 160
2114832	Diuron	94.0	90.2	P/P	40 - 160
2114832	Fenuron	78.3	82.3	P/P	40 - 160
2114832	Hydrocodone	109	103	P/P	40 - 160
2114832	Ibuprofen	112	93.4	P/P	30 - 160
2114832	Linuron	78.6	75.2	P/P	40 - 160
2114832	Mandestrobin	89.0	81.0	P/P	40 - 160
2114832	MCCP	213	188	F/F	40 - 160
2114832	Naproxen	130	133	P/P	40 - 160
2114832	Primidone	110	112	P/P	40 - 160
2114832	Pyraclostrobin	70.7	29.6	P/F	30 - 160
2114832	Thiamethoxam	168	165	F/F	40 - 160
2114832	Tolfenpyrad	18.9	0.798	F/F	40 - 160
2114832	Triclopyr	151	116	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P369883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114790	Acesulfame K	97.6	81.2	P/P	40 - 150
2114790	AMPA	61.6	64.5	P/P	40 - 150
2114790	Endothall	82.6	92.6	P/P	40 - 150
2114790	Glufosinate	72.5	72.4	P/P	40 - 150
2114790	Glyphosate	94.7	107	P/P	40 - 140
2114790	Sucralose	78.5	91.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P370203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115535	Fluoride	94.0	93.5	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P370041

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115056	Organic Carbon	92.7	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114894	Turbidity	1.75	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114477	Barium	0.0263	Spike	P	0 - 20
2114477	Calcium	0.128	Spike	P	0 - 20
2114477	Iron	2.82	Spike	P	0 - 20
2114477	Manganese	0.750	Spike	P	0 - 20
2114477	Potassium	0.405	Spike	P	0 - 20
2114477	Sodium	0.142	Spike	P	0 - 20
2114477	Zinc	0.160	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114477	Aluminum	1.76	Spike	P	0 - 20
2114477	Antimony	0.393	Spike	P	0 - 20
2114477	Arsenic	0.691	Spike	P	0 - 20
2114477	Cadmium	1.79	Spike	P	0 - 20
2114477	Chromium	0.675	Spike	P	0 - 20
2114477	Copper	0.812	Spike	P	0 - 20
2114477	Lead	0.123	Spike	P	0 - 20
2114477	Nickel	0.0686	Spike	P	0 - 20
2114477	Selenium	3.00	Spike	P	0 - 20
2114477	Silver	0.128	Spike	P	0 - 20
2114477	Thallium	1.27	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P370412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114910	Bromide	0.119	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114718	Ammonia-N	0.490	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369919

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114718	Kjeldahl Nitrogen	0.243	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115057	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114548	Total-P	0.798	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114721	O-Phosphate-P	1.21	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P369752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115570	Acetochlor	0.0438	Spike	P	0 - 30
2115570	Alachlor	19.0	Spike	P	0 - 30
2115570	Ametryn	2.51	Spike	P	0 - 30
2115570	Atrazine	2.23	Spike	P	0 - 30
2115570	Atrazine Desethyl	2.31	Spike	P	0 - 30
2115570	Azinphos Methyl	3.10	Spike	P	0 - 30
2115570	Bromacil	2.11	Spike	P	0 - 30
2115570	Butylate	8.23	Spike	P	0 - 30
2115570	Chlorpyrifos Ethyl	0.822	Spike	P	0 - 30
2115570	Chlorpyrifos Methyl	1.51	Spike	P	0 - 30
2115570	Cyanazine	2.78	Spike	P	0 - 30
2115570	Demeton	2.21	Spike	P	0 - 30
2115570	Diazinon	1.24	Spike	P	0 - 30
2115570	Dimethenamid	5.90	Spike	P	0 - 30
2115570	Disulfoton	2.61	Spike	P	0 - 30
2115570	Dithiopyr	0.944	Spike	P	0 - 30
2115570	EPTC	10.6	Spike	P	0 - 30
2115570	Ethion	6.86	Spike	P	0 - 30
2115570	Ethoprop	0.691	Spike	P	0 - 30
2115570	Fenamiphos	1.92	Spike	P	0 - 30
2115570	Fipronil	3.94	Spike	P	0 - 30
2115570	Fipronil Desulfinyl	0.411	Spike	P	0 - 30
2115570	Fipronil Sulfide	2.34	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P369752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115570	Fipronil Sulfone	12.6	Spike	P	0 - 30
2115570	Fonofos	4.99	Spike	P	0 - 30
2115570	Hexazinone	6.19	Spike	P	0 - 30
2115570	Malathion	14.0	Spike	P	0 - 30
2115570	Metalaxyl	7.54	Spike	P	0 - 30
2115570	Metolachlor	0.299	Spike	P	0 - 30
2115570	Metribuzin	3.53	Spike	P	0 - 30
2115570	Mevinphos	5.70	Spike	P	0 - 30
2115570	Molinate	9.64	Spike	P	0 - 30
2115570	Norflurazon	1.38	Spike	P	0 - 30
2115570	Oxadiazon	1.15	Spike	P	0 - 30
2115570	Parathion Ethyl	1.25	Spike	P	0 - 30
2115570	Parathion Methyl	0.272	Spike	P	0 - 30
2115570	Pendimethalin	0.00421	Spike	P	0 - 30
2115570	Phorate	0.909	Spike	P	0 - 30
2115570	Prodiamine	1.02	Spike	P	0 - 30
2115570	Prometon	7.25	Spike	P	0 - 30
2115570	Prometryn	1.08	Spike	P	0 - 30
2115570	Simazine	3.88	Spike	P	0 - 30
2115570	Tebuconazole	22.0	Spike	P	0 - 30
2115570	Terbufos	1.30	Spike	P	0 - 30
2115570	Terbuthylazine	3.18	Spike	P	0 - 30
LFB	Acetochlor	13.2	LCS	P	0 - 30
LFB	Alachlor	12.4	LCS	P	0 - 30
LFB	Ametryn	8.02	LCS	P	0 - 30
LFB	Atrazine	1.70	LCS	P	0 - 30
LFB	Atrazine Desethyl	61.7	LCS	F	0 - 30
LFB	Azinphos Methyl	8.99	LCS	P	0 - 30
LFB	Bromacil	21.8	LCS	P	0 - 30
LFB	Butylate	4.33	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.26	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	18.3	LCS	P	0 - 30
LFB	Cyanazine	110	LCS	F	0 - 30
LFB	Demeton	17.9	LCS	P	0 - 30
LFB	Diazinon	1.97	LCS	P	0 - 30
LFB	Dimethenamid	13.7	LCS	P	0 - 30
LFB	Disulfoton	17.8	LCS	P	0 - 30
LFB	Dithiopyr	11.7	LCS	P	0 - 30
LFB	EPTC	11.4	LCS	P	0 - 30
LFB	Ethion	2.54	LCS	P	0 - 30
LFB	Ethoprop	20.0	LCS	P	0 - 30
LFB	Fenamiphos	36.8	LCS	F	0 - 30
LFB	Fipronil	26.9	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	17.6	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.17	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.85	LCS	P	0 - 30
LFB	Fonofos	28.1	LCS	P	0 - 30
LFB	Hexazinone	11.6	LCS	P	0 - 30
LFB	Malathion	77.7	LCS	F	0 - 30
LFB	Metalaxyl	2.21	LCS	P	0 - 30
LFB	Metolachlor	15.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P369752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Metribuzin	85.6	LCS	F	0 - 30
LFB	Mevinphos	17.7	LCS	P	0 - 30
LFB	Molinate	21.1	LCS	P	0 - 30
LFB	Norflurazon	12.3	LCS	P	0 - 30
LFB	Oxadiazon	18.1	LCS	P	0 - 30
LFB	Parathion Ethyl	1.76	LCS	P	0 - 30
LFB	Parathion Methyl	10.6	LCS	P	0 - 30
LFB	Pendimethalin	7.66	LCS	P	0 - 30
LFB	Phorate	20.8	LCS	P	0 - 30
LFB	Prodiamine	4.36	LCS	P	0 - 30
LFB	Prometon	10.8	LCS	P	0 - 30
LFB	Prometryn	16.5	LCS	P	0 - 30
LFB	Simazine	11.1	LCS	P	0 - 30
LFB	Tebuconazole	107	LCS	F	0 - 30
LFB	Terbufos	20.6	LCS	P	0 - 30
LFB	Terbutylazine	1.77	LCS	P	0 - 30

Reference Method: EPA 8270E
Batch ID: P369811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115386	Aldrin	5.12	Spike	P	0 - 30
2115386	Alpha-BHC	2.37	Spike	P	0 - 30
2115386	Alpha-Chlordane	1.88	Spike	P	0 - 30
2115386	Beta-BHC	2.63	Spike	P	0 - 30
2115386	Bifenthrin	3.15	Spike	P	0 - 30
2115386	Carbophenothion	1.87	Spike	P	0 - 30
2115386	Chlorothalonil	10.6	Spike	P	0 - 30
2115386	Cis-Nonachlor	0.422	Spike	P	0 - 30
2115386	Cypermethrin	3.41	Spike	P	0 - 30
2115386	DDD-p,p'	1.11	Spike	P	0 - 30
2115386	DDE-p,p'	0.787	Spike	P	0 - 30
2115386	DDT-p,p'	5.30	Spike	P	0 - 30
2115386	Delta-BHC	3.17	Spike	P	0 - 30
2115386	Dicofol	4.29	Spike	P	0 - 30
2115386	Dieldrin	0.0558	Spike	P	0 - 30
2115386	Endosulfan I	0.608	Spike	P	0 - 30
2115386	Endosulfan II	1.96	Spike	P	0 - 30
2115386	Endosulfan Sulfate	0.824	Spike	P	0 - 30
2115386	Endrin	1.83	Spike	P	0 - 30
2115386	Endrin Aldehyde	0.311	Spike	P	0 - 30
2115386	Endrin Ketone	2.95	Spike	P	0 - 30
2115386	Ethalfuralin	4.42	Spike	P	0 - 30
2115386	Gamma-BHC	2.97	Spike	P	0 - 30
2115386	Gamma-Chlordane	0.420	Spike	P	0 - 30
2115386	Heptachlor	2.03	Spike	P	0 - 30
2115386	Heptachlor Epoxide	0.0456	Spike	P	0 - 30
2115386	Hexachlorobenzene	3.30	Spike	P	0 - 30
2115386	Methoxychlor	6.47	Spike	P	0 - 30
2115386	Mirex	4.34	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P369811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115386	Permethrin	2.58	Spike	P	0 - 30
2115386	Trans-Nonachlor	1.30	Spike	P	0 - 30
2115386	Trifluralin	4.44	Spike	P	0 - 30
LFB	Aldrin	5.75	LCS	P	0 - 30
LFB	Alpha-BHC	0.987	LCS	P	0 - 30
LFB	Alpha-Chlordane	3.58	LCS	P	0 - 30
LFB	Beta-BHC	1.64	LCS	P	0 - 30
LFB	Bifenthrin	6.99	LCS	P	0 - 30
LFB	Carbophenothion	21.7	LCS	P	0 - 30
LFB	Chlorothalonil	0.482	LCS	P	0 - 30
LFB	Cis-Nonachlor	3.82	LCS	P	0 - 30
LFB	Cypermethrin	6.03	LCS	P	0 - 30
LFB	DDD-p,p'	3.39	LCS	P	0 - 30
LFB	DDE-p,p'	1.41	LCS	P	0 - 30
LFB	DDT-p,p'	1.60	LCS	P	0 - 30
LFB	Delta-BHC	1.26	LCS	P	0 - 30
LFB	Dicofol	2.92	LCS	P	0 - 30
LFB	Dieldrin	5.67	LCS	P	0 - 30
LFB	Endosulfan I	4.35	LCS	P	0 - 30
LFB	Endosulfan II	4.93	LCS	P	0 - 30
LFB	Endosulfan Sulfate	5.16	LCS	P	0 - 30
LFB	Endrin	1.84	LCS	P	0 - 30
LFB	Endrin Aldehyde	7.91	LCS	P	0 - 30
LFB	Endrin Ketone	1.08	LCS	P	0 - 30
LFB	Ethalfuralin	1.36	LCS	P	0 - 30
LFB	Gamma-BHC	1.63	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.30	LCS	P	0 - 30
LFB	Heptachlor	5.39	LCS	P	0 - 30
LFB	Heptachlor Epoxide	2.95	LCS	P	0 - 30
LFB	Hexachlorobenzene	0.953	LCS	P	0 - 30
LFB	Methoxychlor	5.02	LCS	P	0 - 30
LFB	Mirex	4.98	LCS	P	0 - 30
LFB	Permethrin	14.8	LCS	P	0 - 30
LFB	Trans-Nonachlor	3.08	LCS	P	0 - 30
LFB	Trifluralin	2.23	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P369811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115829	Chlordane	9.49	Spike	P	0 - 30
2115829	Toxaphene	6.18	Spike	P	0 - 30
LFB	Chlordane	5.05	LCS	P	0 - 30
LFB	Toxaphene	3.25	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369771

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: P369771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114831	3-Hydroxycarbofuran	1.23	Spike	P	0 - 30
2114831	Aldicarb	4.70	Spike	P	0 - 30
2114831	Aldicarb Sulfone	8.18	Spike	P	0 - 30
2114831	Aldicarb Sulfoxide	2.92	Spike	P	0 - 30
2114831	Carbaryl	5.96	Spike	P	0 - 30
2114831	Carbofuran	0.718	Spike	P	0 - 30
2114831	Methiocarb	2.40	Spike	P	0 - 30
2114831	Methomyl	3.68	Spike	P	0 - 30
2114831	Oxamyl	2.83	Spike	P	0 - 30
2114831	Propoxur	1.08	Spike	P	0 - 30
2114832	2,4-D	3.05	Spike	P	0 - 30
2114832	Acetaminophen	3.13	Spike	P	0 - 30
2114832	Acetamiprid	10.4	Spike	P	0 - 30
2114832	Afidopyropen	16.3	Spike	P	0 - 30
2114832	Benzovindiflupyr	64.2	Spike	F	0 - 30
2114832	Carbamazepine	2.58	Spike	P	0 - 30
2114832	Clothianidin	10.1	Spike	P	0 - 30
2114832	Dinotefuran	2.39	Spike	P	0 - 30
2114832	Diuron	2.63	Spike	P	0 - 30
2114832	Fenuron	3.39	Spike	P	0 - 30
2114832	Fluridone	9.35	Spike	P	0 - 30
2114832	Hydrocodone	5.38	Spike	P	0 - 30
2114832	Ibuprofen	18.2	Spike	P	0 - 30
2114832	Imazapyr	0.891	Spike	P	0 - 30
2114832	Imidacloprid	0.409	Spike	P	0 - 30
2114832	Linuron	4.42	Spike	P	0 - 30
2114832	Mandestrobin	9.44	Spike	P	0 - 30
2114832	MCPP	11.9	Spike	P	0 - 30
2114832	Naproxen	2.34	Spike	P	0 - 30
2114832	Primidone	2.14	Spike	P	0 - 30
2114832	Pyraclostrobin	82.0	Spike	F	0 - 30
2114832	Thiamethoxam	2.06	Spike	P	0 - 30
2114832	Triclopyr	25.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114790	Acesulfame K	18.3	Spike	P	0 - 30
2114790	AMPA	3.04	Spike	P	0 - 30
2114790	Endothall	11.4	Spike	P	0 - 30
2114790	Glufosinate	0.171	Spike	P	0 - 30
2114790	Glyphosate	7.91	Spike	P	0 - 30
2114790	Sucralose	14.7	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P369891

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

Reference Method: SM 2320 B-97
Batch ID: P369891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113602	Total Alkalinity	0.622	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P370203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115535	Fluoride	0.477	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P370041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115056	Organic Carbon	2.01	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: 2114915
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	79.7	P	30 - 160

Lab Sample ID: 2114916
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	70.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	96.4	P	30 - 160
EPA 8321B	Diuron-d6	100	P	30 - 160
EPA 8321B	Endothall-d6	94.7	P	30 - 160
EPA 8321B	Endothall-d6	94.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	125	P	30 - 160
EPA 8321B	Primidone-d5	129	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	30 - 160

Lab Sample ID: 2114917
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Decachlorobiphenyl	83.7	P	39 - 109
EPA 8270E	Tetrachloro-m-xylene	77.2	P	28 - 96.0
EPA 8276	Decachlorobiphenyl	47.4	P	30 - 103
EPA 8276	PCNB	134	P	37 - 143

Lab Sample ID: 2114918
Field Sample ID: G1SW0095

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	106	P	68 - 130
EPA 8270E	Terbufos-d10	88.4	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93821

Included Lab Sample IDs: 2114910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93828

Included Lab Sample IDs: 2114912

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

Reference Method: SM 2320 B-97

Run ID: A93863

Included Lab Sample IDs: 2114910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93921

Included Lab Sample IDs: 2114911

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93925

Included Lab Sample IDs: 2114911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A93938

Included Lab Sample IDs: 2114911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	97.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93944

Included Lab Sample IDs: 2114916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	117	68.6	P/P	60 - 160
Glufosinate	104	65.3	P/P	60 - 160
Glyphosate	109	77.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93946

Included Lab Sample IDs: 2114916

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

Reference Method: EPA 8321B
Run ID: A93946
Included Lab Sample IDs: 2114916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	100	91.2	P/P	60 - 160
Endothall	107	100	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A93961
Included Lab Sample IDs: 2114919

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	104	P/P	95 - 105
Calcium	99.0	101	P/P	95 - 105
Iron	100	102	P/P	95 - 105
Manganese	102	103	P/P	95 - 105
Potassium	101	104	P/P	95 - 105
Sodium	96.3	97.4	P/P	95 - 105
Zinc	100	101	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A93962
Included Lab Sample IDs: 2114911

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A93971
Included Lab Sample IDs: 2114911

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

Reference Method: EPA 8321B
Run ID: A93996
Included Lab Sample IDs: 2114916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	91.8	86.2	P/P	60 - 160

Reference Method: SM 4500 F-C-97
Run ID: A94004
Included Lab Sample IDs: 2114910

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	97.1	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A94061
Included Lab Sample IDs: 2114917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	98.2		P	80 - 120
Toxaphene	96.1		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A94080
 Included Lab Sample IDs: 2114917

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	92.8		P	80 - 120
Alpha-BHC	94.5		P	80 - 120
Alpha-Chlordane	94.0		P	80 - 120
Beta-BHC	102		P	80 - 120
Bifenthrin	90.3		P	80 - 120
Carbophenothion	102		P	80 - 120
Chlorothalonil	97.1		P	80 - 120
Cis-Nonachlor	94.5		P	80 - 120
Cypermethrin	97.2		P	80 - 120
DDD-p,p'	95.6		P	80 - 120
DDE-p,p'	94.2		P	80 - 120
DDT-p,p'	101		P	80 - 120
Delta-BHC	95.0		P	80 - 120
Dicofol	100		P	80 - 120
Dieldrin	94.9		P	80 - 120
Endosulfan I	94.7		P	80 - 120
Endosulfan II	99.7		P	80 - 120
Endosulfan Sulfate	96.1		P	80 - 120
Endrin	96.5		P	80 - 120
Endrin Aldehyde	93.7		P	80 - 120
Endrin Ketone	96.7		P	80 - 120
Ethalfuralin	92.7		P	80 - 120
Gamma-BHC	95.0		P	80 - 120
Gamma-Chlordane	94.3		P	80 - 120
Heptachlor	88.7		P	80 - 120
Heptachlor Epoxide	93.9		P	80 - 120
Hexachlorobenzene	98.6		P	80 - 120
Methoxychlor	98.7		P	80 - 120
Mirex	97.6		P	80 - 120
Permethrin	88.7		P	80 - 120
Trans-Nonachlor	94.3		P	80 - 120
Trifluralin	94.0		P	80 - 120

Reference Method: EPA 8270E
 Run ID: A94087
 Included Lab Sample IDs: 2114918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	102		P	80 - 120
Ametryn	98.2		P	80 - 120
Atrazine	98.7		P	80 - 120
Atrazine Desethyl	105		P	80 - 120
Azinphos Methyl	94.7		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	96.8		P	80 - 120
Chlorpyrifos Ethyl	96.2		P	80 - 120
Chlorpyrifos Methyl	97.4		P	80 - 120
Cyanazine	95.3		P	80 - 120
Demeton	97.4		P	80 - 120
Diazinon	99.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A94087
Included Lab Sample IDs: 2114918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dimethenamid	101		P	80 - 120
Disulfoton	99.2		P	80 - 120
Dithiopyr	98.8		P	80 - 120
EPTC	96.7		P	80 - 120
Ethion	97.4		P	80 - 120
Ethoprop	98.7		P	80 - 120
Fenamiphos	98.0		P	80 - 120
Fipronil	98.9		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	97.8		P	80 - 120
Fipronil Sulfone	98.5		P	80 - 120
Fonofos	98.2		P	80 - 120
Hexazinone	100		P	80 - 120
Malathion	97.5		P	80 - 120
Metaxyl	102		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	88.0		P	80 - 120
Mevinphos	99.9		P	80 - 120
Molinate	87.1		P	80 - 120
Norflurazon	98.9		P	80 - 120
Oxadiazon	102		P	80 - 120
Parathion Ethyl	98.0		P	80 - 120
Parathion Methyl	99.7		P	80 - 120
Pendimethalin	97.7		P	80 - 120
Phorate	97.5		P	80 - 120
Prodiamine	95.4		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	100		P	80 - 120
Tebuconazole	100		P	80 - 120
Terbufos	98.2		P	80 - 120
Terbutylazine	98.1		P	80 - 120

Reference Method: EPA 8270E
Run ID: A94089
Included Lab Sample IDs: 2114918

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Prometon	105		P	80 - 120

Reference Method: EPA 300.0
Run ID: A94097
Included Lab Sample IDs: 2114910

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

Reference Method: EPA 8321B
Run ID: A94124
Included Lab Sample IDs: 2114916

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

Reference Method: EPA 8321B
Run ID: A94124
Included Lab Sample IDs: 2114916

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.3	96.2	P/P	50 - 150
3-Hydroxycarbofuran	102	106	P/P	60 - 150
Acetaminophen	79.1	104	P/P	60 - 160
Acetamiprid	107	109	P/P	50 - 150
Afidopyropen	106	126	P/P	50 - 150
Aldicarb	103	99.0	P/P	60 - 150
Aldicarb Sulfone	105	103	P/P	50 - 150
Aldicarb Sulfoxide	105	104	P/P	50 - 150
Bentazon	93.8	96.3	P/P	50 - 160
Benzovindiflupyr	102	102	P/P	50 - 150
Carbamazepine	112	112	P/P	60 - 150
Carbaryl	87.4	101	P/P	60 - 150
Carbofuran	109	113	P/P	50 - 150
Clothianidin	101	93.6	P/P	60 - 150
Dinotefuran	95.5	105	P/P	50 - 150
Diuron	105	99.3	P/P	60 - 150
Fenuron	110	107	P/P	60 - 150
Fluridone	123	125	P/P	60 - 160
Hydrocodone	106	108	P/P	60 - 150
Ibuprofen	97.9	73.9	P/P	50 - 160
Imazapyr	96.8	90.3	P/P	50 - 150
Imidacloprid	100	98.6	P/P	60 - 150
Linuron	91.4	102	P/P	60 - 150
Mandestrobin	111	107	P/P	50 - 150
MCPP	109	109	P/P	50 - 150
Methiocarb	100	105	P/P	50 - 150
Methomyl	102	102	P/P	50 - 150
Naproxen	75.4	131	P/P	50 - 160
Oxamyl	106	105	P/P	50 - 150
Primidone	102	97.9	P/P	60 - 150
Propoxur	109	108	P/P	50 - 150
Pyraclostrobin	113	111	P/P	60 - 150
Thiamethoxam	110	107	P/P	50 - 150
Tolfenpyrad	122	125	P/P	60 - 150
Triclopyr	103	96.4	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94164
Included Lab Sample IDs: 2114919

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	103	P/P	90 - 110
Antimony	98.3	97.8	P/P	90 - 110
Arsenic	100	101	P/P	90 - 110
Cadmium	96.8	95.8	P/P	90 - 110
Copper	97.7	98.2	P/P	90 - 110
Lead	94.9	94.8	P/P	90 - 110
Nickel	98.1	99.5	P/P	90 - 110
Selenium	99.3	98.3	P/P	90 - 110
Silver	97.1	96.6	P/P	90 - 110
Thallium	92.9	92.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94248

Included Lab Sample IDs: 2114919

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	102	99.6	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.75	
EPA 200.7 Rev. 4.4	Barium	106		100	100			0.0263
	Calcium	105		96.7				0.128
	Iron	107		103	99.9			2.82
	Manganese	104		98.1	97.3			0.750
	Potassium	108						0.405
	Sodium	101						0.142
	Zinc	103		106	106			0.160
EPA 200.8 Rev. 5.4	Aluminum	100		107	109			1.76
	Antimony	98.4		103	103			0.393
	Arsenic	103		112	111			0.691
	Cadmium	100		97.2	98.9			1.79
	Chromium	100		97.1	96.5			0.675
	Copper	99.5		99.3	100			0.812
	Lead	98.0		103	104			0.123
	Nickel	101		100	100			0.0686
	Selenium	98.3		108	105			3.00
	Silver	101		95.4	95.2			0.128
	Thallium	103		107	108			1.27
EPA 300.0	Bromide	95.6		92.2	92.4			0.119
EPA 350.1 Rev. 2.0	Ammonia-N	97.9		101	101			0.490
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		98.8	98.5			0.243
EPA 353.2 Rev. 2.0	NO2NO3-N	102		99.4	98.4			1.01
EPA 365.1 Rev. 2.0	Total-P	96.9		97.1	97.9			0.798
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103		98.6	99.8			1.21
EPA 8270E	Acetochlor	99.7	87.4	75.6	75.6	13.2		0.0438
	Alachlor	95.0	84.0	79.4	96.0	12.4		19.0
	Aldrin	72.8	68.7	76.2	72.4	5.75		5.12
	Alpha-BHC	108	107	124	121	0.987		2.37
	Alpha-Chlordane	98.4	95.0	96.6	98.4	3.58		1.88
	Ametryn	98.8	91.2	108	110	8.02		2.51
	Atrazine	104	106			1.70		2.23
	Atrazine Desethyl	72.1	136	123	127	61.7		2.31
	Azinphos Methyl	98.9	108	98.9	95.8	8.99		3.10
	Beta-BHC	146	148	146	142	1.64		2.63
	Bifenthrin	109	102	106	109	6.99		3.15
	Bromacil	95.8	77.0			21.8		2.11
	Butylate	60.1	57.6	53.6	49.4	4.33		8.23
	Carbophenothion	82.5	66.4	123	125	21.7		1.87
	Chlorothalonil	169	169	200	223	0.482		10.6
	Chlorpyrifos Ethyl	93.8	97.9	93.2	92.4	4.26		0.822
	Chlorpyrifos Methyl	85.9	103	95.7	94.3	18.3		1.51
	Cis-Nonachlor	100	96.7	99.9	99.5	3.82		0.422
	Cyanazine	86.8	298	144	148	110		2.78
	Cypermethrin	135	127	138	134	6.03		3.41
	DDD-p,p'	108	105	109	108	3.39		1.11
	DDE-p,p'	96.8	95.5	100	99.4	1.41		0.787
	DDT-p,p'	126	124	127	121	1.60		5.30
	Delta-BHC	153	155	157	163	1.26		3.17
	Demeton	65.3	78.2	114	112	17.9		2.21
	Diazinon	95.1	97.0	95.8	97.0	1.97		1.24
	Dicofol	103	106	104	99.8	2.92		4.29
	Dieldrin	102	96.6	102	102	5.67		0.0558
	Dimethenamid	98.3	85.8	61.6	58.1	13.7		5.90

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Disulfoton	73.4	87.8	105	108	17.8		2.61
	Dithiopyr	98.4	87.5	76.0	75.3	11.7		0.944
	Endosulfan I	107	103	108	107	4.35		0.608
	Endosulfan II	116	110	114	117	4.93		1.96
	Endosulfan Sulfate	102	97.2	100	101	5.16		0.824
	Endrin	103	101	105	103	1.84		1.83
	Endrin Aldehyde	111	102	106	106	7.91		0.311
	Endrin Ketone	93.9	94.9	110	114	1.08		2.95
	EPTC	57.2	64.2	57.6	51.8	11.4		10.6
	Ethalfuralin	117	116	116	121	1.36		4.42
	Ethion	100	97.7	89.3	95.6	2.54		6.86
	Ethoprop	83.0	101	108	108	20.0		0.691
	Fenamiphos	83.1	57.3	48.5	47.6	36.8		1.92
	Fipronil	107	81.3	81.6	77.6	26.9		3.94
	Fipronil Desulfinyl	102	85.3	80.9	80.5	17.6		0.411
	Fipronil Sulfide	102	96.9	90.4	87.7	5.17		2.34
	Fipronil Sulfone	100	90.6	80.6	65.3	9.85		12.6
	Fonofos	76.6	102	110	104	28.1		4.99
	Gamma-BHC	125	127	135	139	1.63		2.97
	Gamma-Chlordane	96.6	93.5	95.9	96.3	3.30		0.420
	Heptachlor	90.2	85.5	88.1	89.9	5.39		2.03
	Heptachlor Epoxide	99.9	97.0	99.1	99.1	2.95		0.0456
	Hexachlorobenzene	91.7	90.9	87.2	90.2	0.953		3.30
	Hexazinone	114	101	110	104	11.6		6.19
	Malathion	106	46.8	61.6	53.5	77.7		14.0
	Metalaxyl	91.2	89.2	82.4	76.4	2.21		7.54
	Methoxychlor	97.2	92.4	97.0	91.0	5.02		6.47
	Metolachlor	99.9	86.0	80.1	80.4	15.0		0.299
	Metribuzin	88.2	220	307	322	85.6		3.53
	Mevinphos	71.0	84.8	39.1	36.9	17.7		5.70
	Mirex	75.2	71.6	72.8	76.1	4.98		4.34
	Molinate	59.7	73.7	68.6	62.3	21.1		9.64
	Norflurazon	107	94.2	80.2	79.1	12.3		1.38
	Oxadiazon	103	85.7	74.7	73.7	18.1		1.15
	Parathion Ethyl	95.3	97.0	97.1	98.3	1.76		1.25
	Parathion Methyl	102	114	114	114	10.6		0.272
	Pendimethalin	82.4	89.0	96.5	96.5	7.66		0.0042
	Permethrin	100	86.4	95.3	97.8	14.8		2.58
	Phorate	80.7	99.4	113	112	20.8		0.909
	Prodiamine	72.9	69.8	75.5	74.7	4.36		1.02
	Prometon	94.8	85.1	96.1	106	10.8		7.25
	Prometryn	100	84.9	83.2	84.1	16.5		1.08
	Simazine	102	114	102	110	11.1		3.88
	Tebuconazole	74.7	22.5	24.9	20.0	107		22.0
	Terbufos	79.4	97.7	113	115	20.6		1.30
	Terbuthylazine	100	98.2	94.8	97.9	1.77		3.18
	Trans-Nonachlor	95.5	92.6	93.5	94.7	3.08		1.30
	Trifluralin	114	111	113	118	2.23		4.44
EPA 8276	Chlordane	102	96.7	106	96.1	5.05		9.49
	Toxaphene	81.2	83.9	88.1	82.8	3.25		6.18
EPA 8321B	2,4-D	85.3						3.05
	3-Hydroxycarbofuran	75.9		89.3	90.4			1.23
	Acesulfame K	137		97.6	81.2			18.3
	Acetaminophen	70.8		83.1	80.6			3.13

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Acetamiprid	78.2	103	92.7		10.4
	Afidopyropen	61.2	120	102		16.3
	Aldicarb	66.4	45.6	43.5		4.70
	Aldicarb Sulfone	92.7	101	92.7		8.18
	Aldicarb Sulfoxide	69.7	48.3	47.0		2.92
	AMPA	132	61.6	64.5		3.04
	Bentazon	94.9				
	Benzovindiflupyr	40.4	76.5	39.3		64.2
	Carbamazepine	89.9	97.1	94.0		2.58
	Carbaryl	67.8	66.9	71.0		5.96
	Carbofuran	82.8	75.0	75.6		0.718
	Clothianidin	94.2	123	110		10.1
	Dinotefuran	99.0	129	126		2.39
	Diuron	84.4	94.0	90.2		2.63
	Endothall	95.6	82.6	92.6		11.4
	Fenuron	112	78.3	82.3		3.39
	Fluridone	94.7				9.35
	Glufosinate	108	72.5	72.4		0.171
	Glyphosate	110	94.7	107		7.91
	Hydrocodone	96.1	109	103		5.38
	Ibuprofen	78.9	112	93.4		18.2
	Imazapyr	93.0				0.891
	Imidacloprid	93.5				0.409
	Linuron	71.8	78.6	75.2		4.42
	Mandestrobin	77.0	89.0	81.0		9.44
	MCCP	88.2	213	188		11.9
	Methiocarb	77.5	73.0	71.3		2.40
	Methomyl	81.0	78.4	75.4		3.68
	Naproxen	62.2	130	133		2.34
	Oxamyl	96.2	90.7	88.2		2.83
	Primidone	97.8	110	112		2.14
	Propoxur	85.9	75.3	74.5		1.08
	Pyraclostrobin	28.9	70.7	29.6		82.0
	Sucralose	93.0	78.5	91.0		14.7
	Thiamethoxam	104	168	165		2.06
	Tolfenpyrad	0.807	18.9	0.798		
	Triclopyr	60.2	151	116		25.9
SM 2320 B-97	Total Alkalinity	103			0.622	
SM 4500 F-C-97	Fluoride	94.8	94.0	93.5		0.477
SM 5310 B-00	Organic Carbon	95.7	92.7	95.3		2.01

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2114910
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2114919
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2114919
EPA 300.0 / E31780	Bromide in aqueous matrices	2114910
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2114911

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2114911
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2114911
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2114911
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2114912
EPA 8270E / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2114917
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2114918
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2114917
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2114915
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2114916
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2114916
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2114910
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2114910
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2114910
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2114911

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	08/27/2019			08/27/2019 16:17	Rosalyn Ballman	2114910
EPA 200.7 Rev. 4.4	08/27/2019	08/29/2019 16:50	Elliott D. Healy	09/03/2019 10:47	Alexander Thompson	2114919
EPA 200.8 Rev. 5.4	08/27/2019	08/29/2019 16:50	Elliott D. Healy	09/11/2019 22:05	Justin Cutchin	2114919
	08/27/2019	08/29/2019 16:50	Elliott D. Healy	09/16/2019 15:10	Justin Cutchin	2114919
EPA 300.0	08/27/2019			09/09/2019 19:27	Jhamieka S. Greenwood	2114910
EPA 350.1 Rev. 2.0	08/27/2019			09/03/2019 11:47	Ping Hua	2114911
EPA 351.2 Rev. 2.0	08/27/2019	08/29/2019 11:55	Sima Feizi	08/30/2019 12:35	Joseph Suarez	2114911
EPA 353.2 Rev. 2.0	08/27/2019			09/04/2019 09:37	Beverly Y. Sanders	2114911
EPA 365.1 Rev. 2.0	08/27/2019	08/29/2019 07:30	Joseph Suarez	08/30/2019 10:49	Lipi Saha	2114911
EPA 365.1 Rev. 2.0 dissolved	08/27/2019			08/27/2019 15:53	Jhamieka S. Greenwood	2114912
EPA 8270E	08/27/2019	08/30/2019 06:30	Rasheda Ghaffari	09/06/2019 21:11	Arthur Maknenko	2114917
	08/27/2019	08/30/2019 09:00	Fe-Val Siddell	09/04/2019 18:48	Vandana T. Nagar	2114918
	08/27/2019	08/30/2019 09:00	Fe-Val Siddell	09/06/2019 23:16	Vandana T. Nagar	2114918
EPA 8276	08/27/2019	08/30/2019 06:30	Rasheda Ghaffari	09/06/2019 04:34	Luis Flores	2114917
EPA 8321B	08/27/2019	08/29/2019 09:45	Rebecca Ware	08/29/2019 19:47	Rebecca Ware	2114916
	08/27/2019	08/29/2019 09:45	Rebecca Ware	08/30/2019 11:17	Rebecca Ware	2114916
	08/27/2019	08/29/2019 09:45	Rebecca Ware	09/04/2019 22:24	Rebecca Ware	2114916
	08/27/2019	08/30/2019 12:30	Hoor Shaik	08/31/2019 22:34	Juyoung Kim	2114915
	08/27/2019	08/30/2019 12:30	Hoor Shaik	09/01/2019 08:57	Juyoung Kim	2114916
	08/27/2019	08/30/2019 12:30	Hoor Shaik	09/05/2019 04:16	Juyoung Kim	2114916
SM 2320 B-97	08/27/2019			08/29/2019 00:33	Dale L. Simmons	2114910
SM 2540 D-97	08/27/2019			08/28/2019 14:52	Yijie Li	2114910
SM 4500 F-C-97	08/27/2019			09/04/2019 07:08	Dale L. Simmons	2114910
SM 5310 B-00	08/27/2019			08/31/2019 05:09	Madeline Funaro	2114911